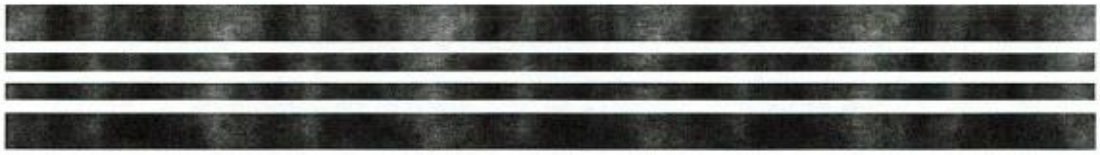

EIS 1572

AB020178

Clause 91 report by the New South Wales Minister for Energy

on the Eastern Gas pipeline, March 1997

EIS 1572

CLAUSE 91 REPORT

BY

THE NEW SOUTH WALES

MINISTER FOR ENERGY

ON

THE EASTERN GAS PIPELINE

MARCH 1997

CMPS&F Environmental
67 Albert Avenue
Chatswood NSW 2067
ACN 000 912 630

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ABBREVIATIONS

CoAG	Council of Australian Governments
COI	Commission of Inquiry
DAA	Department of Aboriginal Affairs
DLWC	Department of Land and Water Conservation
DoE	Department of Energy
DUAP	Department of Urban Affairs and Planning
EGP	Eastern Gas Pipeline Pty Ltd
EGPP	Eastern Gas Pipeline Project
EIS	Environmental Impact Statement
EMP	Environment Management Plan
EPA	Environment Protection Authority
EP&A Act	Environmental Planning and Assessment Act
ESD	Ecologically Sustainable Development
FIS	Fauna Impact Statement
MW	Megawatt
NPWS	National Parks and Wildlife Service
PHA	Preliminary Hazard Analysis
PJ	Petajoules
PJ/year	Petajoules per year
SIS	Species Impact Statement
TSC Act	Threatened Species Conservation Act

FOREWORD

BHP Petroleum (Pipelines) Pty Ltd and Westcoast Energy Australia (Pipelines) Pty Ltd, propose to construct an underground natural gas pipeline from Longford in Victoria to Wilton south west of Sydney.

The pipeline will be designed to carry up to 90PJ/year of natural gas to markets in Victoria and New South Wales.

The pipeline project known as the Eastern Gas Pipeline will make a positive contribution to the gas industry reforms through its contribution to the National Gas Grid. The competition which will arise between gas producers and gas distributors as a result of this inter-connection is expected to exert downward pressure on gas prices. Increased competition with other energy sources and opportunities for more efficient electricity generation are also expected to decrease general energy prices.

The proponents applied for a Permit under the Pipelines Act 1967 for the NSW-section of the pipeline, and prepared an environmental impact statement for the project. A co-operative environmental assessment process under three jurisdictions Commonwealth, Victoria and NSW - has been undertaken. Following the assessment process, which included public consultation, and consideration of the matters set out in Part 5 of the Environmental Planning and Assessment Act 1979, the required concurrence of the other Ministers was obtained.

Environmental matters associated with the project have been addressed in the conditions to the Permit, to be reflected in a subsequent environment management plan.

This report is prepared under clause 91 of the Environmental Planning and Assessment Regulation 1994 and sets our the basis of the determination of the Minister for Energy in accordance with the requirements of the Environmental Planning and Assessment Act, 1979.

1. INTRODUCTION

The project proponents, BHP Petroleum (Pipelines) Pty Ltd and Westcoast Energy Australia (Pipelines) Pty Ltd, propose to construct an underground pipeline to deliver gas from Longford in Victoria to Wilton south west of Sydney. The project is known as the Eastern Gas Pipeline Project (EGPP). The gas will be sourced from the Gippsland Basin in Bass Strait and supplied to industrial and domestic markets in Sydney and Wollongong, and to other potential customers along the pipeline route.

Estimated cost of the initial pipeline system is $383 million rising to $442 million over eight years.

A single environmental assessment document was prepared in November 1995 to satisfy the requirements of Commonwealth, Victorian and New South Wales environmental assessment legislation. The document is known as:

- a "Draft Environmental Impact Statement (Draft EIS)" under Commonwealth legislation;
- an "Environmental Impact Statement (EIS)" under New South Wales legislation; and
- an "Environment Effects Statement (EES)" under Victorian legislation.

For the purposes of this report, the document will be referred to as an Environmental Impact Statement (EIS) in accordance with the provisions of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act).

The EIS was prepared by Westcoast Energy Australia Engineering Pty Ltd, as agent for the Eastern Gas Pipeline Project and on behalf of the project proponents. The EIS was prepared as a part of the permit application under the Pipelines Act, 1967. The EIS was exhibited from 11 December 1995 until 1 March 1996, by the Department of Energy (DoE) on behalf of the Minister for Energy.

A separate Fauna Impact Statement (FIS) was exhibited by the proponent from 1 February 1996 to 1 March 1996. Owing to a change in the legislative requirements a Species Impact Statement (SIS) was also prepared and it was exhibited by the DOE from 20 March 1996 to 19 April 1996.

A Commission of Inquiry/Panel was jointly constituted under the NSW and Victorian legislation to examine the environmental aspects and impacts of the proposal, and make recommendations on the acceptability of the proposal. The Commission of Inquiry (COI) conducted public hearings between March 1996 and July 1996, and submitted its report in September 1996. The COI recommended the project may proceed subject to strict environmental conditions.

The Minister for Energy has granted a Permit under the Pipeline Act 1967 for the proposal, subject to the imposition of strict environmental conditions on the Permit. This report sets out the basis of the determination by the Minister in accordance with the requirements of Clause 91 of the EP&A Act. It examines the environmental impacts

associated with the project having regard to the EIS, submissions to the EIS, the COI report, the Final EIS (Commonwealth) and Clause 91 Report prepared by the Minister for Urban Affairs and Planning.

The report is structured as follows to reflect the matters required to be addressed by Clause 91 of the EP&A Regulation 1994:

1. Introduction
2. Project Proposal
3. Project Justification
4. Statutory Approval Requirements
5. Environmental Impact Statement
6. Commission of Inquiry
7. Effects on the Environment
8. Ecological Sustainable Development
9. Proponents Proposals for Mitigation
10. Conclusions
11. Permit

2. PROJECT PROPOSAL

2.1 DESCRIPTION OF THE PROJECT

The proposal essentially involves the following:

- A 740 km long high tensile steel pipeline linking Longford, Victoria with Wilton, NSW. The pipeline would pass through Bombala, Cooma and Nowra – this route is known as the "Nowra corridor". The pipeline would be underground to a minimum depth generally between 600 and 1200 mm.

- A 20m wide easement (approximate) - generally an area this wide will need to be cleared to allow the pipeline to be constructed. It will be possible to reduce the clearing in sensitive areas. There will be a need to increase the width in some locations where extra work space is required such as for stockpiling. Some regrowth will be allowed, but larger trees may not be allowed to re-establish.

- A range of aboveground facilities, including compressor stations, meter stations, offtake stations, mainline valves, scraper traps and a cathodic protection system. The most significant feature is the compressor station. One compressor station is planned for NSW, in the vicinity of Michelago. Borrow pits will also be required to provide sand (used to protect the pipe from rock damage in the trench), but the actual number and location has yet to be determined. Construction camps may also be required.

- A design capacity of 90 petajoules/annum (PJ/A). Initial capacity would be in the order of 58 PJ/A, expanded to 90 PJ/A approximately nine years after commissioning. Most gas would be used in NSW markets. The 740 km pipeline has an outside diameter of 457 mm and operating pressure of 14.89 MPa. It would initially carry 58 PJ/year, with an ultimate capacity of 90 PJ/year in either direction.

2.2 ROUTE ENVIRONMENT

The proposed pipeline will cross three broad climatic zones and a variety of terrain types including coastal plains, mountains, high plains, river valleys and rock escarpments. It will not cut through areas of high population density but will be sited close to regional population centres, notably Cooma, Canberra, Queanbeyan, Nowra and Wollongong in NSW.

Land use along the proposed route includes farming, pastoral, rural residential, forestry, National Parks, proposed nature conservation areas, State Recreation Areas, and water catchment area.

About 293 km of the proposed pipeline traverses 'disturbed' areas such as farmland, residential areas and open land. For 55% of its total length (about 413 km), the pipeline either intersects or runs parallel to existing road or service easements (including telecommunications, gas supply, electricity supply, water supply, wastewater and drainage). However, this will involve clearing and widening the disturbed area of existing easements to accommodate the construction process.

Only 5% of the total pipeline route length (that is about 36 km) crosses completely undisturbed country such as forests or wetlands.

2.3 CONSTRUCTION

A 20 metre wide cleared right of way will be required for the installation of the pipeline. However, in specific areas, such right of way will be reduced to a maximum of eight metres.

Construction will be by three construction spreads working simultaneously. Construction activities will include clearing vegetation from the right of way and stockpiling for salvage, disposal or respreading during restoration. The right of way will then be graded and topsoil, if present in sufficient quantities, stockpiled for respreading. Construction is expected to be approximately 8 months.

2.4 OPERATION

Gas flow in the pipeline will be operated 24 hours a day and seven days a week and controlled from a Gas Control Centre at a location yet to be determined.

The proponents propose that the full length of the pipeline will be routinely inspected to monitor and service the line valves, meter stations and the cathodic protection system. During this procedure, other facilities and environmental concerns such as erosion control, slope stability and the status of stream crossings will also be addressed. The route will also be inspected by aerial patrol at least once a year and after every major storm. After approximately every five years of operation the pipeline will be inspected internally.

3. PROJECT JUSTIFICATION

3.1 BACKGROUND

At present, all natural gas entering NSW (with the exception of Albury) comes from the Cooper Basin in South Australia. Existing supply contracts will expire in 2005/6 and NSW gas demand is predicted to exceed contract quantities by 2002. NSW has considerably lower consumption of gas than other states (in proportion to other energy sources) and markedly higher natural gas prices than Victoria. Anticipated new markets for natural gas in NSW in the industrial, electricity generation, residential, commercial and transport sectors in the immediate future require an additional source of natural gas supply.

The *Joint Study on the Long Term Supply of Natural Gas for New South Wales* (June 1993) was prepared by the Gas Council of NSW and the Office (now Department) of Energy. The study noted that from the year 2001, additional natural gas supplies beyond those already contracted may be required. The study estimates that an additional 1400 to 2700 PJ of natural gas will be required to meet NSW and ACT demand to the year 2015. The required quantity is unlikely to be available from the Cooper/Eromanga Basin alone. The study concludes that NSW gas supply will need to be supplemented by gas from the Gippsland Basin to satisfy gas demand up to 2015.

In 1994 the Council of Australian Governments (CoAG) agreed to the implementation of a program of micoeconomic reform and competition policy which included the introduction of free and fair trade in natural gas by 1 July 1996.

3.2 BENEFITS

The proposal to build the Eastern Gas Pipeline is expected to:

- provide greater access to a relatively clean, convenient and economical source of energy;
- contribute positively to the current gas industry reforms and encourage competition between gas producers and gas distributors;
- meet the anticipated increase in the demand for additional gas supply in NSW and the ACT;
- provide greater security of supply for these markets;
- enable the gas producing well heads to be brought directly into competition with each other thus creating the potential for price reductions in the eastern Australian markets;
- stimulate competition between gas transporters which will reduce transmission costs and subsequently reduce the cost of gas;
- decrease consumer electricity prices in NSW, Victoria, South Australia and in future, Queensland by stimulating the use of more efficient electricity generation technology;

- provide a beneficial effect to the environment by decreasing overall emissions of greenhouse gases, noxious gases and particulate matter to the atmosphere;
- stimulate economic growth and microeconomic reform by decreasing energy prices.

4. STATUTORY APPROVAL REQUIREMENTS

4.1 PIPELINES ACT AND THE ENVIRONMENTAL PLANNING AND ASSESSMENT ACT

The Pipelines Act 1967 provides for a two-stage approvals process:

- a Permit to enter lands for carrying out surveys (granted by the Minister for Energy);
- a licence to construct and operate a pipeline (granted by the Governor on the recommendation of the Minister for Energy).

The Minister for Energy is the determining authority under the EP&A Act for the pipeline project as his approval is required under the Pipelines Act.

The Pipelines Act further requires that the Minister for Transport, the Minister for Urban Affairs and Planning, the Minister for Local Government, the Minister for Public Works and Ports, and the Minister for Roads concur in his granting of a Permit. In effect the above requirement of concurrence of these Ministers makes them also the determining authorities for the purposes of the EP&A Act at the Permit approval stage.

An EIS was prepared and then publicly exhibited by DOE from 11 December 1995 until the 1st March 1996 to support the application for a pipeline permit. Requirements for the EIS were issued by the Director-General of Department of Urban Affairs & Planning on 22 February, 1995.

4.2 THREATENED SPECIES CONSERVATION ACT

Section 112(1B) of the EP&A Act requires a determining authority to obtain a Species Impact Statement (SIS) under Division 2 of Part 6 of the Threatened Species Conservation Act 1995 (TSC Act) before granting an approval to an activity -

"being an activity that is in respect of land that is, or is a part of, critical habitat or is likely to significantly affect threatened species, populations or ecological communities, or their habitats....."

Consideration of whether an SIS needs to be prepared is made after examining the information provided in the EIS and other supporting documentation as it relates to the factors in Section 5A(a-h) of the EP&A Act (the eight part test introduced as amendments to the EP&A Act by the TSC Act).

The EIS was supplemented by a Fauna Impact Statement (FIS) prepared in accordance with the requirements of the Director General of NPWS and the provisions of the EP&A Act before the changes made to the EP&A Act by the TSC Act came into force on 1 January 1996. The FIS was exhibited from 1 February 1996 to 1 March 1996. The FIS was then deemed to be a SIS by clause 5 of the Threatened Species Conservation (Savings and Transitional) Regulations 1996 gazetted on 8 March 1996.

The proponent nevertheless prepared a "bridging SIS report" to provide information to meet the requirements of an SIS that had not been included in the EIS or the FIS. This

report was prepared by the proponent to ensure the Minister for Energy had sufficient information in making a decision on the permit application, as he is required to consider the effect of the activity on:

- critical habitat;
- in the case of threatened species, populations and ecological communities and their habitats, whether there is likely to be a significant effect upon the species, populations and ecological communities and their habitats;
- any other protected fauna or protected native plants within the meaning of the National parks And Wildlife Act 1974.

The deemed SIS was exhibited by DOE from 19 March 1996 to 19 April 1996 under the EP&A Act.

Section 112B of the EP&A Act requires that when a SIS is involved, a Minister who is a determining authority cannot grant any approvals until he has consulted with the Minister for the Environment, as the Minister responsible for the administration of the Threatened Species Conservation Act. The determining authority Minister is required to take account of any advice provided by Minister for the Environment and give reasons for not accepting such advice.

4.3 VICTORIAN AND COMMONWEALTH GOVERNMENT REQUIREMENTS

The EGPP is partly within Victoria and requires approvals under the Victorian Pipelines Act. The Victorian Minister for Planning (now Minister for Planning and Local Government) determined that an environment effects statement (EES) would be required.

The EGPP also requires the approval of the (Commonwealth) Foreign Investment Review Board (FIRB). The Commonwealth Minister for the Environment determined that an EIS would be required under Commonwealth legislation.

The three jurisdictions agreed to a joint assessment process. As a result, one document was prepared and jointly exhibited to meet EIS (NSW), EES (Victorian) and draft EIS (Commonwealth) requirements.

4.4 COMMISSION OF INQUIRY

A joint NSW/Victorian Commission of Inquiry/Panel was established to examine and report on the environmental aspects of the proposed EGPP.

Three Commissioners/Panel members were appointed. Public submissions were sought and public hearings were held in Melbourne and Sydney, and at a number of NSW (Cooma, Radcliffe, Nowra and Wollongong) and Victorian (Bairnsdale and Cann River) regional centres. Submission in reply sessions were held in Melbourne and Sydney.

The COI presented its report to the relevant Ministers on 16 September, 1996. The report was released to the public on 17 September, 1996.

4.5 THE CLAUSE 91 REPORT

Clause 91 of the Environmental Planning and Assessment Regulation 1994 requires that determining authorities (as defined under Part 5 of the EP&A Act) must prepare a report on any activity for which an environmental impact statement (EIS) has been prepared. This report is to be prepared as soon as practicable after a decision has been made. It must be made available to the public and relevant Councils.

5. ENVIRONMENTAL IMPACT STATEMENT

The EIS provides details of the proposal, its substantiation, an assessment of pipeline corridor alternatives and identifies a range of potential environmental impacts (including climate, geomorphological and geological, hydrological, emissions, natural and cultural heritage, land use, infrastructure and transport, social, risks, regional economic, and impacts of the environment on the pipeline). The EIS (chapter 17) also outlines an environment management plan.

5.1 PROJECT OBJECTIVES

The primary objectives of the EGPP are to:

- meet all appropriate environmental and safety standards;
- be economically viable, and provide a fair return to the pipeline owners'
- provide an additional and alternative source of gas for the growing Sydney and regional markets;
- provide an alternative gas supply source for the Victorian market;
- develop the infrastructure that will provide the opportunity to supply gas to currently unserviced regions, communities or industries;
- supplement the gas supply to major centres, such as Canberra and Queanbeyan, which currently experience peak demand constraints;
- develop a market for presently undeveloped Gippsland and Otway Basin gas reserves; and
- make a significant contribution to the Council of Australian Government's (CoAG) commitment to the deregulation of the gas industry and facilitate of price competition by the establishment of a national grid, thus maximising social and economic benefits to the nation.

5.2 ALTERNATIVE ROUTES CONSIDERED

The EIS reviewed the following eight pipeline corridors options known as:

- the Coastal corridor;
- the Eastern corridor via Nowra (the Nowra corridor);
- the Eastern corridor via the Bonang Valley (the Bonang corridor):
- the Eastern corridor via Braidwood (the Braidwood corridor);
- the Eastern corridor via Marulan (the Marulan corridor);
- the Central corridor via Dargo (the Dargo corridor);

- the Central corridor via Omeo (the Omeo corridor);
- the Western Corridor.

The eight corridor routes were assessed on a wide range of factors covering geotechnical and environmental feasibility, economic viability, environmental impacts, community safety, and community benefits.

5.3 PREFERRED ROUTE

The Nowra corridor was chosen as the preferred route for the following reasons:

- it provided the greatest degree of economic viability;
- it can supply the largest markets;
- it delivers gas at the most competitive rate;
- the potential environmental effects are considered manageable;
- the community is not likely to be exposed to unacceptable levels of risk;

The Nowra corridor was subjected to further detailed study and comprehensive environmental impact assessment.

The most appropriate pipeline route alignment was determined by local constraints and sensitivities. Fine tuning of the exact pipeline route will be an ongoing process that continues up to and including the digging of the pipeline trench.

The route alignment has been planned as far as possible to

- avoid areas of undisturbed vegetation;
- use existing utility easements;
- avoid environmentally or culturally significant sites;
- minimise impacts upon existing land users.

5.4 KEY ENVIRONMENTAL IMPACT ISSUES

A comprehensive assessment of the potential impacts of the Project on the physical, biological, cultural and social environments along the pipeline route has been made. All potential impacts associated with the Project are considered to be manageable with careful route planning and the implementation of appropriate management strategies.

The principal environmental issues identified in NSW include:

- effects on the natural heritage values of Morton National Park;
- fragmentation of remnant stands of native vegetation;
- cumulative loss of native vegetation and habitat;
- potential to initiate bushfires in forested areas during construction;
- pipeline crossings of rivers and streams of high ecological value;
- potential to spread weeds and dieback along the pipeline right of way;
- inconvenience to existing land users along the pipeline route, particularly farmers;
- visual impacts associated with vegetation clearance and construction activities in high visible and/or aesthetically attractive areas;
- impacts on cultural heritage sites along the pipeline route; and
- impacts on land stability in some areas.

The EIS also identified specific impacts identified including:

5.4.1 Climatic Impacts

Climate has the potential to significantly influence the severity of environmental impact during construction and operation of the pipeline, as well as constrain pipeline construction activities and threaten pipeline security. The pipeline transverses subalpine to temperate climatic zones. Construction and operation regimes have been designed to take into account the climatic conditions along the route at various times of the year. For example, precautions for pipeline welding have been incorporated during times of total fire ban.

5.4.2 Geomorphological and Geological Impacts

The principal environmental issues associated with geomorphology are the erosion potential of the pipeline right of way and slope stability. Potential erosion of pipeline right of way in some areas, particularly on the Monaro Plains, is a significant issue. Rehabilitation of the right of way after construction will be undertaken using the best available practices to minimise the risk of erosion occurring.

The pipeline and associated facilities will be designed to the appropriate industry standards for moderate seismic risk identified for the Project area as active faults will be crossed. The risk of pipeline failure due to seismic activity or fault movement will be extremely low.

5.4.3 Hydrological Impacts

The pipeline will be buried in stream beds to a sufficient depth to prevent flood scour (usually a 1.5 metre cover). Construction induced siltation and turbidity will occur during pipeline installation, although appropriate mitigation measures will be adopted where ecological values or downstream land uses could be threatened. For particularly sensitive streams, techniques used may include fluming, damming and pumping and directional drilling under stream beds.

5.4.4 Natural Heritage Impacts

The key ecological issues associated with terrestrial communities are vegetation clearance, potential loss of biodiversity and fragmentation of communities and barrier effects to some fauna.

The following conclusions have been drawn from the EIS:

- The total loss of natural vegetation and habitat will be minor, as the route traverses mainly cleared or partially cleared terrain.
- Impacts on biodiversity will not be significant. The pipeline route is not expected to have a significant impact on any of the listed species or communities of flora or fauna, and will not, therefore, affect their conservation status.
- Impacts on sites of environmental significance will not occur or will be minor as the pipeline route has either been altered to avoid the sites, or impacts will be managed during construction by flagging important sites and/or erecting temporary fencing.
- Some fragmentation of remnant vegetation communities and habitat will occur, but has been minimised, where possible, by following existing road reserves or service easements, or deviating the route around remnant patches of vegetation.

5.4.5 Cultural Heritage Impacts

Surveys of Aboriginal archaeological sites and historical heritage sites were undertaken along the pipeline corridor. A total of 161 Aboriginal archaeological sites were located during the survey, comprising 100 artefact scatters, 30 isolated artefacts, 21 isolated finds, five scarred trees, three artefact scatters/quarries, one shelter and one grinding groove site. The Aboriginal and scientific significance of sites were assessed and a site-specific strategy devised to avoid or minimise impacts. These measures included altering the route to avoid the most important sites, and flagging or fencing sites to be avoided during construction. In the case of low value sites where avoidance is impossible, applications will be made for Consent to Destroy Permits. With the adoption of these measures, the resulting impact on the archaeological resources of the area will be low.

Extensive consultation with the Aboriginal community has been undertaken to ensure that their concerns are understood and respected during construction and operation of the pipeline.

The historical heritage survey identified nearly 300 historical archaeological sites within the pipeline corridor. Of these, 107 have been registered previously and a further 178 sites, including mines, ruins and standing structures, were identified during the field survey and literature search. Fifty-one sites were located on or near the proposed pipeline route. Impact mitigation strategies have been devised for each of the 51 sites. In most instances a slight pipeline route deviation will be undertaken to avoid the site. Other sites will been temporarily flagged or fenced to avoid damage during construction. With adoption of these mitigation measures, impacts on historical heritage sites will be minor.

5.4.6 Land Use Impacts

The pipeline route traverses a variety of land uses including farmland, state forest, conservation lands, residential areas and a number of different service easements.

Forestry

The economic impacts on forestry operations will be minimal as the pipeline route will, in general, follow existing cleared road easements and will therefore require limited additional clearing. Suitable compensation will be negotiated with each forest owner/manager.

Other issues of concern to the forestry industry include increased risk of fire during construction, spread of forest diseases and pest plants, and disruption to road access. Each of these potential impacts will be mitigated by adoption of appropriate management strategies during construction.

Conservation Areas

There are no wilderness areas on the pipeline route or that would be adversely affected by the project. Impacts will be low in the Morton National Park, low to moderate in the Upper Nepean Water Catchment, and moderate to high in the Illawarra Escarpment if not directionally drilled.

Landscape Values

A landscape assessment of the pipeline route has identified a number of areas where the visual impact will potentially be high, including the Illawarra Escarpment and the Shoalhaven River. With the adoption of appropriate mitigation measures, such as planting of screening trees and shrubs and possible directional drilling in critical areas, visual impacts will be greatly reduced following rehabilitation.

Agriculture

The main issues of concern to farmers include interference to stock and farming activities during construction, damage to farm infrastructure, temporary loss of production on the pipeline right of way, weed invasion, soil compaction and erosion. Consultation with all land holders has been undertaken to identify individual concerns and appropriate work practices will be adopted during construction to mitigate potential impacts. Restoration works on properties will be undertaken to the reasonable satisfaction of the land holder. An easement will be acquired through each property and appropriate compensation negotiated.

5.4.7 Transport Impacts

Although it is not anticipated that significant traffic impacts will occur, a number of mitigation measures will be adopted to ensure that impacts on other traffic are kept to a minimum. These may include using buses to transport the workforce to work sites, restricting truck movements on certain roads and the use of pilot vehicles.

5.4.8 Impacts on Infrastructure and Services

For 380 km of its length the pipeline route either intersects or runs parallel to road or service easements, including easements for roads, telecommunications, gas supply, electricity supply, water supply and waste water and drainage. Impacts on infrastructure and services will be managed through consultation with the relevant agencies and adhering to minimum separation distances during construction. Where necessary, boring will be used to cross major infrastructure such as sealed roads. With careful planning impacts on infrastructure will be minimal.

5.4.9 Social Impacts

The principal positive effects relate to employment opportunities for local communities and the provision of services during construction. Of the 1,100 person construction workforce, 20-50 percent will be sourced locally and approximately 540 to 860 persons will migrate into the area. The impact on communities will be significantly mitigated by their dispersal over the three construction spreads. Additional economic benefits will accrue to local communities through the provision of retail and other services to construction crews.

During the operational phase 60 permanent jobs will be generated.

The principal negative effects of the Project on communities will result from construction impacts relating to noise, dust, visual intrusion and restrictions to access. Each of these impacts, however, will be relatively short-term and manageable through adoption of appropriate environmental management techniques.

The pipeline easement may in some instances limit the options available to land holders and service authorities regarding future development activities, although these potential impacts have, to a large extent, been minimised through appropriate consultation and route planning.

5.4.10 Regional Economic Impacts

The EGPP will have an immediate positive effect on regional economies along the pipeline route through the provision of employment and purchase of services during construction. More importantly, long term benefits will accrue to the regional economies through the provision of natural gas infrastructure which will stimulate economic activity along the route. In particular, the availability of natural gas to local industries will result in significant cost savings, and energy intensive industries will be encouraged to locate along the pipeline route.

5.5 REPRESENTATIONS TO EIS

Fifty three representations were received from the exhibition of the EIS although none on the SIS. A wide range of views and issues were raised in representations and were referred to the COI. The issues raised in the submissions are summarised in Appendix A to this report as they apply to NSW and dealt with as appropriate in the following sections of this report.

The key issues raised in the representations affecting NSW included :

- support for the proposal on economic grounds (less expensive/more competitive fuel source, regional development benefits);
- support on environmental grounds - potential for greenhouse gas emission reduction;
- EIS of good quality;
- lack of detail/clarity in the EIS (on route alignment, river crossing methods, impacts and mitigation);
- the Nowra corridor traverses a number of environmentally sensitive areas, and there could be a range of adverse impacts (eg. on flora and fauna, soil erosion, water quality);
- concern about the nature of consultation with the Aboriginal community;
- other routes (Western and Marulan corridors) are less environmentally sensitive and should have been fully assessed. It was also argued that the Western route would provide greater economic benefits than the Nowra corridor;
- concern was expressed about the possible duplication of infrastructure (in view of the Wodonga to Wagga-Wagga line proposal. It was suggested that a National sustainable energy policy needs to be developed before the proposals can be assessed;
- some affected property owners expressed concern about the potential impacts on their properties (risks, property values, disturbance, compensation levels).

6. THE COMMISSION OF INQUIRY (COI)

6.1 DETAILS

The Commission of Inquiry/Panel, hereafter referred to as the Commission of Inquiry (COI), was jointly constituted by the Minister of Urban Affairs and Planning NSW and the Minister for Planning Victoria.

Public Hearings were held in NSW in Sydney (22-24 and 29-30 April and 10 July), Wollongong (18 June), Nowra (3 June), Radcliffe (6 June), and Cooma (30 May).

Parties to the COI included the Applicant EGP, relevant government agencies, environmental groups, energy supply companies, individual citizens and citizen groups, Aboriginal organisations, local government authorities, commercial and industrial representatives.

The COI presented its report to the Minister for Urban Affairs and Planning on 16 September 1996. The Minister for Urban Affairs and Planning then referred the COI report to the Minister for Energy without specific comments on the COI report.

6.2 PROPOSAL CONSIDERED

The proposal as described in the EIS formed the basis of the considerations by the COI. However prior to the COI additional field work was carried out by the proponents' consultants, which led to realignment of various parts of the route to avoid sensitive areas. Many other sections of the route have since been realigned in response to consultation with landowners and government agencies, and to accommodate parties' specific concerns raised mainly during the COI. These modifications were considered by the COI. Generally, these modifications relate to matters of detail (with the aim of reducing adverse impacts) and did not fundamentally change the proposal.

On 27 June 1996, the proponents submitted a set of draft alignment sheets to the COI which indicated the latest proposed surveyed route. This was assessed as the final route for construction although it may be subject to minor refinement during construction stage.

These plans excluded the Welcome Reef area where a compromise route proposal was negotiated between the Applicants, Sydney Water Corporation and the NSW National Parks and Wildlife Service. This proposed compromise route was accepted as the best available by concerned parties if the general route were to be accepted. A set of revised draft alignment sheets including this section of the route proposal was submitted to the COI on 16 July 1996.

6.3 SUBMISSIONS TO COI

NSW Government Departments and Agencies

The DoE and the Department of State and Regional Development both supported the proposal for economic reasons

The EPA, DWLC, NPWS and DUAP all raised concerns that the EIS did not contain enough detail to allow a confident assessment of the proposal or some parts of it. DWLC also believed that the EIS does not identify key impacts and mitigation measures. In particular, it sought more detail to address soil and water issues. NPWS raised doubts that the deemed SIS did not fully address all necessary requirements. The EPA suggested that securing performance bonds from contractors would help ensure environmental protection. These agencies have stressed that a detailed environment management plan (EMP) is essential and that all Government departments and agencies need to be satisfied with the EMP.

Sydney Water also required more details to accurately predict the impacts of the proposal on Sydney Water's operations. It believed that the cumulative impact of the proposal with existing activities represents an "unacceptable risk" to Sydney's water supply.

Commonwealth Agencies

Commonwealth agencies including the CSIRO (Division of Building, Construction and Engineering), the Australian Heritage Commission and the Commonwealth EPA believed that most issues were covered by the other submissions, although the Heritage Commission advise that the Nowra route may impact on some places listed in the Register of the National Estate.

Local Government

Council submissions strongly supported the proposal owing to the potential to encourage regional development and general economic benefits. They considered that environmental controls are needed to mitigate impacts, but that the proposal will not impact significantly on the environment.

Particular concerns included construction noise; the impact on F6 freeway extensions; water quality in the Macquarie Rivulet; the impact on future urban expansion in Wollongong and the impact on the Illawarra Escarpment.

Business and Community Groups and Environmental Organisations

Sixty-two groups made submissions to the COI. Of the 41 who did not appear before the Commission, 26 supported the proposal, mainly for economic reasons. A major concern raised by the groups was treatment of environmental issues including flora and fauna, weeds and consideration of specific sites/areas affected by the proposal. Other concerns were:

1. There is a lack of specific detail in the EIS.
2. Discounting the western corridor was not justified.
3. The project should be deferred until a National Sustainable Energy Policy and National Pipeline Grid are implemented.
4. There was not adequate or sufficient consultation with Aboriginal groups.

Other Parties

Issues raised by other parties included:

1. Consideration of alternative alignments of the pipeline, especially the possibility of using existing pipelines as part of the new link.

2. The attitude of the developers towards landholders, including issues of courtesy and compensation.

6.4 STRATEGIC ISSUES

6.4.1 NEED/JUSTIFICATION FOR EASTERN GAS PIPELINE PROJECT

Conservation groups submitted that the Eastern Gas Pipeline proposal should not proceed in the absence of State and National Policies for gas production, distribution and use. They contended that an endorsed overall strategy should exist for the energy industry before major energy infrastructure proposals are considered.

The DoE and the proponents submitted that the EGPP proposal accords with the CoAG policy for free and fair trade in gas, and the NSW Inquiry into gas supply in NSW which advocated competition in the gas industry and transparency of the elements of gas pricing. The unbundling of gas pricing and open access to transmission systems, which are the basis of Government proposals for free and fair trade in gas, will facilitate competition elements in delivered gas prices but will not ensure competition throughout the gas production, transmission and reticulation industry.

AGL contended that government strategy for competition will be achieved through the initiatives of third party access to transmission systems and that 'gas swapping' and other mechanisms between various producers and transmitters will be a further avenue for competition. The proposed connection of the EAPL Moomba to Sydney system to the Victorian system, as a result of EAPL's proposed Wagga to Albury line, will enable competition between Cooper Basin and Bass Strait producers.

The proponents submitted that the gas market in NSW is immature and in its market penetration has been limited as a result of price and factors relating to the monopoly in NSW gas transmission, reticulation and marketing. Competition in the NSW gas industry will reduce price and result in greater penetration of the overall energy market.

The COI noted there was some dispute as to the capacity of the Moomba to Sydney Pipeline System. However it considered that, after 2005, significant investment to boost capacity of the Moomba to Sydney line will be necessary or alternatively an additional transmission line will be necessary to meet Sydney's gas demand.

On the basis of market projections at about 2015, both the Moomba to Sydney pipeline and the EGPP could be fully utilised if works to boost capacity are not undertaken. Such a situation could, in fact, occur somewhat earlier if expressions of interest for gas use in regional centres between Longford and Wollongong are realised. Under such conditions, there may be little gas available from the EGPP for delivery at Wilton. The potential issue for underutilisation of the existing Moomba to Sydney pipeline also may not be realised and in fact capacity boosting of this facility may be necessary.

The COI concluded that there is a clearly established need for a gas pipeline linking the Bass Strait gas fields with Sydney and providing gas to regional centres in Victoria and NSW not presently served by gas. Such need:

- accords with Government policy for competition in the NSW gas industry;
- provides the vehicle for contestability in all aspects of gas production, transmission, reticulation and marketing which will not be fully realised by current gas industry reform proposals;
- provides a measure of regional equity by making available alternative, competitive energy at regional centres; and
- provides a mechanism for reduction in Greenhouse Gas emissions for Australia, offering an alternative to carbon-rich fuels or electricity at the regional level.

6.4.2 LEVEL OF ASSESSMENT

Submissions from some government agencies and conservation groups to the COI contended that the EIS was inadequate, lacking sufficient information to enable an appreciation of potential environmental impacts and the necessary remediation measures required to prevent or minimise such impacts.

The inadequacies were mainly concerned with lack of information in respect of:

1. Comparative environmental and economic benefits of all alternative pipeline routes.
2. A comparative quantitative environmental cost and economic benefit analysis of the Marulan route with extensions to Nowra.
3. A description of the exact location of the pipeline within the pipeline corridor, and the continual changes made and being made to the location after exhibition of the EIS and during the course of the Inquiry.
4. Identification and locational details of stream crossings.
5. Identification and locational details of wetlands.
6. Identification and locational details of acid sulphate soils.
7. Soil fertility, erosivity and slope stability.
8. Impact on fauna, flora and stream ecology together with related conservation, habitat and ESD considerations.

9. Mitigation and remediation measures made necessary as a result of environmental impacts.

10. Impact on proposed world heritage areas and specific environmentally sensitive locations such as Morton National Park and the Illawarra Escarpment etc.

11. Need for a National Sustainable Energy Policy and National Pipeline Grid approach.

12. Public consultation and community involvement, in particular with the Aboriginal community.

The proponent contended that:

- The EIS clearly outlined the potential environmental impacts associated with the construction and operation of the pipeline project.

- The *NSW Pipelines Act 1967* involved a two stage approval procedure namely a 'Permit', for the purpose of determining the route, followed by a 'Licence' to construct and operate the pipeline.

- The procedures established by the Pipelines Act provide for environmental impact assessment to occur prior to the granting of a permit.

- The Pipelines Act provides that the route of the pipeline may, or may not, be finally determined at this stage. This may be subject to the respective Ministers' decisions on the permits, or route finalisation may occur subsequently when the licence to construct the pipeline is granted.

- The extent, complexity, linear type nature of the development together with the variety of land traversed, require a more flexible approach compared to an EIS prepared for a site specific project.

- Further refinement and detailed planning of the route will continue and will meet the commitments made in the EIS and the conditions imposed by the various licences, permits and approvals.

- The Environment management plan will be developed to manage the issues raised in the EIS and be prepared in consultation with relevant stakeholders.

The COI concluded that the material presented to the Inquiry was sufficient to reach an adequate understanding and make a reasonable assessment of potential environmental impacts, and whether these are capable of being addressed by the Environment management plan and recommended permit and licence conditions.

In reaching this view the COI considered that, in terms of the statutory context of the Pipeline Approval process, environmental impact assessment is a continuing action subject to Ministerial approval at all stages of development coupled with 'downstream approvals' required from various Government agencies.

The COI also considered the principles established by the Courts concerning the adequacy of an EIS (Cripps J. in Prineas v. Forestry Commission of NSW (1983) 49 LGRA 402 (affirmed by Court of Appeal (1984) 53 LGRA 160). In particular the COI noted the established principle that an EIS is not a decision-making end in itself, but is a means to a decision-making end.

Accordingly the COI considered that in the statutory context and circumstances, the EIS was adequate and properly fulfilled its role as part of the environmental impact assessment process.

6.4.3 PREFERRED PIPELINE CORRIDOR

The selection of the 'preferred corridor' by the Proponent was based on environmental, cost considerations (capital and operating), additional markets served (population; industries; expansion potential), cash flow considerations, potential for early market development penetration, existing infrastructure, and economic viability resulting from the foregoing.

The environmental factors were of paramount significance in the coastal and central corridors. When balanced with economic considerations this resulted in only three routes being considered viable. These were:

- The Eastern Corridor via Nowra (the Nowra Corridor).
- The Eastern Corridor via Marulan (the Marulan Corridor).
- The Western Corridor.

No party to the COI disputed that the choice of corridor was between the above three routes.

The Proponent asserted that the Nowra Corridor is the one best satisfying the selection criteria and is the preferred route.

The number of parties to the COI including conservation groups and AGL considered the Western Corridor providing a linkage between Albury and Wagga and linking the Victorian and NSW gas systems should be the preferred corridor. They considered the Western Corridor has lower environmental impact as it passes through less sensitive areas, has less river crossings, and will result in less clearing and less visual impact.

The COI considered the benefits and disbenefits of the three alternatives closely, recognising the complexity and the span of environmental issues across local, regional and national concerns. The COI felt that it was not possible to ascribe monetary values to many of the environmental issues being considered at this stage in the development of environmental evaluation.

The COI weighed the economic and social issues and Ecological Sustainability considerations with the potential environmental impacts of the alternative routes. It

placed considerable weight on the regional benefits to be gained through the provision of alternate competitive energy sources to regional areas. This issue was considered to be significant in the East Gippsland and Shoalhaven regions. The COI concluded that the preferred Nowra Corridor was the only way such benefits would be available for the Nowra area. The COI also concluded that the EIS and Government Policies on reform of the gas industry have understated the benefits to Victoria and NSW of providing gas to regional areas.

The COI concluded that the Nowra Corridor was the preferred corridor and that the associated environmental issues are capable of being managed within a framework encompassing the recommendations of the COI.

6.5 COI FINDINGS, RECOMMENDATIONS AND CONDITIONS

6.5.1 Findings

The COI found that:

- Proper regard had been had to the precautionary principle in the location, design and construction proposals of the EGPP as proposed for the Nowra route.
- The evidence does not indicate serious or irreversible environmental damage is likely to occur using the Nowra route, given the construction methods proposed and compliance with the permits/licences conditions the Commission recommends.
- The level of environmental damage likely to be occasioned during construction can be mitigated in accordance with measures able to be specified in a properly developed environment management plans as recommended by the COI.
- Proposed mitigation measures must be approved by the nominated lead agency in consultation with relevant government agencies and accord with the COI's recommended permits/licences conditions.
- The routing and construction proposed for the EGPP as recommended by the COI is consistent with principles enunciated for the conservation of Biological Diversity and Ecological Integrity.
- It is unlikely there will be a loss of diversity or ecological integrity at State or Regional level and only minimal short term losses at the local level. Securance of objectives in this regard is assisted by conditions and management plans recommended by the directed to:
    - minimising vegetation and habitat clearance;
    - minimising potential impacts concerning habitat fragmentation, loss of wildlife corridors, wildlife barriers, edge effects, stream crossings, weeds, feral animals and soil erosion;
    - pipeline route changes and/or construction methods to avoid environmental sensitive locations; and
    - maximising use of easements, encouraging revegetation, protection of wildlife corridors, weed control and fauna protection.

- The beneficial energy and greenhouse impacts of the operation of the EGP are consistent with the principle that the present generation should assist in ensuring that health, diversity and productivity is maintained or enhanced for the benefit of future generations.

- The EGPP will enable a reduction in Greenhouse Gas emissions, provide a less carbon intensive fuel, a more efficient fuel in regional areas and thus will accord with the National Greenhouse Response Strategy.

- The use of gas in lieu of coal to generate electricity will assist in reducing Greenhouse Gas emissions and assist ecological and economic advancement.

- The EGPP will assist in developing and maintaining an efficient, diversified and ecologically sustainable economy.

- The EGPP will contribute to the structural and economic advancement of regional and local areas enabling the opportunity for reduced production costs and increased employment.

The COI concluded that:

1. Environmental aspects of the EGPP do not preclude the relevant Ministers granting the sought Permits and Licences pursuant to the respective Pipelines Act 1967 (NSW) and the Pipelines Act 1967 (Victoria) subject to recommended permits/licences conditions.

2. The Applicants must continue to liaise with all sections of the community whose land is proposed to be traversed by the pipeline and have proper regard for cultural considerations and protection of heritage items.

6.5.2 Recommendations

In concluding that the project could proceed the COI also made the following specific recommendations as follows:

1. The Applicants in respect of Native Title considerations consult with the relevant government agencies in both States and with the Commonwealth and continue to liaise with relevant Aboriginal communities during construction of the pipeline.

2. The gazetted road reserve thought the Morton National Park be resurveyed and regazetted to ensure that it corresponds with the location of the road through this area.

3. The Applicants negotiate with AGL Pty Ltd re the use of the AGL line from Wilton to Port Kembla with a view of using such line in lieu of constructing the proposed EGP from Wollongong to Wilton.

4. The NSW Government consider its power to intervene, if necessary, in negotiations between AGL and the Applicant's in relation to the use of the AGL line from Wilton to Port Kembla. If such power is available it be used to ensure agreement between the Parties into the use of such line. In this regard the Commission/Panel notes the statutory need for a Management Plan for Sydney Water Catchments prior to the granting of an easement over such lands.

5. The NSW and Victorian Governments view easements as a community asset and prepare management principles for the use of same. Such principles to include optimising use of easements and to facilitate use by future infrastructure.

6. The Victorian and NSW Governments consult with telecommunications carriers Telstra and Optus in relation to agreement that such authorities comply with the requirements of State regulatory agencies in regards to their use of easements, their environmental performances and rehabilitation.

6.6 CONDITIONS

In formulating its detailed recommendations on permit and licence conditions the COI accepted the submission of the Proponents that:

- conditions relating to construction of the pipeline cannot be imposed on the 'Permit'. Such conditions may only be lawfully attached to the Licence';

- Department of Energy in NSW should be the lead agency in NSW, with the responsibility for approving or sanctioning any documents, plans or measures required by conditions. Consultation with other agencies as to their satisfaction should, in the circumstances here, be the responsibility of the lead agency.

The permit and licence conditions recommended by the COI are relevant to the environmental aspects and impacts of the EGPP including biophysical, social and economical aspects.

The recommended conditions by the COI are considered in the following section in the review of the effects of the project on the environment and in the conclusion section.

7. EFFECTS ON ENVIRONMENT

Key environmental impacts associated with the proposal are listed below:

7.1 GENERAL ISSUES

7.1.1 Natural Heritage Impacts

The impact on natural heritage was considered to be a major aspect of the pipeline's consideration by the COI. The COI recognised that the pipeline will affect some areas sensitive areas which have important ecological value, such as the Monaro Tablelands, the Morton Plateau, the Illawarra Coastal Plains and Escarpment to the Wilton Tablelands.

A range of potential impacts were identified in the EIS, including vegetation clearance, fragmentation and barrier effects, spread of weeds/pathogens, disturbance to fauna (noise, lighting), impacts on significant species, effects on aquatic systems, and effects on wilderness/reserves. The EIS concluded that the total loss of vegetation will be minor, impacts on biodiversity will not be significant, impacts on significant sites will be minor, some fragmentation will occur but it will be minimised. Various mitigation measures have been proposed.

The COI did not come to specific conclusions on flora and fauna, but considered that the aim should be to identify negative impacts, and to reduce these impacts to acceptable levels, providing that proposed mitigation measures are implemented. The COI recommended that there is a need to ensure appropriate mitigation is applied throughout the EMP.

In areas where clearing can be minimised by working within existing easements or minimising the impact to forest areas, the COI have suggested that re-growth of native species be allowed. In other areas directional drilling has been recommended to avoid damaging river and stream systems and other sensitive areas.

The COI has recommended that the proponents work closely with the relevant State agencies, which would provide resources and knowledge to properly implement the necessary environmental protection measures and ensure effective monitoring.

The COI has recommended conditions and EMP requirements, which have been incorporated into the Permit conditions. They have also been strengthened to meet the requirements of various agencies including NPWS.

The Minister for the Environment has since been formally consulted under Section 112B of the EP&A Act. That Minister advised that the issuing of a permit to survey is unlikely to result in any significant impacts upon threatened species, populations or ecological communities. As impacts could result from the construction and operation of the pipeline, the Minister of the Environment has requested an ongoing consultation process between the Environment and Energy administrations, stressing the importance of the EMP. The Minister for Energy has agreed with this request to ensure the project is undertaken in an environmentally responsive manner.

7.1.2 Weeds and Dieback

The COI recognised that the pipeline construction will create land disturbance, changes to local hydrology and introduce nutrients that are likely to increase the spread of weeds and dieback. This would adversely affect agricultural and natural areas.

The proponents propose native revegetation for disturbed land, and to apply hygiene measures to reduce the likelihood of cinnamon fungus which creates upstream dieback.

The COI recommended that these issues should be addressed through the EMP, including provision for appropriate supervision and monitoring.

7.1.3 Soil Erosion

The pipeline will disturb a large area of land and affect a number of erosion prone areas (such as around Bombala, Michelago and the Nerriga Hills areas), and stream crossings. The DLWC is particularly concerned that in some areas, successful rehabilitation and revegetation could be difficult, thereby increasing the soil erosion potential. It is concerned to see best practice mitigation measures being applied to these and other areas affected by the EGPP.

The COI concluded that the erosion issues are capable of being addressed through the EMP process with appropriate line location and construction management practices, and rehabilitation and maintenance procedures. The DLWC will play an important role in the approval of these measures in the EMP.

7.1.4 Noise, Blasting and Atmospheric Emissions

The COI found that noise and dust emissions from construction equipment, compressor stations, blasting etc are unlikely to have a significant impact on air quality and noise levels as these will be within guidelines recommended by the EPA. From an air quality perspective gas is a superior fuel to coal or oil.

Measures to control dust emissions, such as watering and early rehabilitation are matters to be addressed as part of the EMP.

7.1.5 Surface Water and Stream Ecology

The proposed pipeline construction will cross over 1000 waterways, of which 25 have been identified as having high conservation values. The concerns that have been raised about potential impacts to the stream ecology result in sedimentation, stream bank erosion, acid sulphate soils, high intensity rainfall events and construction techniques. The proponents have suggested certain mitigation measures, which relate to the use of appropriate crossing techniques in the most sensitive streams. The proponents have contended that, with proper management these streams can be crossed by the EGPP, whilst maintaining ecological impacts within acceptable limits.

Steams will be crossed using a variety of methods including, open cut, blasting, damming, fluming and directional drilling. Directional drilling will be used in the most sensitive regions such as the Shoalhaven River in NSW, as it has the lowest impact on

the surrounding stream environment. In most cases the appropriate crossing technique can only be ascertained once the watercourse condition is known.

The COI concluded that:

- impacts on stream ecology can be managed to acceptable standards, recognising the need for specific approvals from other agencies;
- the proponents need to further address acid sulphate soil issues;
- that residual environmental impacts cannot be avoided and must be managed to acceptable levels through environmental protection and management.

Close attention has been given to these issues in the permit conditions and will be managed through the EMP.

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7.1.6 Compatibility in Existing Land Use

A variety of land uses including farmlands, conservation areas, forests, urban areas, transport and service infrastructure will be effected by the EGPP. The COI recognised that this will raise issues of land tenure, land use planning and land use conflicts. Landholders are likely to have a range of concerns, such as disturbance to cropping, access, restrictions on land use within easements, future subdivision and land use restrictions.

The COI considers that the rerouting of the pipeline and consultations through the COI process has led to the resolution of a number of land use and tenure conflicts. It further considers ongoing consultation between the proponents and affected parties can minimise potential impacts (many impacts will be short term). The COI recommended detailed requirements to address these issues along with sensitive site specific matters in the EMP in consultation with affected landowners , land managers, government agencies and other stakeholders. These requirements are included in the permit conditions.

The COI concluded that, the benefits to be derived from the EGPP "substantially outweigh any negative social impacts". The COI recommended that a community liaison and consultation program be developed.

7.1.7 Social and Economic Impacts

The COI assessed the EGP project with respect to positive and negative impacts both during construction and the ongoing operation. Stakeholders, private landholders, environmental groups, Government agencies, Aboriginal Land Councils and communities were consulted, and the major social issues were identified.

The major social impacts were considered to be:

- Deterioration of residential amenity affected by noise, dust, and traffic.
- Loss of agricultural land during the construction stage.
- Restricted use of lands within the easement.

- Residential amenity will be affected by above ground facilities.

The proponents responded with direct negotiation with landholders and direct compensation was negotiated. The COI recommended a continuous liaison between the proponents and communities along the route be included as part of the Permit conditions under an EMP.

The COI concluded that the benefits to be derived from the proposed pipeline substantially outweigh any negative social impacts.

The proponents modelled the economic impacts on the proposed development. The model predicted that over the period from 1996-2025, the additional cumulative net national benefits could reach between $1.79 billion and $3.57 billion (1995 dollars) by 2025. The model predicted that an increase in GDP between $311 and $622 million in 2010 growing to $919 and $1838 million in 2025, as a result of the pipeline.

Regional benefits include the provision of natural gas to regional centres, boosting the economic activity in those areas. The COI considers the EGP to be a mechanism of competition to the Natural Gas market, effecting a projected drop of price in Sydney up to $1.00/GJ by 2002.

COI concludes that regional economies will benefit from the competitive energy resource. Direct BAU will be reduced to more than $3 million per annum if existing LPG industries change to natural gas. This is expected to result increased economic activity, and a direct increase in employment of up to 100 people.

7.1.8 Risk Assessment

The proponents submitted a Quantitative Risk Assessment (QRA) as part of the EIS. Risks associated with the design, construction and operation of the pipeline and its associated above ground facilities were considered.

The proponents have carried out a formal identification of hazards and quantified the consequences and likelihood of possible accidents. The main risk associated with the pipeline operation is from fires fuelled by leakage of natural gas caused by failure of the pipeline or its associated equipment. In the worst cases, jet fires can have effects extending well beyond the pipeline easement. Risk control measures are proposed in the QRA, which include increasing the burial depth of the pipeline and increasing its wall thickness.

DUAP has reviewed the QRA and is satisfied the results of the risk assessment are reasonable. DUAP considers the risks need to be further addressed at the design stage and that risk management measures are needed to avoid avoidable risks.

There is also potential for bush fires to be started during construction and maintenance operations. It is important that there be a bushfire prevention and management strategy to minimise potential risks and consequences.

The COI found that preliminary hazard and risk issues have been appropriately addressed, and recommended conditions to address and manage outstanding issues. These conditions and further requirements of DUAP have been incorporated into the permit conditions.

7.1.9 Roads and Infrastructure Easements

The proponents have attempted to locate the route of the pipeline along existing easements and other pipelines in order to cause as little damage to the environment as possible. The COI agrees with the proponents stating the proposed pipeline be located within existing easements wherever possible, which accords with sound planning principles and being subject to constraints will reduce the environmental impact.

The use of an easement corridor through the World Heritage listed Blue Mountains National Park and the Snowy Regions National Park, has raised concerns with NPWS and conservation groups. The COI does not consider that the proposed alignment of the pipeline through these areas will effect or impinge on the primary values of the Blue Mountains and the Snowy Regions National Parks

The COI concludes that the schedule of clearing should be negotiated with appropriate authorities for further identification and protection of areas of high natural value and for defining constraints in relation to easement use. Conditions are included as part of the EMP.

7.1.10 Aboveground and Ancillary Facilities

The most significant of the aboveground facilities is the one proposed compressor station required in NSW, in the vicinity of Michelago. There are a range of construction and operational impacts that could result which will be fully investigated after a specific site has been identified.

The COI concluded that environmental issues relating to above ground facilities can be adequately managed, and dealt with in the EMP. The conditions of the permit cover these issues.

7.1.11 Implications of Greenhouse Gas Emissions

The proponents have projected the EGPP could see a reduction of 1 million tonnes of greenhouse gas emissions by the year 2000 and 2 million tonnes by the year 2010. This is based upon the assumption that gas will displace other fuels, in particular coal, as gas is a much "cleaner" fuel than other fossil fuels such as coal and coal fired electricity. If coal is displaced by natural gas, then greenhouse gas emissions (such as CO_2) will fall.

In developing these figures the proponents estimated that the EGPP would result in an additional 42 PJ/A to normal growth in gas consumption by 2010. Some of this growth would displace other more carbon intensive fuels. The proponents estimated that, after taking into account this new energy use, greenhouse gas emissions would be reduced by 2 Mt/annum by 2010.

The COI examined this issue in the light of competing and conflicting claims about the significance of greenhouse gas reductions. The COI concluded that there is little doubt that the increased availability of natural gas would lead to some greenhouse gas emission but that the reduction predicted by the proponents is "..possible, perhaps even probable but cannot be assured".

The COI also considered the impact of clearing on the CO_2 uptake capability was small but that clearing should nevertheless be minimised or avoided. It also considered revegetation should be prompt, be encouraged over the whole easement and only where absolutely necessary should substantial tree growth be prevented.

The permit and EMP conditions reflect these considerations.

7.1.12 Archaeological Heritage and Cultural Considerations

The EGPP has the potential, in the absence of adequate assessment and mitigation to significantly impact on Aboriginal cultural heritage values. The proponents have identified and assessed conservation and heritage values along the pipeline route in order to measure and consult the level of impact to the region and the communities. The proponents have consulted with Aboriginal communities and organisations that have been affected by the pipeline construction, which led to an archaeological fact finding mission. Subsequent re-routing of the pipeline has occurred to avoid and protect identified Aboriginal sites and to protect other sensitive areas.

However a number of concerns have been raised by Aboriginal communities including the adequacy of consultation, allocation of "significance" to sites/areas, cultural significance given insufficient emphasis, employment opportunities, Mabo, Native Title and Land Rights and compensation. The COI is satisfied that the applicants have undertaken adequate consultation procedures with the concerned parties, however, these have not resulted in agreement on a number of matters. The COI recommends that site management and continued consultation with Aboriginal communities be set out in the EMP.

The COI also recommended that all archaeological/anthropological sites of Aboriginal significance be avoided as far as possible and that measures be set out in the EMP for site management in conjunction with Aboriginal communities and archaeologists.

Since the Inquiry, action has been taken under section 29 of the Native Title Act (C'th) 1993. This allows potential claimants for land to identify their interest, and for an easement to be negotiated, without jeopardising future Native Title claims.

Particular areas of historical heritage significance were raised in representations and considered by the COI, including the Sassafras area and the historic Wool Road (a mid 19th century road linking Nerriga with Huskisson and subsequently, Nowra). The COI concluded that areas of Historical Heritage significance should be protected, eg by directionally drilling at Bulee Gap and the historic Wool Road's fabric be protected from overloading by heavy equipment/materials transport associated with pipeline construction.

The COI concluded overall that archaeological and historical heritage aspects could be managed successfully through ongoing consultation in accordance with recommended conditions, which have been incorporated into the Permit.

7.1.13 Visual and Aesthetic Impacts

The COI noted that few concerns had been raised about visual impacts outside environmentally sensitive areas, which are dealt with separately in this report. The COI observed that the visual impacts generally went hand in hand with ecological considerations, relating to clearing of native vegetation and the effects on plant communities, biodiversity and fauna habitats.

The COI identified the potential visual impacts on rural residential development on the NSW South Coast, and concluded that overall visual impacts can be adequately managed.

The proponents have identified a number of techniques for reducing adverse visual impacts, including revegetation. Conditions have been included in the permit to ensure visual and aesthetic mitigation proposals are detailed in the EMP.

7.2 SITE SPECIFIC ISSUES

7.2.1 Native Grasslands

The Cooma grassland areas along the proposed Nowra corridor in the Monaro and Hoskinstown areas are considered to be "Nationally Significant" by the proponents' flora and fauna consultants (Biosis Research). The proponents had proposed to run the pipeline through the grasslands but have subsequently relocated the route to avoid the most significant areas. The Cooma-Monaro Shire Council has proposed to make the Cooma Grasslands into a National Park. The newly aligned route is compatible with the Cooma-Monaro Shire Council proposal.

The COI suggested that specific construction controls with respect to weed invasion and minimising the impact to the site through these areas. In addition, consultation between the proponents and NPWS and DLWC is recommended to create a high level of environmental management which is provided for in the conditions relating to the EMP.

7.2.2 Welcome Reef Area

The route proposed in the EIS was designed to avoid a proposed Welcome Reef Nature Reserve by NPWS. However, it had unacceptable impacts upon the site of the Welcome Reef dam proposed by Sydney Water to augment Sydney's water supply in the long term. A complicating factor is the occurrence of highly erodible soils in the vicinity.

A compromise route alternative was brokered between Sydney Water, NPWS and the proponent and submitted to the COI. The COI considered the compromise to be the best option in minimising the impacts on areas of high erosion potential and the likely area of inundation of the proposed dam. It will involve some impacts on the proteaceous forest but this is minimised by following previously cleared tracks. Specific recommendations have been made by the COI to deal with this area. Conditions have been included in the permit concerning the EMP as recommended by the COI, to minimise the potential impacts.

7.2.3 Bulee Gap

This area situated on the western escarpment of Morton National Park is considered to be an area of particular sensitivity owing to its visual, heritage and flora values. The proponents have suggested directional drilling to avoid any damage to any of these environmental values and the beehive sandstone formations. If directional drilling is not feasible, the proponents have suggested trenching on the inside of the road adjacent to the sandstone formations, which would require the widening of sections of the road. The COI concluded that this would be unacceptable, and that directional drilling or an alternative technique or alignment must be used to avoid disturbance to Bulee Gap.

If another alignment is sought it would affect the surrounding area which is environmentally sensitive, and partly within Morton National Park. Appropriate conditions have been set.

7.2.4 Morton National Park and Conservation Reserve Proposals

The NPWS have raised concerns to the pipeline route as it follows the Braidwood to Nowra road through Morton National Park. A number of issues have been raised including:

- proximity to the Budawang and Ettrema wilderness areas;
- effect on World Heritage values (the area is within the proposed Blue Mountains/sandstone World Heritage Area);
- effects on threatened species;
- soil erosion;
- stream crossings;
- weeds/pathogens;
- rehabilitation;
- fire risk;
- incremental increase in service corridor impacts.

The proponents have contended that the boundary of the park is set back from the road and the proposed route will not detract from the Parks wilderness values.

The COI noted that the corridor through this area is essential in providing infrastructure linking Shoalhaven and Canberra.

The COI concluded that the pipeline easement would be outside identified wilderness areas, and should not have a significant impact on environmental values that would affect proposals for World Heritage listing.

The COI has recommended that clearing along the easement should be minimised in the areas of the Morton National Park area and other areas considered for further additions to the Park or for future Nature Reserves. The COI also recommended the threatened plant species adjacent to the road through the National Park be avoided, particularly in the vicinity of the proposed Parma Creek Nature Reserve. The COI considered consultation with NPWS and DLWC must be carried out to minimise impacts and to rehabilitate the disturbed areas to a high environmental standard.

The COI recognised the need for a fire management plan as fire both at the construction and operation stage, could pose a major threat to the Park. The pipeline will be buried at a greater depth in this area than normal reducing the potential for pipeline failure and damage.

Conditions have been included in the Permit to deal with these matters in the EMP .

7.2.5 Illawarra Plain Remnant Vegetation

The NPWS has indicated that all remnant vegetation is considered to have high conservation value and areas such as the 'Kiama Brush' should not be disturbed by the pipeline. DLWC has made specific reference to the need to minimise clearing at Mount Terry and mentioned the level of sensitivity of stream crossings in this area.

It is proposed that the EGPP follow an existing powerline easement in this area, which should avoid the rainforest remnants. Permit conditions will ensure the EMP will address clearing and any effects on sensitive areas.

7.2.6 Illawarra Escarpment

The Illawarra Escarpment is considered to be of high environmental value as it has important flora and fauna values, and provides a scenic forested backdrop to the Illawarra coastal plain. It is also a technically difficult area in which to construct facilities because of slope instability problems

The proponents submitted a new route to the COI known as "Route 9xx", which avoids significant vegetative clearing, areas of visual sensitivity and areas with landslip potential. The route follows existing tracks and easements, but within the State Recreational Area (SRA), directional drilling has been proposed in order to avoid environmental sensitive areas.

The COI agreed that Route 9xx and directional drilling will avoid impacting on the escarpment and SRA areas, subject to recommended conditions. If however directional drilling is not feasible due to geotechnical conditions, the COI recommended tunnelling, the use of the AGL pipeline or avoidance of the area.

The COI considered whether the EGPP could use the existing AGL Wilton to Wollongong line, as an alternative to constructing a new line through the escarpment. It concluded that there would be clear environmental benefits but that it would not be appropriate to require compulsorily use of the AGL line, noting that it would have a possible effect on commercial negotiations.

Subsequent to the COI, the proponents lodged an application for a permit variation which largely avoids the State Recreation Area.

Conditions can be imposed on the EGPP which will ensure that impacts on the Illawarra Escarpment will be minimised, if it is not possible to use the AGL line.

7.2.7 AGL line - Wilton to Wollongong

DUAP has suggested that in order for the EGP to minimise the environmental damage to the Illawarra Escarpment and the Sydney Water catchments, consideration should be given to the use of the existing AGL gas pipeline from Wilton to Wollongong. EGP has suggested that AGL does not have the carrying capacity needed for the proponents market needs. The COI conclude that usage of the AGL pipeline will have clear environmental benefits, but it are not supportive of a condition requiring compulsory the use of the line, as this may unnecessarily bias commercial negotiations.

7.2.8 Sydney Water Catchment Areas (Cataract & Cordeaux Dams)

Sydney Water has expressed concerns with the impact the proposed pipeline will have on its water supply catchment areas due to construction activities and vegetation clearing that will cause erosion, sedimentation and turbidity within the dams. It is imperative that water quality be protected as these catchments form part of Sydney's drinking water supply. Fire, weed/pathogen risks, and unauthorised access are other major concerns. The proponents have therefore proposed that the use of existing easements will be implemented, to minimise these impacts.

The COI concluded that these impacts can be managed provided there is consultation with DLWC and Sydney Water, vegetative clearing is minimised and that access to the area is through existing tracks only. Revegetation/rehabilitation, soil erosion control and access measures will be dealt with in the EMP required as a permit condition.

8. ECOLOGICALLY SUSTAINABLE DEVELOPMENT (ESD)

It is a requirement of the EP&A Regulation that proposed activities be justified taking account of ESD principles. Core ESD principles include:

- the precautionary principle;
- inter-generational equity;
- conservation of biological diversity and ecological integrity;
- improved valuation and pricing of environmental resources.

The EIS briefly mentioned the first three of these principles (and dealt more generally with the issues throughout the EIS), and concluded that the EGPP will contribute to the National ESD strategy, by reducing greenhouse (and other) gas emissions, while adverse impacts on ecological systems will be mitigated. ESD was also addressed by the COI. The COI generally concluded that the EGPP would be consistent with ESD principles.

The practical application of ESD to individual projects is still evolving. Nevertheless, the following comments can be made.

8.1 THE PRECAUTIONARY PRINCIPLE

This principle provides that if there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

The EGPP would pass through a number of particularly sensitive environments. From the available evidence, the Western and Marulan route options would be less sensitive than the preferred Nowra corridor. This makes it particularly important that a very high standard of environmental management is applied. This should be implemented through the EMP.

It is noted that the COI indicated that the principle does not enunciate a zero risk scenario, nor should a decision which involves a threat of irreversible damage necessarily be avoided.

8.2 INTER-GENERATIONAL EQUITY

This principle deals with social equity. It requires that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations. It should also take account of intra-generational equity (ie effects on different sectors of existing societies).

The EGPP could conflict with this principle in two ways - namely, through increased use of a non-renewable resource (gas) and potential damage to the environment.

The EGPP may improve equity by providing additional economic development and employment opportunities, especially in regional areas and a reduction of greenhouse gas emissions would be a benefit, principally for future generations.

8.3 CONSERVATION OF BIOLOGICAL DIVERSITY AND ECOLOGICAL INTEGRITY

The EGPP has significant potential to affect biological resources, because of the sensitive nature of the environments it would cross. A high standard of environmental management will reduce the adverse environmental impacts. Nevertheless, it is likely that some residual impacts will occur, although the evidence does not indicate that it would be significant enough to threaten the integrity of ecosystems or individual species.

The conditions that have been attached are aimed at maintaining a high level of environmental management to the satisfaction of the relevant government agencies through their involvement in the EMP formulation.

8.4 IMPROVED VALUATION AND PRICING OF ENVIRONMENTAL RESOURCES

If a resource, such as gas, is underpriced, then there is a danger that over use will result, leading to depletion of the resource at a relatively fast rate. The price would ultimately be a matter for future decision makers. However, the EIS claims that the EGPP would lead to price reductions (and hence increased gas use). The EIS recognised that one of the costs of marketing Gippsland Basin gas in NSW would be a more rapid depletion of the known reserve. It concluded that the ultimate impact would depend on the success of accelerated exploration and development activities likely to be undertaken in the Gippsland Basin.

The COI noted the difficulties of valuing environmental resources, and concluded it "... must continue to use the traditional valuation method of assessing the economic/social value and impact of development in terms of what it contributes to society and the economy via jobs, exports, etc, balanced with a qualitative evaluation of environmental cost".

9. PROPONENTS' PROPOSALS FOR MITIGATION

9.1 MITIGATION PROPOSALS

Throughout the EIS and in Chapter 17 specifically, the proponents outlined a range of mitigation measures that would be undertaken to minimise the environmental impacts of the proposal. These measures will be primarily incorporated into the EMP.

A number of specific changes were made to the pipeline alignment during the exhibition of the EIS and during the COI process as a result of direct input from stakeholders. These changes include:

- Welcome Reef - an alternative route using existing and previously cleared tracks while minimising the impacts on the Welcome Reef Dam proposal and the proteaceous forest, which is of State Biological significance and proposed for inclusion in a Nature Reserve by NPWS

- Bulee Gap - directional drilling be implemented within this area, to avoid any serious damage to flora, fauna, geological, visual and the historical values of the road through Bulee Gap

- Illawarra Escarpment State Recreation Area - an alternate route has been developed and will involve directional drilling, ultimately reducing the amount of clearing and visual impacts, and avoiding the State Recreation Area. High levels of environmental management need to be employed and this is covered by a condition that the EMP needs to specifically address these issues.

  The proponents have applied for a variation to the permit to accommodate the change in the alignment of the route to avoid the Illawarra Escarpment State Recreation Area. This reflects the findings of the COI and is designed to further reduce potential environmental impact.

- Sydney Water Catchment Areas (Cataract and Cordeaux Dams) - The proponent will use an existing AGL pipeline easement to limit the amount of clearing to the already disturbed area of the Cataract and Cordeaux Dam catchment areas.

- Morton National Park and conservation reserve proposals - recent legislation has resulted in a change to the National Park boundaries to correspond with the existing road as-built through the Park. This subsequently causes the pipeline route to be outside of the National Park as the proposed pipeline route has been designed to follow the existing road. However the concerns about environmental degradation in sensitive areas still exist and a high level of environmental management is required. This is dealt with by way of conditions covering the required EMP under the Permit.

Further fieldwork will be undertaken by the proponent in consultation with relevant authorities to develop site specific management strategies for sections where the alignment has changed from that assessed during the EIS studies. These changes in alignment have been designed to reduce potential environmental impact.

Other proposals for the mitigation of impacts are scheduled within the Permit conditions as recommended by the COI. This requires the use of environmental management systems as an ongoing commitment to the Government, the local community, land holders and interest groups. These requirements will be made available in the form of environmental monitoring and auditing information and reports as outlined within the overall environmental management system below.

9.2 ENVIRONMENTAL MANAGEMENT SYSTEM

The proponents have committed themselves to uphold and fulfil all their commitments mentioned in the EIS by way of a comprehensive environmental management system.

9.2.1 Environment Management Plan (EMP)

The detailed EMP is being prepared in consultation with relevant authorities. The EMP will be based on the principles, objectives and commitments which have been outlined in the EIS and in accordance with the recommendations of the COI and the Permit conditions imposed by the Minister for Energy.

9.2.2 Inspection

The proponent will employ three full-time, on-site Environmental Inspectors, who will supervise all relevant site works, ensuring compliance with the agreed environmental management measures for rehabilitation, sediment and erosion control, drainage and creek crossings, and soil constraint issues. Environmental Inspectors will, report weekly on instances of significant non-compliance, which will be dealt with by the relevant authorities. A continued regular contact will be maintained between EGPP and regulatory authorities, which will provide a balanced approach to the overall environmental management of the project.

9.2.3 Environmental Monitoring

A post-construction monitoring program will be implemented ensuring that erosion and other control measures are effective, revegetation is satisfactory and the weed control program is working effectively. The monitoring program will enable the early detection and remediation of environmental situations that might arise.

9.2.4 Environmental Auditing

Environmental auditing will check the standard of environmental management, the performance of erosion control, and other site works against set criteria set out in the EMP as agreed with relevant authorities.

9.2.5 Responsibilities of EGP and Contractors

If construction/contractor companies breach the EMP procedures and performance requirements, they will be required to rectify the problem to the satisfaction of the Proponents and the relevant authorities. If damage occurs due to pipeline construction, EGP will be required to satisfy damage demands in accordance with the Pipelines Act 1967.

10. CONCLUSIONS

The EGPP will bring a number of significant benefits to NSW including the stimulation of competition between gas producers and natural gas pipeliners in the NSW gas market, increased security of natural gas supply for NSW and the potential for new regional development opportunities.

The EIS accompanying the EGPP application for a Permit under the Pipelines Act 1967 has been the subject of a comprehensive environmental impact assessment under Part 5 of the NSW Environmental Planning and Assessment Act 1979, and the equivalent Victorian and Commonwealth legislation. The assessment has involved an extensive and rigorous NSW COI in conjunction with a Victorian Panel Hearing process. The COI concluded that the environmental impacts of the project would not preclude the Minister for Energy granting permits and licences subject to conditions recommended by the COI.

The Minister for Energy considered the matters specified in Clause 91 of the EP&A Act 1979 in making the decision to grant the permit for the EGPP and as a determination under the EP&A Act 1979. The Minister has particularly considered the environmental effects of the proposal and concluded the application for the permit should be granted subject to conditions to establish a very high level of environmental management through the preparation and operation of a comprehensive Environment management plan.

In accordance with the requirements of Section 112B(1) of the EP&A Act the Minister for Energy sought and obtained the concurrences of the Minister for the Environment, as the Minister responsible for the TSC Act.

In accordance with section 8 of the Pipelines Act, the concurrence of the following Ministers was also obtained to the granting of a Permit to BHP Petroleum (Pipelines) Pty Ltd and Westcoast Energy Australia Pt Ltd, subject to the conditions specified in the Permit.

- Minister for Local Government
- Minister for Public Works and Services
- Minister for Transport and Minister for Tourism
- Minister for Roads
- Minister for Urban Affairs and Planning

The Permit Conditions adopted by the Minister have been based on recommendations of the COI. Most of the COI recommended licence conditions have been incorporated into the conditions of the permit. Most of the conditions relate to the preparation of the Environment management plan and are included in Schedule 2 to the Permit. These conditions have also been strengthened to satisfy the requirements of relevant Ministers and agencies following extensive consultation undertaken by the Department of Energy.

A number of the other recommendations of the COI are more appropriately dealt with at the licence application stage, including the role of government in resolving the use of the AGL Wilton gas pipeline if necessary. Other recommendations relating to the general use of easements are matters of policy which need to be dealt with separately.

The conditions incorporated into the Permit approval are very comprehensive and provide the framework for the development of the Environment management plan in accordance with the recommendations of the COI. They also meet the requirements and concerns of relevant agencies. The conditions will ensure the project is carried out in an environmentally responsible manner.

The Minister for Energy has given a commitment that the consultations between agencies will continue through the licence phase to ensure appropriate environmental conditions of approval. Consultations will be undertaken in connection with the Environment management plan so that it also meets the requirements of agencies before it is approved by the Director-General of the Department of Energy.

The licence conditions recommended by the COI have not been the subject of the permit application or this report. However the Minister for Energy will consider these at the time of the licence application.

11. PERMIT

BHP Petroleum (Pipelines) Pty Ltd (ACN 006 919 115) and Westcoast Energy Australia (Pipelines) Pty Ltd (ACN 068 570 847) having their registered office at 120 Collins Street, Melbourne, Victoria, have applied in accordance with the provisions of Division 2 of Part 2 of the Pipelines Act 1967 ("the Act") and the Pipelines Regulation 1993 ("the Regulation") for a permit to enter lands for the purpose of determining the route within New South Wales of a proposed pipeline which would transport natural gas from Longford in Victoria to Wilton near Sydney.

The application for the permit complies with the provisions of the Act and the Regulation, the matters specified in section 8 of the Act have been taken into consideration and the concurrences required pursuant to section 8(1) have been given.

Accordingly, I MICHAEL REUBEN EGAN, MINISTER FOR ENERGY, in exercise of the powers conferred by sections 8 and 9 of the Act, do hereby grant to BHP Petroleum (Pipelines) Pty Ltd and Westcoast Energy Australia (Pipelines) Pty Ltd (hereinafter called "the Permittees"), Permit No. 17 for a period of two (2) years commencing on this date subject to the conditions at Annexure A and the Schedules to it.

The lands affected by the Permit are shown at Annexure B.

Signed at Sydney, New South Wales this ..... day of ..... 19.....

Minister for Energy

ANNEXURE A
CONDITIONS OF PERMIT NO. 17

1. In carrying out their obligations under this permit, the Permittees must comply with the conditions to the Authority to Survey at Schedule 1, requirements imposed by any applicable law and with all recognised standards and practices for activities authorised under this permit.

2. In undertaking any activities under this permit, the Permittees must do so as described in the following documents, to the extent that they are relevant:

   (1) The application for a permit dated 11 December 1995.

   (2) The Environmental Impact Statement/ Environment Effects Statement dated December 1995.

   (3) The Fauna Impact Statement dated January 1996

   (4) The Species Impact Statement dated April 1996.

   (5) The Applicants' submissions to the Commission of Inquiry/Panel ("the Commission") clarifying the aspects of proposed activity.

   (6) The Report of the NSW Commission of Inquiry/Victorian Panel Hearing dated September 1996.

   In the event of any inconsistencies among these documents, conditions of this permit shall prevail. In the event that permit conditions do not cover issues where there are inconsistencies, the Director-General may resolve any such inconsistency.

3. If the Permittees intend to apply for a licence under the Pipelines Act, they must as part of the application, prepare and have approved by the Director-General:

   (1) an Environment Management Plan in terms of schedule 2 to this permit; and

   (2) a Safety and Operating Plan in terms of schedule 3 to this Permit (design and construction aspects of the Safety and Operating Plan, as a minimum at this stage).

   These Plans must provide for satisfying recognised standards for safety and for protection of the environment.

   The completed Environment Management Plan and Safety and Operating Plan (under sub-point (2) above) shall then be submitted as a part of the licence application.

4. In preparing the Environment Management Plan, the Permittees must consult with relevant government agencies including but not limited to Department of Urban Affairs and Planning, Environment Protection Authority, National Parks and Wildlife Service, Department of Land and Water Conservation, Sydney Water, Department of Mineral Resources and Department of Energy in regard to all relevant environmental matters including but not limited to those identified in the report of the Commission and take full account of any advice provided by those agencies.

5. The Minister may make reasonable directions in relation to any documents produced to the Minister pursuant to the conditions of this Permit, which must be complied with by the Permittees.

6. The Permittees must maintain the level of technical expertise and advice particularised in their application.

Note:

1. In determining the acceptability of the Environment Management Plan, the Director General will have regard to the consultations between the Permittees and relevant government departments and agencies.

2. The conditions of any licence will include that the licensee:

   (1) is responsible for the overall protection of its personnel, the public and property, and the environment from undue effects of any activities associated with construction, operation and maintenance of the pipeline.

   (2) ensure compliance with the Environment Management Plan (This would include requiring contractors to comply with the Environment Management Plan as a part of contractual conditions).

   (3) obtain all necessary consents and approvals from relevant agencies and comply with all requirements imposed through these approvals or otherwise by law.

   (4) submit a report of an independently chaired Hazard and Operability Study (HAZOP) and a Final Hazard Analysis to the Department of Urban Affairs and Planning.

   (5) consult with government agencies, the local community, land-holders and interest groups concerning the progress of the project and issues relating to the management of environmental impacts, at appropriate stages of project execution.

SCHEDULE 2

Contents of the Environment Management Plan

1. Overall Plan

The Plan must contain a description of the environment management system for the detailed design, construction and operation of the pipeline including:

(1) Environmental policy of the proponents;

(2) Objectives of the Environment Management Plan;

(3) Mitigation measures and techniques proposed to minimise impact;

(4) Management systems to ensure the above measures and techniques are followed. This system must include but not be limited to:

  (a) project organisational structure;

  (b) line-management responsibility, including definition of roles, responsibilities, authority, accountability and reporting of personnel relevant to the Environment Management Plan;

  (c) contractual obligations of contractors;

  (d) documentation of environmental guidelines/procedures/provisions during construction and operation, including monitoring and control requirements;

  (e) environmental training for all personnel;

  (f) environmental audit plan;

  (g) preservation of records to provide objective evidence of the Plan having been implemented and audited.

(5) Guidelines/Procedures/Provisions as outlined below on matters related to the following:

  (a) Pre-construction

  (b) Construction

  (c) Locations to be considered specifically

  (d) Environmental auditing to check compliance with the Plan

  (e) Operation

  (f) Decommissioning

  (g) Involvement of Aboriginal groups

(6) Attachments under "10. Accompanying Documents".

2. Pre-construction

Guidelines for matters that must be carried out prior to construction commencing should include:

(a) weed mapping and control;

(b) dieback mapping and relevant hygiene strategies;

(c) initiation of pre-construction monitoring stations;

(d) protection of sensitive sites (natural and indigenous and non-indigenous heritage);

(e) adequate survey and assessment for flora and fauna (especially threatened species and their habitats) within the area which would be affected by construction and operation of the pipeline.

(f) an assessment of the sensitivity of the streams and wetlands along the route appropriate to the matters specified at section 3(4) especially water quality and including consideration of impacts upstream of and downstream from proposed crossing sites

(g) soil mapping including detailed soil testing and assessment, and slope of land identifying areas of limitation and constraint.

3. Construction

Construction guidelines should include:

(1) general and specific clearing and grading techniques for easement preparation, including topsoil management (topsoil storage in particular);

(2) trenching excavation methods and soils management, including:

  (a) trenching methods for acid-sulphate and saline soils;

  (b) trenching methods for damp or water-charged ground;

  (c) trench dewatering including dewatering of saline waters;

  (d) protocols for identifying and handling "contaminated land" (this should be defined either in Plan or by appropriate reference); and

  (e) fauna entrapment prevention and management;

(3) pipelaying and backfilling guidelines;

(4) river and wetland crossings, including:

  (a) methodologies proposed for individual stream crossings;

  (b) specific details of stream crossing techniques such as trenching and drilling and ancillary measures to mitigate against degradation of the aquatic and riparian environments;

(c) water quality management, including stream water monitoring procedures to be implemented for selected stream crossings, and rehabilitation guidelines;

(5) slope stability and soil-erosion potential, including erosion prevention and management strategies based on further detailed soil investigation, and in consultation with EPA and DLWC for the following categories:

(a) low constraint terrain units;

(b) terrain units of moderate constraint; and

(c) high constraint units,

as described in Background Paper No. 2 to the EIS/EES.

(6) methodologies to mitigate noise nuisance, in particular in relation to residential areas;

(7) strategies for minimising dust emissions during construction and rehabilitation phases;

(8) methodologies for maintaining visual quality during construction and operation;

(9) methods to maintain the ecological integrity of identified environmentally sensitive areas;

(10) terrestrial and aquatic flora and fauna impact management strategies;

(11) mitigation measures to counter greenhouse emissions associated with construction and operation of the pipeline;

(12) methods of minimising impact on items of natural and cultural (both indigenous and non-indigenous) heritage significance;

(13) contingency measures to avoid the occurrence of adverse environmental impacts that could result from extreme events such as floods;

(14) rehabilitation and landscaping, including rehabilitation methodologies and restoration methods to rehabilitate the environment if unforseen circumstances cause significant environmental impact;

(15) measures to be implemented in relation to weed, dieback, pathogen and feral animal control;

(16) methods for minimising mineral resource sterilisation (refer also to section 9);

(17) methods for minimising short and long term adverse impacts on forestry operations;

(18) methods for minimising short and long term adverse impacts on agricultural production;

(19) rights of access, including strategies for wet weather access and prevention of unauthorised third party access;

(20) traffic management strategies, including methods for road and rail crossings which will minimise traffic disruption and ensure public safety;

(21) strategies for transportation of equipment and materials through the Bulee gap area in consultation with the Shoalhaven City Council and Department of Land and Water Conservation;

(22) methods for minimising impacts on other infrastructure, including power lines and telecommunication facilities;

(23) strategies for bushfire prevention and management;

(24) guidelines for the location, preparation, operation and restoration of camp and work sites;

(25) guidelines for the location, preparation, operation and restoration of borrow pits;

(26) guidelines for location and operation of materials stockpiles;

(27) guidelines for the location and operation of future above-ground facilities;

(28) waste management and minimisation strategies, including criteria for selection of disposal locations for liquid wastes from drilling operations and guidelines for disposal;

(29) hydrotesting, including criteria for selection of disposal locations based on quality of test waters to be disposed and guidelines for disposal;

(30) guidelines for the ongoing management of access trails on Sydney Water lands in particular especially prevention of unauthorised access

(31) strategies and procedures directed to advising local communities as to the construction timetable, likely environmental impact and proposed remediation measures prior to work progressing in each locality. This should include information on the availability of the EMP for public inspection in each locality.

(32) approach to easement-negotiations with the landowners

4. Locations to be considered specifically

The Environment Management Plan must address site-specific management techniques to the satisfaction of relevant Government agencies in respect of the following sensitive areas identified during the environmental assessment process for the project. These techniques should include specific methods to prevent short and long term adverse impacts, including a description of how construction work sites will be rehabilitated

(1) Shoalhaven River crossing

(2) Native grasslands (including Rock Flat TSR, Cooma grasslands, Monaro grasslands, Chakola grasslands and Black Flat TSR)

(3) Koombahlah estate

(4) Welcome Reef area

(5) Bulee Gap

(6) Illawarra escarpment

(7) Sydney Water catchment areas

(8) areas in the vicinity of and within the boundary of Morton National Park (including proposed additions to the Park and the proposed Parma Creek Nature reserve).

The Plan must make a specific commitment and demonstrate that these sensitive areas will be managed to achieve the outcomes specified in the Commissioners' report in respect of each of those areas.

5. Environmental monitoring and auditing

An environment audit plan must be prepared and must include monitoring programs and audit verification procedures.

(1) Separate construction and operational stage monitoring programs must be prepared and must include:

(a) a plan for inspection and monitoring for all activities and environmental qualities which are important to the environmental management of the project (especially those matters identified by the Commission), including specific tests, protocols (eg frequency and location), performance criteria and procedures (including procedures for notifying relevant authorities should non-compliance with any limits or performance standards specified in the Plan arise); and

(b) an outline of on-going reporting proposals. This should include matters to be reported on, to whom the report will be provided, and reporting intervals.

(2) The audit verification procedures must provide in particular for the following matters to be reported on:

(a) assessment of key impact predictions (in the EIS/SIS and supplementary documentation) with details of the extent to which actual impacts reflect predictions;

(b) assessment of suitability of mitigation measures or safeguards

(c) reporting on compliance with EMP and corrective or preventive actions taken in case of non-compliance; and

(d) results of consultation with the community in terms of feedback on the project and any issues or concerns raised.

6. Operation

The Plan must include guidelines on operation as outlined below. These would later be incorporated in a subsequent Safety and Operating Plan:

(1) right-of-way access during operation and prevention of unauthorised third party access (should have regard to Department of Land and Water Conservation's Access Road Management Guidelines);

(2) easement-management guidelines, including strategies for weed and dieback control and level of vegetation cover to be maintained;

(3) management strategies for designated weed areas and weed hygiene procedures;

(4) management strategies for designated dieback areas and dieback hygiene procedures;

(5) release of gas from pipeline and associated facilities in Sydney and Illawarra air sheds.

7. Decommissioning guidelines

An outline of the environmental management approach which would be taken on decommissioning the pipeline.

8. Involvement of Aboriginal Groups

Guidelines developed in accordance with recommendations contained in Report Number 6 of the EIS/EES and in consultation with the Aboriginal community for Aboriginal involvement and protection of cultural, spiritual and archaeological concerns.

Note: Any application for consent to destroy a site which cannot be avoided, should be accompanied with an assessment report and evidence of Aboriginal community consultation. Appropriate time should be allowed for NPWS to process any such application.

9. Mineral Resources

The Plan should provide for measures to protect any coal resources traversed by the proposed route of the pipeline from sterilisation.

The necessary design parameters should be developed in consultation with the Department of Mineral Resources, the mining companies and, where appropriate the Mine Subsidence Board.

10. Accompanying documents

The Plan must be prepared in conjunction with and be accompanied by:

(1) a Line List with property numbers and kilometre-post references; and

(2) detailed alignment drawings showing the planned alignment of the pipeline. The Plan must have reference to these drawings where appropriate.

SCHEDULE 3

Safety and Operating Plan

1. CONTENT OF PLAN

A Safety and Operating Plan must include, (as relevant) but need not be limited to, the following:

a) A description of the pipeline system and its operation including suitable maps showing route of the pipeline and the location of the associated facilities such as compressor stations, Supervisory Control and Data Acquisition (SCADA) centres, transmission towers, cathodic protection ground beds and rectifiers, valve stations, metering points, and launching and receiving stations.

b) A Hazard Analysis which includes:

- a systematic identification of hazardous events and their potential causes;
- the consequences (in qualitative terms) of such events;
- the proposed operational, maintenance, and organisational safeguards that would prevent such hazardous events from occurring or should they occur, that would protect the pipeline, the associated equipment, operating personnel, the community and the environment.

This analysis, in case of new pipelines should also take into account the hazards during the construction phase. A quantitative risk assessment might be required for certain sections depending on location.

The operational and maintenance safeguards must include a maintenance schedule indicating among other things, the type and frequency of inspections, coating surveys, checks on cathodic protection devices, pipeline potential surveys and any pigging of the pipeline.

c) Site-specific Emergency Procedures, including recovery planning, which should clearly cover on-site emergencies but which also must consider the extent of possible off-site effects. The type of emergencies considered should include fire, explosion, leak, natural and impact events and civil disturbances. The response actions must be detailed, clear and easy to implement.

(d) A schedule of reports to the Director General on relevant matters.

2. OUTCOME OF PLAN

The Safety and Operating Plan would clearly demonstrate that the Licensee:

a) has identified potential hazards associated with a pipeline;

b) has taken all reasonable and necessary steps (usually in accordance with relevant standards) to eliminate or minimise hazards;

c) has prepared and tested emergency procedures; and

d) has prepared a timetable for having the Safety and Operating Plan audited by independent auditors at suitable intervals.

3. AUDITING

The Safety and Operating Plan will be audited by an independent auditor engaged by the Licensee (pursuant to a condition of the Licence), who:

- has appropriate skills and experience;
- is able to understand the processes and operations of the facility; and
- is able to make independent observations without preconceptions.

The purpose of auditing is:

- to check that the measures indicated in the Hazard Analysis to minimise the hazard, are in place;
- to test the preparedness of personnel to comply with the Emergency Procedures; and
- to review the Safety and Operating Plan document for adequacy and appropriateness with a view to further improve the system and to account for any changes in the system since preparation of the last audit.

The essential principles of a Safety and Operating Plan audit would be:

- that it be systematic and comprehensive;
- that it be independent;
- that it be site-specific;
- that it review documentation systems;
- that it focus on changes which have occurred since preparation of the Safety and Operating Plan or the last audit, whichever is applicable;
- that it presents opportunities for further improvement; and
- that its results are accepted and implemented by management.

Note:

Contents of the Hazardous Industry Advisory Papers Nos. 1 to 9 published by the Department of Urban Affairs and Planning, as relevant to pipelines should be used as guidelines for preparing relevant sections of a Safety and Operating plan.

APPENDIX "A"

SUMMARY OF REPRESENTATIONS

The following summary of submissions has been prepared and extracted from the Clause 91 Report by the Minister for Urban Affairs and Planning. The following submissions include Commonwealth and NSW Government officers and agencies, NSW land holders, local communities and interest groups as they relate to the project in NSW.

NSW GOVERNMENT AGENCY/INSTRUMENTALITY REPRESENTATIONS

Department of Mineral Resources

- need to prevent sterilisation of mineral and coal resources;
- coal deposits underlie the area between the Illawarra escarpment and Wilton;
- impacts of subsidence (from coal mining) on pipeline not yet determined - much subsidence could occur outside proclaimed mine subsidence districts;
- mining can occur under easements;
- design of pipeline should allow for post mining subsidence;
- objects to EGPP on the grounds that the EIS fails to adequately address potential sterilisation of underlying coal resources.

Department of Land and Water Conservation

- lack of sufficient detail in several important areas. There is not enough information (on soil and water issues) for the Department to be satisfied that the environment will be adequately protected;
- surface and groundwater - mitigation measures for stream bank/bed erosion/rehabilitation is inadequately described/may be insufficient. Lack of information on stream crossing methods. Contingency plan for groundwater disposal (if incompatible with receiving waters) required. More information required on the disposal of hydrotest water. Safeguards to protect water quality from pollutants, nutrients and sediments were not adequately described. Lack of information on the effects of blasting on aquatic life/effects of lowered water table on bore users;
- floodplains/wetlands - wetlands should be avoided altogether. There is a lack of information on affected wetlands/mitigation. Construction timing inflexible (effects on aquatic organisms could depend on season/stage of lifecycle). Assessment of the conservation status of streams/catchments appears narrowly based. Lack of information on flood issues;
- contaminated sediments in the Molonglo River need to be addressed;
- soil erosion - insufficient consideration given to potential impacts on the natural environment. There are extensive areas of extremely dispersible soils (more than identified in the EIS). Lack of details for an erosion and sediment control plan. There are concerns about topographic

constraint categories used/laboratory tests. Various other areas of concern have not been addressed;

- vegetation - insufficient information on rehabilitation techniques. Endangered Tasmanian Cypress Pine occurs next to the Corang River. Specific disincentives required in contracts to minimise disease/weed spread;
- lack of details on waste management at construction camps;
- Soil Conservation and Rivers and Foreshores Improvement Acts apply - insufficient information provided to satisfy the Department that permits could be issued
- unclear whether the proposed mitigation measures will be applied;
- Crown land - full status search required. Compensation will be required where the proposal affects the development potential of Crown land. Claims made under the NSW Aboriginal Land Rights Act need to be addressed;
- various conditions suggested if approval granted (proponent responsible for rectifying damage, soil and water management plan, full time environmental officer, remedial action plan for groundwater disposal, flood warning/response, liaison with State Lands Services on Crown land).

Pacific Power

- EGPP would improve opportunities for Pacific Power to use latest gas fired technology;
- increased competition in energy market should be supported - competitive energy market is fundamental to international competitiveness of Australian industry;
- electricity industry is more advanced than the gas industry in the provision of competitive supply infrastructure - EGPP could increase potential for competition - and is thus desirable;
- level of competition that would be provided is open to question;
- substantiation of pipeline capacity and start up dates not clearly addressed (has implications for pricing and competition);
- could assist greenhouse gas reduction. However, development of new gas fired power (cogeneration) plants in the Sydney Basin could have adverse impacts on local air quality - gas should not be burnt for electricity generation in the Sydney Basin.

Department of Aboriginal Affairs

- inadequate consultation process with the Aboriginal community;
- unclear whether Aboriginal people were involved in deciding the significance of sites - their views should be paramount;
- "Aboriginal significance" may have been too narrowly defined - may be necessary for current identification and assessment of Aboriginal sites to be reconsidered;

- strong concerns about the degree of reliability placed on academic studies to identify and assess Aboriginal archaeology/anthropology - need consultation with Aboriginal communities;

- concerned about consultation with Aboriginal people on Native Title.

National Parks and Wildlife Service

- does not object to a pipeline linking Longford with Wilton. Supports proposed route from NSW/Victorian border to Hoskinstown. Objects to preferred route from Hoskinstown to Wilton (do not believe that impacts can be adequately mitigated). Consider that the less environmentally sensitive Marulan route should be used, with a spur line from Wilton to Nowra, if necessary;

- lack of final alignment makes comment difficult - on going modifications could change impacts - further assessment and opportunity for comment is required;

- EIS is of good quality;

- Nowra route would impact on Service estate (Morton National Park, Illawarra SRA). There are philosophical and legal issues involved in using these areas, and they should be avoided;

- major concern with Nowra route is impacts on Morton National Park - incremental expansion of service corridor, effects on wilderness values, flora and fauna impacts (weeds, barrier effects), Aboriginal sites, scenic/recreational values, engineering/construction constraints, rehabilitation difficulties, bushfire risks;

- Illawarra SRA - no route detail provided. SRA has high scenic value, there is high erosion potential, and habitat loss issues. Directional drilling under the SRA is the only acceptable means of crossing it;

- previous experience with pipelines suggest there could be weed, uncontrolled access, fire hazard and catchment management (sedimentation) problems;

- proposed extensions to Service estate could be adversely affected (proposed Welcome Reef and Parma Creek Nature Reserves, and extensions to Morton National Park);

- some route changes have not been properly assessed;

- some concerns over the coverage and thoroughness of field work for rare or threatened plants;

- other significant areas of concern include native grasslands and Illawarra coastal plain - careful pipeline routing is required;

- archaeology - report is generally of a high standard, but there are several deficiencies. Avoidance of all sites rather than preservation of selected sites is the preferred strategy. All of route needs to be surveyed;

- Aboriginal consultative process adequate;

- lack of details on mitigation;

- avoidance of threatened species is the best mitigation measure. Specific comments provided on mitigation in grassland areas;

- additional information may be required to supplement the deemed SIS, and ensure TSC Act obligations met;

- FIS (deemed SIS) - lack of details is a concern, and it is impossible to make informed decisions on the impacts of the proposal; need a clear impact amelioration strategy; the treatment of amelioration is "in general, cursory and imprecise"; generally does not address how significant conservation sites will be affected; fauna surveys inadequate; main concerns relate to significant sites, wildlife corridors, barrier effects, habitat and population fragmentation, entrapment; comments made on individual species; importance of easements as habitat should be recognised; use of environmental inspectors during construction stage is fully supported; on going route realignment to reduce impacts is commended, but creates uncertainty on what the impact will be.

NSW Fire Brigades

- comprehensive fire safety study should be prepared.

Department of Public Works & Services

- concerned about gas pipeline route conflicting with a proposed water supply pipeline and the Albatross storage area (Nowra) - pipeline route will need to be altered.

Sydney Water

- EIS is very general, ambiguous, contradictory and figures are unclear. Understanding the precise nature of the impacts is difficult. Many environmental issues should have been addressed in the EIS and not deferred to a post approval EMP. EIS provides little confidence on the prediction of impacts in Sydney Water's areas of operation;

- does not support the proposed route through the Welcome Reef dam area. There are highly erodible soils, the pipe would be within the inundation area and a proposed saddle dam would be affected. Sydney Water's land management costs would be affected. A compromise route through this area may be possible

- does not support use of the Metropolitan Special Area (water catchment), unless the pipeline can be contained within the existing AGL easement. Does not support additional vegetation clearing - area is of high ecological significance. Need to identify extent of clearing proposed. Need to prevent environmental degradation and protect the area's ecological integrity. Concerned about water pollution. Waters are class S, and no discharge of waste to these waters should occur. There is a lack of detail on mitigation. Appropriate erosion/sedimentation controls need to be in place before construction commences. Aim should be for nil sedimentation. EIS fails to recognise Sydney Water's legislative responsibilities in this area. Potential impacts on Sydney Water's catchment areas should be recognised as one of the principal environmental issues;

- risk criteria does not consider downstream pollution of community drinking water supplies;

- threatened species are found in the Farmborough area. Hard to tell where the route goes, and thus whether they would be affected.

Environment Protection Authority

- support use of cleaner fuels such as gas. Concept of pipeline linking Longford with Wilton is supported, providing benefits of gas are not outweighed by the environmental impacts of the pipeline development;
- EIS has very general information which makes assessment of the validity of predictions difficult;
- further justification of the preferred route is required. Further consideration of the Marulan option is warranted. Cost benefit analysis should be applied;
- more information is required on the social and economic justification;
- greenhouse benefits and impacts need to be clarified;
- further information is required on actual pipeline route, soil erosion (including borrow pits), aquatic environment (including issues such as the ecological characteristics of streams, crossing methods, acid sulphate soils, groundwater), acoustic environment (especially the compressor station, and effects on fauna), atmospheric environment (pipeline leaks, odours), flora and fauna;
- EMP needs an appropriate level of detail. It needs to be reviewed by an independent organisation. Regular inspection, auditing and reporting regime needs to be established.

NSW LOCAL GOVERNMENT REPRESENTATIONS

Shoalhaven City Council

- strongly support the proposal because of social and economic benefits to Shoalhaven area, and supports the preferred route;
- Morton National Park area - need to provide for corridor that allows for pipeline and road; safe site access/road restoration needs to be addressed;
- issues relating to future conflicts with other infrastructure requirements need resolution;
- Shoalhaven River crossing is major issue - directional drilling appears to be only acceptable method;
- alternative eastern route through Nowra-Bomaderry should be investigated.

Cooma-Monaro Shire Council

- supports proposal;
- Council is concerned about potential weed spread - this has been addressed in the EIS.

PRIVATE REPRESENTATIONS

Bird Observers Club of Australia (Paul Ryan)

- oppose Nowra route - western option is the only acceptable route;
- exhibition period inadequate;
- lack of consultation (in preparation of EIS) with appropriate agencies;
- lack of consideration given to alternative routes;
- limited information on potential impacts (natural heritage values) - it is not possible to determine the significance of potential impacts. More detailed investigation should be carried out before any approval is given;
- combined influences of habitat loss and fragmentation, barrier effects, edge effects and changes in community species composition have the potential to have significant impacts on fauna;
- grouping species together may result in impacts on more sensitive species being overlooked;
- roads/railway reserves may contain important remnant vegetation. This issue was not adequately discussed;
- need to clarify revegetation methods;
- weeds/pathogens not adequately addressed;
- impacts of ongoing easement (vegetation clearance) maintenance not addressed;
- mitigation measures not adequately dealt with.

P D Yonge - Urialla

- affected property owner;
- easement agreement should refer to natural gas transport only (as distinct from allowing other substances);
- tax liability in relation to compensation payments/changes to property titles (capital gains tax) must be resolved by the proponents and advice provided to landowners;
- Queanbeyan River is a major crossing;
- need to consider impact of noise on horses (writer's property has a commercial horse breaking operation);
- various animals (such as wombats) not mentioned in EIS.

Native Forest Network (Tim Cadman)

- opposed to proposal in current form;
- there will be adverse impacts on flora and fauna, water catchments and water courses; there is a lack of commitment to mitigation and ESD;
- specific concerns about flora and fauna/ecology impacts; salvage logging; increased fire risk; dam building; dieback management; construction access roads; effects of ongoing management on natural ecosystems;
- various changes required - route (follow major highways, avoid natural and semi natural areas); commitment to ESD; gas supply to be based on genuine need; third party appeal rights should be available for proven environmental degradation; avoid salvage logging;
- errors in EIS.

East Australian Pipeline Limited & Gas Transmission Corporation

- EAPL/GTC are proponents of the Wodonga to Wagga-Wagga pipeline;
- Wodonga to Wagga-Wagga pipeline and EGPP are not mutually exclusive, and both could be built;
- have serious reservations about the accuracy of (economic) data/assumptions used in the EIS, and consider the choice of the preferred option is flawed - capital costs for the Western corridor are estimated to be at least 20% lower than the Nowra corridor (contrary to EIS claims). The Western corridor would be the most economically viable. Tolls would be lower, it could be expanded incrementally to meet demand, and would more competitively serve new development proposals such as cogeneration plants. Economic benefits to NSW would be greater than with the Nowra option;
- Western corridor is environmentally superior;
- Western corridor is superior on community safety grounds;
- interstate connection provides for significant competition benefits, but the Nowra corridor is the "third best" solution from a transport cost viewpoint, for Victorian markets. Western corridor has the potential to provide greater benefits to Victoria;
- no consideration given to the alternative of proponents entering into a haulage agreement with EAPL/GTC, as an alternative to a new line. EAPL/GTC are committed to non discriminatory access to their pipelines;
- EIS overstates the regional benefits of EGPP relative to the Wodonga to Wagga-Wagga line;
- implications of not proceeding (as discussed in the EIS) ignores the EAPL/GTC proposal, and its ability to deliver economic benefits at a lower environmental cost;
- little difference between the Western and Nowra corridors on supply security grounds;
- Western corridor does not rely on public funds;

- Western corridor is more likely to make a positive contribution to energy efficiency/atmospheric emissions (because of lower tolls). EIS overstates the gas used (for compression) along the Western corridor;

- concern about market power BHP will have if it becomes a pipeline owner (further vertical integration would result). It would be anti-competitive if wellhead access (to Bass Strait gas) is not made available;

B A Chadwick - Berry

- property owner adjacent to pipeline route - there will be some adverse effects on the property;

- some benefits (replace road transport with pipeline);

- major objection to project is that there is already an existing system (AGL/EAPL) in place, with potential for expansion eg. to Nowra;

- EGPP would pass through some difficult terrain;

- BHP/Westcoast Energy could share the (proposed) EAPL line from Wodonga to Wagga-Wagga (and thence the existing line to Wilton);

- not clear how well EGPP would handle environmentally sensitive locations (eg creek crossings in Morton National Park);

- if road in Morton National Park were upgraded in the future, would the pipeline need to encroach into wilderness areas?

Stoney Creek Greenways Steering Committee
(T Baker)

- concerned about the potential for duplication of gas supply infrastructure, at high community and environmental cost;

- EIS failed to adequately cover various options for energy supply eg. use gas to fire electricity at source - other options should be examined;

- project may only have limited long term benefits, and perpetuates dependence on non renewable resources (through major infrastructure provision);

- insufficient information on flora, fauna, ecological and heritage values. High probability that there will be undetected and sometimes major impacts on populations of significant faunal species. Need comprehensive fauna survey, and expert checks/advice on rehabilitation/management before each section is disturbed;

- long term management of weeds must be addressed;

- much care needed in stream crossings. Advice needs to be sought at the time crossings are proposed.

AGL - Strategic Supply (Brian Chapman)

- EGPP would overlap/cross AGL pipeline within AGL easement, between Unanderra and Wilton. Need to establish technical and commercial agreement between AGL and the proponents for sharing the easement. Aboveground facilities would not be permitted;
- if EGPP easement is to be established over AGL distribution mains/service pipes, there must be consultation with AGL and conditions imposed to protect AGL's rights;
- unodourised (EGPP) gas in the vicinity of the (odourised) AGL system could present safety problems. It is common practice to odourise gas when pipes are near settlements. There will need to be liaison on the compatibility of odourants/odourisation levels, and compliance with Gas Supply Act;
- close liaison required with AGL on various issues (eg. compatibility of cathodic protection systems, maintenance/operational matters);

AGL - Gas Trading (Graham Balfe)

- increasingly important that there is a competitive market for supply of gas from producers;
- pipeline linking NSW and Victoria has the potential to increase competition between producers/increase gas supply options;
- EGPP is a concern because of the extent of vertical integration it would provide to BHP - producer involvement is a particular concern because (without Regulation) it would only lead to "city gate" competition, rather than at the gas fields;
- EGPP could fail to deliver potential market benefits and hamper development of competition between producers;
- Western corridor is environmentally better than the Nowra corridor, and would provide increased competition;
- remaining issue is to examine corridor costs and thus tariffs. It appears that the Western corridor would have lower rather than higher capital costs compared to the Nowra corridor (contrary to the EIS claims). Economic benefits are central to the decision, given the environmental superiority of the Western corridor.

Captains Flat Bushfire Brigade (Gail Baker)

- responsibility for dealing with fires/accidents needs to be clarified - does it rest with the proponent or local brigades?
- is any special training required for local brigades?

Kim Martin - Bungendore

Made two different representations:

- affected landholder;

- crosses property on a number of sides, and is less than 200m from the house, while a public easement is found nearby;
- impacts of pipeline on property/local area is not fully addressed;
- local community cannot cope with burden of construction activities/pipeline incident;
- reduced property values/properties will be harder to sell;
- effects on privacy/limits on land use during construction and maintenance, plus noise and dust/health impacts/damage to structures, are all concerns;
- flora and fauna impacts have not been considered;
- restoration should be to the complete satisfaction of landowners. Proposed compensation is inadequate;
- unprofessional attitude of pipeline representatives;
- burdens/stress placed on landowners.

Annie van Herck/Colin Wright - Koombahlah

- object - pipeline brings nothing positive to the area;
- concerns regarding safety (damage to structures, poor road access in emergencies); health (construction noise - need proper compensation, sealing of Woolcara Lane); flora and fauna/ecology (effects on native grasses and local tree planting efforts, weed impacts); visual impacts; property values; risks/hazards (more safeguards required);
- pipeline could be tolerated, if proponents agreed to place it in road easement (and seal the road), or proper compensation is paid (to cover loss of property value/difficulties in selling property affected by easement).

Koombahlah/Woolcara rural residential area - community submission

- object to proposed route;
- if pipeline must be in this area, it should follow a public easement (with sealing of Woolcara Lane);
- safety - gas pipelines present a risk. Specific risks in this area need to be addressed (eg. poor access, high fire risk)/strategy needs to be developed (emergency response plan, fire risk reduction, compensation to local fire brigades);
- health - dust/noise impacts need to be controlled;
- transport - road surface is inadequate - needs to be sealed;
- construction nuisance impacts;
- flora and fauna/ecology - impacts on native grasses, local community revegetation efforts, weeds. Revegetation/weed control needs to be carried out.

Australian Conservation Foundation - Shoalhaven Branch (May Leatch)

- construction of two pipelines between Victoria and Sydney (EGPP and EAPL's proposed Wodonga to Wagga-Wagga line) appears to be unnecessary duplication;
- need overall planning for gas distribution in Eastern Australia;
- AGL line could be extended to Nowra (no comparison of EGPP with this option undertaken);
- no cost benefit analysis, including environmental costs, was undertaken;
- in view of the above, cannot support the proposal.

Illawarra Escarpment Coalition (Gerard Proust & Denise McConnachie)

- oppose preferred option (use of new corridor) for crossing the escarpment - would cut through sensitive forests and have a high visual impact;
- should select options which use existing infrastructure/corridors;
- sensitive land is not confined to the SRA;
- four sections are of concern - area at southern end of escarpment (could become part of the SRA in the future); land around the edge of Mt Kembla (the area has slope instability problems, would cut through core escarpment park (with forest, walking track and historic site), and would have fragmentation/habitat loss, soil erosion/sedimentation, disease/weed/feral animal, human and visual impacts); area north of Mt Kembla (good quality mature forests, with similar issues as in the previous section, but is steeper, has higher rainfall, has a different rainforest species mix, and the SRA is very narrow here. Pipeline would detract from the proposed Illawarra Escarpment walking trail); water catchment area - pipeline deviates from existing easement, in a sensitive area;
- overall, EIS underestimates the impacts of the preferred route on the Illawarra escarpment.

National Parks Association of NSW (Anne Reeves) - on behalf of a number of organisations

- any Commission of Inquiry should await release of the EAPL Wodonga to Wagga-Wagga pipeline EIS. Proposals should be considered simultaneously;
- object to the proposal because of the environmental impacts;
- lack of involvement of NSW conservation groups in the corridor/preferred route choice. Lack of consideration to alternatives;
- consider the Western alternative is more environmentally responsible (avoids vegetation and habitat destruction), and should have been assessed comprehensively in the EIS;
- EIS is superficial, insufficient and lacks specific details, including on how impacts will be managed;
- some of the EIS assumptions are inappropriate;
- will cause serious damage to flora and fauna. Flora survey is likely to have underestimated species, faunal survey is inadequate, and there are major gaps in stream ecology information.

It is likely that the pipeline would lead to undetected and sometimes major impacts on significant faunal species;

- there are extensive areas with moderate to severe construction and maintenance problems;
- significant areas such as East Gippsland forests, Morton National Park and the Illawarra escarpment would be affected. Proposed World heritage areas (Victorian Alps/Blue Mountains) and National Estate areas are along or near the route. Assessment of World Heritage values is inadequate;
- lack of information on stream crossings, and impacts cannot be properly addressed. Drainage/hydrology study was carried out on a superseded route;
- disposal of excavated material is a problem;
- concerned that there is not an appropriate regulatory/planning framework in place to cater for energy infrastructure - National sustainable energy and gas grid policies must be in place before a Commission of Inquiry can assess the proposal;
- consider that the EIS misrepresents and overstates the greenhouse benefits (although there will be significant emission reductions);
- there may be more appropriate and cost effective means of achieving greenhouse gas emission reductions (eg energy efficiency, demand management, renewable energy);
- consider that the real aim of the preferred route is to supply BHP Port Kembla with cheap power.

The Wilderness Society (Victoria) (Kate Kennedy) - on behalf of a number of organisations (combined Victorian conservation and Aboriginal groups)

- oppose Nowra route;
- lack of substance in the EIS, and lack of data, knowledge of issues and inappropriate methodology;
- process of public consultation is in question;
- pipeline could affect World Heritage values, but this has been inadequately addressed in the EIS;
- pre-empts outcomes of national energy use/planning framework - pipeline has not been considered within a broader energy policy context. It could lead to unnecessary duplication of infrastructure;
- greenhouse benefits overstated, and pipeline could undermine renewable energy and energy efficiency research;
- lack of site details/ongoing route changes make public participation difficult;
- lack of impact assessment and details on mitigation measures;
- lack of details on stream crossings;

- lack of commitment to specifics (eg. route location);
- effects on forests, such as clearing, and including effects on adjacent land (disease, weed invasion, soil erosion, biodiversity);
- high environmental sensitivity of East Gippsland;
- legal responsibility for costs of damage/repair;
- effects on Aboriginal people, lack of consultation with and involvement of Aboriginal people.

Burra Landcare Group (Roger Farrow)

- natural heritage work is very competent - but lack of consideration of invertebrates, and undue focus on single species rather than ecosystems. Habitat conservation is necessary for ecological sustainability;
- conservation of locally rare (but common elsewhere) species/habitats needs to be recognised;
- need to recognise existing easements have conservation values;
- surveys were carried out quickly - hence a cautionary approach to disturbance of native habitat required;
- tree planting required;
- weed problem in Burra valley needs to be addressed (St Johns wort, Patterson's curse);
- woodlands in Urila/Burra valleys should be avoided.

Allen Price & Associates

- concerned about the effect the pipeline could have on the cultural and archaeological value of the property known as "Chimney Rock" (North Nowra);

COMMONWEALTH GOVERNMENT AGENCY REPRESENTATIONS

Department of Environment Sport and Territories (Commonwealth)

- lack of information on future reticulation systems
- economic advantages to communities along the route (at least in the short term) are unclear. The main beneficiary appears to be BHP. Therefore, the proponents should bear the bulk of the costs
- no significant concerns expressed by the community/property owners
- construction/rehabilitation stage - negligible environmental impact concerns from a climate change perspective - operational stage would have significant climate change implications
- increased gas use is consistent with National Greenhouse Response Strategy, and supports commitment to gas market reform in Energy 21C component of Greenhouse 21C. Quoted greenhouse gas figures appear reasonable, but need verification. It is important that gas

leakage is controlled. Overall, the project provides significant opportunities for improved climate change outcomes.

- Blue Mountains/sandstone plateaux are being examined for World Heritage nomination. Commonwealth will aim to ensure that potentially significant values are not degraded before and during the assessment process
- impacts on prime pastoral/agricultural areas have not been adequately addressed
- there would be significant impacts on the natural environment. Cumulative impacts have not been adequately addressed
- weed management - payment for rehabilitation required for an appropriate amount of time/compensation for weed management related work (eg destocking of some areas)
- flora and fauna - needs to be addressed through plan of management. Measures to restrict the spread of dieback are essential. Remnant vegetation clearing needs much greater attention. Rehabilitation of existing weed infested sites would be appropriate in some cases
- water - rising groundwater/salinity needs to be addressed. There will be some (at least in the short term) adverse impacts on surface water quality - erosion/sedimentation controls must be implemented
- from a sustainable land and water use perspective, the EIS does not provide adequate assurances/guarantees concerning the longer term ecological sustainability of the project
- it is not clear what will happen to the pipeline when it is no longer required

Australian Heritage Commission (Commonwealth)

- EIS is good quality;
- Nowra corridor is likely to have adverse impacts on places with National Estate values;
- alternative corridors should be considered - especially Western or Marulan options;
- impacts of the pipeline on rivers/wetlands is a concern - needs close liaison with authorities, plus monitoring;
- stated EMP principles are commendable;
- forests - need to consider effects on reserve options, and minimise effects on National Estate values. Particular concern is expressed about East Gippsland forests, and that a number of issues have not been fully addressed;
- specific comments made on National Estate values in Victoria (indigenous, natural (wetlands are a particular concern), and historic);
- impacts on National Estate values in NSW - concerned about native grasslands, Morton National Park, Illawarra Escarpment, Illawarra coastal plain remnant vegetation, historic sites;
- impacts on wilderness - should be minimised in Ettrema/Budawang areas, if appropriate route is chosen. Need to avoid/minimise disturbance to ecologically sensitive streams;

Australian Nature Conservation Agency (Commonwealth)

- EIS is comprehensive and professional
- flora and fauna surveys/identification and management of threatened species habitat may need further work - liaison with proponents required

12. COI RECOMMENDED LICENCE CONDITIONS

Notwithstanding that the subject application pursuant to the Pipelines ACT of NSW and Victoria is concerned with securance of a 'Permit', it is appropriate, in light of the Commission/Panel's Term of Reference 2 and having regard to the evidence before the Commission/Panel that it comment in respect of future 'Licence' conditions.

In this regard the following conditions and or requirements should apply as relevant in respect of both NSW and Victoria.

Licence conditions should be on the same basis as recommended for Permit conditions namely establishment of DNRE in Victoria and DoE in NSW as the "lead authorities" with responsibilities as recommended above.

1. The Applicants shall carry out the activity generally as described in the application for a 'Permit' under the *Pipeline's Act 1967* and the Environmental Impact Statement/Environmental Effects Statement dated December 1995 prepared by Eastern Gas Pipeline and all other documentation including the Applicants' submissions to the Commission/Panel clarifying the proposed activity and as may be modified by the Recommendations of the Commission/Panel contained in the specialised sections of its report, these conditions and the Environment management plan (EMP). These conditions are to prevail in the event of any inconsistency.

2. In relation to the control of soil erosion, surface stability and acid sulphate soils, the Applicants shall engage the services of DLWC in NSW and DNRE in Victoria to:

    - advise on the finalisation of the line location;
    - advise on the assessment of erosion potential;
    - assist in the development of appropriate construction techniques;
    - supervise construction and rehabilitation;
    - assess and advise on ongoing rehabilitation and maintenance for a period of not less than 12 months after completion.

    Such costs shall be borne by the Applicants.

3. In respect of the Perry River area the following environmental protection criteria shall apply to the satisfaction of DNRE:

    - the easement shall be confined to existing tracks;
    - clearing shall be minimised;
    - old growth trees shall be retained to the maximum extent possible;
    - revegetation shall be promptly carried out;

- post construction weed control shall be implemented for a period of not less than 12 months.

4. In respect of the Mitchell River Crossing the specific technique of crossing shall be determined following consultation with DNRE.

5. In respect of the Bellbird Creek area the following environmental protection criteria shall be applied in consultation with the DNRE:

   - clearing shall be minimised;
   - the understorey shall be promptly rehabilitated;
   - the crossing technique shall be selected to maintain streambed stability.

6. In respect of the Reed Bed Creek area a reassessment of the route to the south of the highway to avoid the area shown in Figure 5 shall be carried out in consultation with DNRE. Should such reassessment indicate such a route is feasible it shall be adopted in lieu of the route traversing the identified area.

7. The following river crossings shall be directionally drilled:

   - Latrobe River, Snowy River, Bemm River and Shoalhaven River.

8. In respect of the Flat Rock Travelling Stock Route and the Monaro Grasslands the following environmental protection criteria shall be applied in consultation with DLWC:

   - reconstruction weed control shall be carried out within the area 40 metres either side of the pipeline centre;
   - post construction emergent weed control shall be carried out over the above area for a period of not less than 12 months following completion;
   - access and working areas (other than weed control) shall be confined to the easement;
   - materials stockpiles or construction facilities shall not be located on the sites;
   - animal entrapment in the trench shall be minimised in consultation with NPWS.

9. In respect of the Koombalah Estate area the following environmental protection criteria shall apply in consultation with DLWC.

   - Access to properties (martin's, Blain/Nanninga's and Wright/Van Herck's) shall be limited to the easement area;
   - material stockpiles or construction facilities shall not be located on the properties; and
   - rehabilitation shall be completed promptly.

10. In respect of the Welcome Reef area the following environmental protection criteria shall apply in consultation with DLWC:

    - the 'compromise route' subject to minor refinement shall be adopted;
    - clearing within the proposed Nature Reserve shall be minimised in consultation with NPWS;
    - soil erosion measures shall be implemented;
    - the easement agreement with Sydney Water shall make provision for future weighting of the pipe within impoundment areas at the Applicant's cost; and
    - detailed construction and rehabilitation supervision shall be undertaken by DLWC at the Applicant's cost.

11. In respect of the Bulee Gap area the sandstone features and road formation shall not be impacted and the area shall be directionally drilled to exit in the "carpark".

12. In respect of the Morton National Park area the following environmental protection criteria shall apply in consultation with DLWC:

    - clearing shall be minimised;
    - rehabilitation shall be promptly carried out using local native species;
    - weed control shall be carried out for a period of not less than 12 months following completion and thereafter as required; and
    - equipment operations and other personnel shall be educated in the need for avoidance of rare species such as *E. Langleyi* and *E. Triflora*.

13. In respect of the Illawarra Escarpment area the following environmental protection criteria shall apply in consultation with DLWC:

    - clearing shall be minimised; and
    - directional drilling under the escarpment and the SRA shall be carried out as proposed on route 9XX. If such is not proven feasible the AGL tunnel and/or line in this area must be used.

14. In respect of the Sydney Water Catchment Lands the following environmental protection criteria shall apply out in consultation with DLWC:

    - clearing shall be minimised and where possible shall be restricted to regrowth areas on the AGL easement;
    - rehabilitation shall be promptly carried out using local native species;
    - erosion and water quality control works shall be implemented in consultation with Sydney Water; and

- ongoing access shall be limited to existing tracks on the AGL easement which shall be jointly maintained and controlled to prevent unlawful use.

Risk/Hazard Issues

15. Pre-Construction Conditions

At lease one month prior to the commencement of construction of the proposed pipeline and associated facilities (except for construction of preliminary works that are outside of the scope of the hazard studies) or within such further period as the Director, DoE may agree, the Applicants shall prepare and submit for the approval of the Director, DoE the following studies:

a) Fire Safety Study

A fire safety study for the proposed pipeline and associated facilities. This study shall cover all relevant aspects detailed in the Department of Urban Affairs and Planning's Hazardous Industry Planning Advisory Paper No. 2 *Fire Safety Study Guidelines*. The study shall be prepared in consultation with key landholder agencies, relevant local councils and bushfire brigades. For fixed installations, the study shall take into account the New South Wales Government Best Practice Guidelines for Contaminated Water Retention and Treatment Systems.

b) Hazard and Operability Study

A Hazard and Operability Study (HAZOP) for the proposed pipeline and associated facilities chaired by an independent qualified person approved by the Director, DoE. The study shall be carried out in accordance with the Department of Urban Affairs and Planning's Hazardous Industry Planning Advisory Paper No. 8 HAZOP Guidelines.

c) Final Hazard Analysis

A final hazard analysis of the proposed pipeline and associated facilities as well as the existing pipeline and associated facilities. The analysis shall be prepared in accordance with the Department of Urban Affairs and Planning's Hazardous Industry Planning Advisory Paper No. 6, Guidelines for Hazard Analysis. The study shall particularly address the effect of any deviations from the pipeline route assumed in the Preliminary Hazard Analysis and the risk from compressor and valve stations.

d) Construction Safety Study

A construction safety study prepared in accordance with the principles of the Department of Urban Affairs and Planning's Hazardous Industry Planning Advisory Paper No. 7, *Construction Safety Study Guidelines*

16. Pre-Startup Conditions

At least two months prior to the commencement of operation of the proposed pipeline and associated facilities, or within such further period as the Director,

DoE may agree, the Applicants shall prepare and submit for the approval of the Director, DoE.

least two months prior to the commencement of operation of the proposed pipeline and associated facilities, or within such further period as the Director, DoE may agree, the Applicants shall prepare and submit for the approval of the Director, DoE.

a) **Emergency Plan**

Â comprehensive emergency plan and detailed emergency procedures for the proposed pipeline and associated facilities. This plan shall include detailed procedures for the safety of people who may be affected by accidents from the pipeline and associated facilities. This plan shall be prepared in accordance with the Department of Urban Affairs and Planning's Hazardous Industry Planning Advisory Paper No. 1 *Industry Emergency Planning Guidelines.*

b) **Safety Management System**

A comprehensive safety management system, covering all pipeline operations. The system should clearly specify all safety related procedures, responsibilities and policies, along with details of mechanisms for ensuring adherence to procedures. Records must be kept on-site and shall be available for inspection by the DoE upon request. The safety management system shall be developed in accordance with the Department of Urban Affairs and Planning's Hazardous Industry Advisory Paper No. 9 *Safety Management.*

17. Operational Conditions

a) **Incident Reporting**

Within 24 hours of any incident or near incident with actual or potential significant off-site impacts on people or the biophysical environment, a report shall be supplied to the DoE outlining the basic facts. A further detailed report shall be prepared and submitted following investigations of the causes and identification of necessary additional preventative measures.

b) **Hazard Audit**

Twelve months after the commencement of operations of the proposed pipeline and associated facilities or within such further period as the Director, DoE may agree, the Applicants shall carry out a comprehensive hazard audit of the proposed pipeline and associated facilities and submit a report not he audit to the DoE. This audit is to be carried out at the Applicant's expense by a duly qualified independent person or team to be approved by the DoE. Further audits will be required every three years or as may be requested by the Director. Hazard audits shall be carried out in accordance with the Department of Urban Affairs and Planning's Hazardous Industry Planning Advisory Paper No. 5, *Hazard Audit Guidelines.*

18. Compliance

One month prior to commencement of operations of the proposed pipeline and associated facilities, the Applicants shall submit a report to the Director, DoE on the Applicant's compliance with risk hazard conditions. The report shall bring to the Director's notice, those matters which the Applicants considers may require further investigation.

The Applicants shall comply with all reasonable requirements of the Director in respect of the implementation of any measures arising form the approvals given in respect of risk/hazard conditions, with such time as the Director may agree. Further, upon the receipt of the Director's reasonable instructions, the Applicants shall proceed to implement those instructions to the satisfaction of the Director within such time as the Director may approve.

19. Air Quality

Planned gas releases from the pipeline and ancillary facilities must, where they are within the Sydney and Illawarra airsheds, only be undertaken under favourable meteorological conditions (ie at times of low photochemical smog potential) and with prior DoE approval.

20. Environmental Performance Monitoring During Construction

A detailed environmental monitoring (including inspections) program must be prepared to the satisfaction of the Director, DoE.

The Applicants shall submit to the Director, DoE a report(s) in respect of the environmental performance of the construction works and compliance with the conditions of this approval. The report(s) shall be prepared at three monthly intervals or at other such periods as requested by the Director to ensure adequate environmental performance over the duration of the construction works. The report(s) shall include, but not be limited to, information on:

i) applications for consents, licences and approvals, and responses from relevant authorities;

ii) implementation and effectiveness of environmental controls and conditions relating to the work undertaken;

iii) details and analysis of the results of environmental monitoring;

iv) number and details of any complaints, including action taken and response given;

v) details of accidents and incidents having environmental impact, including assessment of causes and remedial action as well as means to protect and prevent recurrence; and

vii) any other matter relating to the compliance by the Applicants with the conditions of this approval or as requested by the DoE.

21. Environmental Performance Monitoring During Operations

A detailed environmental monitoring (including inspections) program shall be prepared to the satisfaction of the Director, DoE prior to commencement of operation of the proposed pipeline and associated facilities. The program shall include all details of environmental monitoring required during the operational life of the project as specified in the EIS/EES, SIS (and supplementary information), the Commission/Panel/Panel Report and any licences or approvals (including the EMP). The program shall also indicate how non-compliance with any of the limits and/or performance standards identified will be dealt with.