MOYNE PLANNING SCHEME
AMENDMENT C20

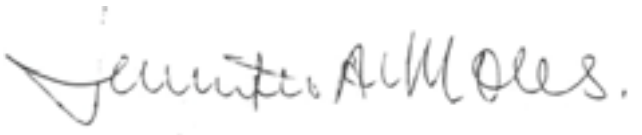
MORTLAKE POWER STATION
ENVIRONMENT EFFECTS STATEMENT

PANEL REPORT

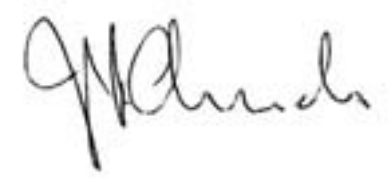
MAY 2006

MOYNE PLANNING SCHEME
AMENDMENT C20
MORTLAKE POWER STATION
ENVIRONMENT EFFECTS STATEMENT

PANEL REPORT



JENNIFER A. MOLES, CHAIR



JACK CHIODO, MEMBER

GEOFF ANGUS, MEMBER

MAY 2006

TABLE OF CONTENTS

APPENDICES

1. SUMMARY

A gas-fired power station to generate electricity is proposed on a largely-cleared 104 ha site in a rural locality some 12 kilometres west of the township of Mortlake. The nearest rural dwelling is some 1.6 kilometres away. Associated infrastructure includes 78 kilometres of underground gas pipeline linking the site to a gas production plant now under construction near Port Campbell and 2 water pipelines running from supply sources close to Mortlake. All pipelines for most of their length traverse land in agricultural production or are located in road reserves.

The power plant itself is a major infrastructure item which would occupy some 20 ha of the site (including the switchyard) with the building being approximately 30 metres tall and the exhaust stacks extending to perhaps 45 metres above ground level. The construction of the proposed plant and pipelines is a major engineering exercise, the first stage of which would take some two and a half years to complete, involving up to 540 contract workers and access to the site and pipeline routes by 100's of trucks delivering pipe (216 trucks) and other equipment, buses carrying contract employees and private cars.

The project has been required to be subject to the environmental assessment procedures established by the *Environmental Effects Act* 1978. This includes the preparation of an Environmental Effects Statement (EES) and scrutiny of the environmental effects by this Panel. The terms of reference for this Panel include inquiring into the physical, biological, social and economic aspects of the project, responding to submissions received in response to the public exhibition of the EES, advising whether potential adverse environmental effects can be managed, and recommending whether and how the project should proceed. The Panel has also been asked to advise whether the route of the pipeline is satisfactory.

The project is also proposed to be facilitated by an amendment to the Moyne Planning Scheme which would apply a tailor-made Special Use Zone to the power station site and to impose constraints on further housing development on surrounding properties by applying an Environmental Significance Overlay. The Panel has been appointed under sections 153 and 155 of the *Planning and Environment Act* 1987 to report to the Minister for Planning - as the planning authority for the amendment - on the public submissions received in response to the amendment which was jointly exhibited with the EES.

The project will also be the subject of other assessment and approvals processes. Notably a licence and permit under the *Pipelines Act* 1967 are required for the project to proceed and a works approval and a discharge licence under the *Environment Protection Act* 1970 are also required for the project. Both the pipelines permit application and the works approval application were jointly advertised with the amendment and EES. This Panel does not have a formal role to make recommendations on those other approvals processes.

The Panel has considered the EES and proposed amendment, together with the written submissions, the further submissions and evidence presented at the hearing

and as demonstrated during the inspection of the power station site and surrounds and parts of the pipelines routes.

The Panel concludes that, with the exception of the housing of construction staff and some impacts on community services and roads, the project has been comprehensively planned in such a way that potential environmental, amenity and other effects will be minimal and/or can be satisfactorily mitigated by the means outlined in the EES and as described to the Panel - enabling the project to proceed. The Panel is also satisfied that some of those matters which had in our view not received adequate attention by the time of the hearing can potentially be addressed in subsequent approvals stages including as part of the preparation of environmental management, traffic and other second order plans which are required to be to the satisfaction of the various approval agencies including the Shires.

The Panel being asked to place complete reliance on those subsequent approvals processes as described to us as means of ensuring satisfactory regulation of all aspects of the project, however, has troubled the Panel. We raised this issue on a number of occasions during the hearing.

The Panel is concerned in particular that some of the 'mitigation' measures that the proponent is suggesting will be put in place do not neatly fit within the legal ambit of some of the other regulatory mechanisms. Also some of the subsequent approvals will not take place for a number of years and the proponent has indicated that the responsibility for seeking the subsequent secondary authorisations may fall to contractors or indeed sub-contractors. Also relevant is the fact that the EES assessment processes do not treat a proposed project as a finite 'application' in the same way that planning permit processes do. Accordingly there is no certainty that a project which might gain Panel support will remain the same (including in terms of detailed processes and procedures and mitigation commitments) through subsequent approvals processes.

All of the above concerns have lead the Panel to further conclude that the proponent should be required to enter into an agreement made under section 173 of the *Planning and Environment Act* as a means to ensure that the mitigation measures - described to us but which may be difficult to effect through subsequent approvals processes - are implemented and can be enforced.

Overall the Panel finds that the potential adverse environmental, amenity and socio-economic effects of the proposal generally as described in the EES and as modified by the Panel process, can be managed by available mechanisms provided that there is also a requirement that the proponent enters into the section 173 agreement. This would assist in ensuring that <u>all</u> aspects of the mitigation measures are adequately recorded and implemented.

The Panel finds that the route of the pipeline is satisfactory.

The Panel further finds that the proposal is consistent with State and local planning policy and the general form of the scheme amendment is appropriate.

Accordingly the Panel recommends that the scheme amendment should be approved subject to some drafting changes as discussed in this report.

2. WHAT IS PROPOSED?

2.1 THE PROJECT

Origin Energy Power Ltd (Origin) proposes to develop a site west of Mortlake township in the Shire of Moyne for the purpose of a gas-fired power station to generate electricity.

The gas would be sourced, at least initially, from the Otway Gas Plant which is now under construction near Port Campbell in the Shire of Corangamite. It would be transported to the site via a 78 kilometre dedicated underground high-pressure pipeline which would cross the Shires of Corangamite and Moyne. Water would also be piped to the site from a nearby bore and from the Mortlake Wastewater Treatment Plant.

The proposed plant would have a nominal capacity of 1000 MW and would be constructed in 2 stages. The first stage would comprise a combined cycle plant with a nominal capacity of 500 MW. Combined cycle production involves 2 forms of mechanical power – a gas turbine, and a steam turbine that uses waste heat from the gas turbine. The second stage would add a further 500 MW capacity. Initially an added nominal 350 MW in the second stage would be supplied by the plant operating in open cycle mode (using (a) gas turbine(s) only) supplying peak load electricity demand. It is proposed that the open cycle mode would be later converted to combined cycle when base load demand justified the expense of the conversion.

The proposed combined-cycle plant in Stage 1 would consist of one or more gas turbines, waste heat recovery steam generators, one or more steam turbines, electrical generator sets and a steam condenser. The open-cycle power plant proposed for the first part of Stage 2 would consist of one or more gas turbines and electrical generator sets.

The electricity generated on the site would be discharged to the existing Moorabool to Portland 500 KV power line which crosses the north-western corner of the subject site.

The power plant (with a building footprint of approximately 8 ha) and switch yard would occupy some 20 ha of the site, with the closest structures being perhaps 50 metres from Connewarren Lane under the latest site layout (as shown on a plan provided by Mr Burns). The proposed buildings would have a maximum height of around 30 metres except for the exhaust stacks which may be up to 45 metres high depending on the final design of the power station.

It is anticipated that the power plant would create some 25 permanent full-time jobs.

The gas pipeline will involve the construction and operation of a nominal 300-mm-diameter steel, high pressure, buried, natural gas pipeline, metering stations, pressure

regulation, gas filters, gas heaters, safety systems and scraper launch and receiver stations.

It is planned that the pipeline would be laid by open trenching wherever possible. At environmentally sensitive sites horizontal directional drilling (HDD) is proposed to be used and horizontal boring under sealed roads and the Geelong-Warrnambool railway line.

The construction phase of the plant itself is expected to extend over some 24 months (or 28 months including commissioning). It is anticipated that there would be some 400 construction workers employed at the peak construction period. The pipeline construction would employ a further 110 construction contractors, with up to 30 additional personnel being involved in project management and facilities installation. The construction of the pipeline will likely take some 6 months to complete. Accommodation for the workers is planned to be in a construction camp near the Mortlake Racecourse and/or met by housing workers in more widespread temporary commercial accommodation.

The Panel was told that the pipeline construction would involve deliveries of pipe by some 216 trucks over a 6 month period. It was suggested by Mr Burns for Origin that some 16 main and secondary roads would be used. It may also involve access via minor local roads. The power station construction traffic would primarily access the site via Connewarren Lane and an upgraded intersection with the Hamilton Highway.

2.2 THE SUBJECT SITE AND SURROUNDS (INCLUDING PIPELINE ROUTES)

The subject site is a regularly shaped lot of 104.1 ha located on the northern side of Connewarren Lane some 12 kilometres west of Mortlake township. It is one of 3 lots on plan of subdivision PS543659K and is planned to be given separate title. The land on the plan of subdivision forms part of a much larger rural landholding in the ownership of the Weatherlys and Connewarren Partnership that extends along both sides of Connewarren Lane.

Connewarren Lane is a sealed 2 lane road of rural standard. It connects to the Hamilton Highway approximately 10 kilometres east of the subject site and a short distance to the north-west of Mortlake. Connewarren Lane currently intersects the highway at 45 degrees.

The site itself is flat grazing land which is periodically cropped. It has a 20 metre wide wind break primarily of Sugar Gums planted along the southern boundary with Connewarren Lane. It is otherwise cleared of trees.

The transmission towers on the land are some 65 metres in height.

All surrounding land is in rural use. To the east is a hard wood plantation (Blue Gums). Land to the north, south and west is generally flat to gently undulating and used for dry land farming – largely sheep grazing – except that the Hopkins River Valley some 3 or more kilometres to the west and north introduces more dramatic riverine landscapes. Tree cover is generally sparse in the wider locality.

There are few rural dwellings in the general area. Mr Cleary's evidence was that there are 25 dwellings within a 6 kilometre radius of the site. The nearest dwelling (occupied by a manager of the Weatherly property) is located 1.6 kilometres to the east. The Weatherlys also have an interest in 2 other nearby dwellings: one is located approximately 2 kilometres north-west of the site and the other, approximately 2 kilometres to the south-east. The Hoods occupy an historic property called Merrang some 3.2 kilometres to the west. That dwelling is sited to look down the valley of the Hopkins River which runs generally north-south between that homestead and the subject site. The Mifsuds occupy a dwelling located due east of the subject site – about 4 kilometres away.

The underground gas pipeline route commences at an off-take point from the Otway Gas Plant near Port Campbell and would terminate at the power station site itself.

The route of the pipeline is mapped and described in Chapter 7 of Volume 1 of the EES report. A small number of modifications have been made to the proposed route shown in the EES as described in the evidence of Mr Tony Williams and Mr Geoff Burns for the proponent.

The Panel was advised that the route of the pipeline may be subject to further localised modifications in response to terrain and geological conditions. There are a number of river crossings where HDD will take place requiring suitable pads for equipment to be found, hence possibly resulting in minor route variations. There will also be a desire to avoid rocky ground wherever possible to facilitate trenching and boring.

We were also advised that there had been resistance on the part of some landowners (farmers) to the pipeline crossing their land. In an effort to conciliate the issue, the proponent had proposed to relocate the pipeline route away from those properties - often onto abutting road reserves. Many road reserves - both constructed and particularly those that are un-constructed - in country areas frequently contain remnant indigenous vegetation. This was the case here. The relocation proposals in some cases were therefore of concern to the Department of Sustainability and Environment (DSE).

We were further advised at the hearing, however, that the proponent no longer proposes to relocate the pipeline route in locations where there would be impacts on significant vegetation in road reserves. Instead the proponent proposes to utilise the compulsory powers of acquisition available under section 22 of the *Pipelines Act* 1967 to create easements across those farming properties whose owners have not voluntarily entered into agreements to allow the pipeline to cross.

Two water pipelines would be required to service the site. One would carry water from Absaloms Bore located approximately 2 kilometres to the north of Mortlake and the other would carry recycled water from the Mortlake Wastewater Treatment Plant located some 2.5 kilometres south of Mortlake. The 2 pipelines would converge approximately 2 kilometres west of Mortlake and travel in parallel along Connewarren Lane to the site.

Figure 8.3 of volume 1 of the EES shows the route of the water pipelines.

2.3 THE EES PROCESS

On 10 January 2005, Origin was advised that the Minister for Planning had determined that an assessment under the *Environment Effects Act* 1978 and an environment effects statement (EES) were required for the project.

A Technical Reference Group comprising State and local government agencies was established to advise on the scope of the EES and draft Assessment Guidelines were prepared and publicly exhibited leading to the preparation of final Guidelines for the project.

The preparation of the EES took place over several months leading to the exhibition of the EES together with the planning scheme amendment (see below), an application for a works approval under the *Environment Protection Act* 1970 and an application for a permit under the *Pipelines Act* 1990.

The exhibition period was from 17 November 2005 to 12 January 2006.

Following this Panel's assessment of the EES and its report to the Minister, the Minister will then make his assessment and forward this to the relevant Ministers for the regulatory approvals.

2.4 THE AMENDMENT

The Explanatory Report to Amendment C20 to the Moyne Planning Scheme succinctly describes the amendment in the following terms:

> *The amendment facilitates the development and use of the Mortlake Power Station Project, Connewarren Lane, and Mortlake. The amendment:*
>
> - *Introduces the Special Use Zone into the planning scheme,*
> - *Introduces a new Schedule 1 to the Special Use Zone (SUZ1: Mortlake Power Station),*
> - *Rezones the site from Rural Zone to Special Use Zone 1,*
> - *Introduces Environmental Significance Overlay 3 (ESO3: Mortlake Power Station Environs) into the planning scheme,*
> - *Includes some of the land surrounding the power station in an Environmental Significance Overlay Schedule 3.*

The Explanatory Report states that the Amendment is required to facilitate the development and use of the power station.

The Report justifies a rezoning on the basis that, even though the use is not prohibited under the current Rural Zone applying to the land, a power station is not a typical rural use and a different zone would more accurately reflect the use of the land. It is noted that the power station would serve predominantly urban uses. It is also said that a Special Use Zone is warranted given the requirement for relative isolation from residential and other sensitive uses. The ability to particularise

controls in a Special Use Zone schedule (SUZ1) is also a relevant factor in the choice of zoning.

The control of the establishment of additional accommodation uses in the area immediately around the power station site where noise from the power plant may exceed acceptable limits for dwellings (a radius of approximately 1.5 kilometres) is the purpose of the Environmental Significance Overlay (Schedule 3) (ESO3). As the Explanatory Report notes, additional dwellings could be established as of right on some of the surrounding properties under current scheme controls. We were advised that 4 lots would be affected by the ESO. We were further advised that the overlay has not been applied to one property potentially affected by noise because a restrictive covenant has been applied to the land achieving the same or similar effect.

A copy of the exhibited SUZ1 and the ESO3 are included in Appendix C of this report. A description of the statutory effects of the exhibited amendment is also set out in the submission to the Panel hearing made by Mr Taylor of the Department of Sustainability and Environment on behalf of the planning authority. Some aspects of this are discussed in part 6 of this report.

Appendix C also contains copies of the zoning and overlay maps. As noted below, the current landowners submitted that the scheme map showed the SUZ extending further west than had been agreed with the proponent. This was acknowledged as an error by the planning authority and proponent at the Panel hearing. A copy of the corrected zoning map is included in Appendix D together with a revised ESO Map which correctly shows the relationship of the overlay boundary to roads in accordance with the DSE protocol.

As noted, the exhibition of the Amendment occurred jointly with the EES and the application for the 2 permits under the pipelines and EPA legislation. The amendment was also referred to relevant statutory authorities.

2.5 SUBMISSIONS

The public exhibition and notification resulted in 11 submissions by the closing date. All of the submitters were public agencies including the 2 Shires, except for the proponent and 3 submissions from private individuals. One such submission was from the Weatherlys, who are the current owners of the power station site, and another from Mr Allen who had a general community-based interest in the project. The only directly affected nearby landowners forwarding a submission were the Mifsuds.

At the Panel hearing, late submissions were accepted from the Hood family who again are nearby landowners and from the Department of Infrastructure.

Mr Taylor's submission to the Panel hearing contains a convenient summary of the submissions received post exhibition.

The submitters' issues can be generally described as follows:

- VicRoads – requirement for upgrade of the Connewarren Lane/Highway intersection, including right turn lane into Connewarren Lane.

- CFA – requests relating to fire management and service delivery.

- Moyne Shire Council – supports the project and amendment subject to inclusion of SUZ1 requirement for traffic management plan.

- Corangamite Shire Council – not opposed to the project but raising various environmental and social impacts said to be inadequately addressed.

  Particular issues included:

  * Traffic management and impact on roads
  * Noise of pipeline construction
  * Impact on accommodation and other social services such as schools and medical services
  * Emergency management
  * Risk management
  * Request to review results of spring survey
  * Extent of vegetation offsets required
  * Greenhouse gas emissions.

- R B Allen – general issues relating to land value and amenity effects.

- The Weatherlys and Connewarren Partnership –
  * Security concerns about construction camp on the site
  * Road access issues
  * Incorrect mapping of Special Use Zone (extending too far to the west)
  * Questioning need for the ESO
  * Noise from open v closed cycle plant operation
  * Concern about wastewater discharges and pollution
  * Concern about the possibility of other industries on site and a desire for post power station reversion to the Rural Zone.

- The Mifsuds – noise in low background noise environment, vibration, air emissions, concerns about conflicting advice on these matters, concerns about impact on views.

- Environment Protection Authority (EPA) – not opposed to amendment, seeks advice from Panel on certain matters, subsequent approval and enforcement role.

- Department of Primary Industry (DPI) – refers on Corangamite Shire's submissions to application for pipeline permit.

- DSE (environment portfolio) – impacts of pipeline on native vegetation and importance of environmental management plans (required by scheme amendment, works approval and pipelines permit).

- Hood Family – impacts on views and heritage value of property, lights and noise.

- Department of Infrastructure – concern that timing of conversion in Stage 2 from open to combined cycle should be determined having regard to energy market so as to ensure electricity supply.

While there were issues raised in relation to the project as listed above, it is nonetheless the case that there was general support for or at least no opposition to the project proceeding from all of the public agencies and the Weatherlys. Even Corangamite Shire, which submitted extensive comment, did not oppose the project outright but was concerned to see that impacts upon the environment and community would be mitigated. Ms Segafredo indicated that Corangamite Council were particularly appreciative of the great deal of effort made by Origin to avoid native vegetation disturbance. The Hoods, Mifsuds and Mr Allen (and perhaps one or two other nearby landowners to whom Mr Allen's submission referred) therefore represented the full extent of opposition to the project – at least so far as was presented to the Panel.

It is of course true that even a single submitter or objector can raise matters which can persuade panels to recommend that a proposed development should be refused. Properly made planning decisions finally turn on the merits of a proposal not the scale of the opposition. The Panel would comment, however, that it is perhaps unexpected that a project of this magnitude has not generated more extensive opposition. We suspect that there may well be some truth in Mr Lonie's submission on behalf of Origin that the absence of opposition and indeed the support by public bodies are testimony to the appropriateness of the project and its careful planning.

3. OTHER APPROVALS PROCESSES

The Mortlake Power Station project requires a number of approvals under Victorian legislation.

3.1 APPROVALS JOINTLY EXHIBITED

In addition to the amendment to the Moyne Planning Scheme, a licence and permit under the *Pipelines Act* 1967 are required for the project to proceed, as well as a works approval and a discharge licence under the *Environment Protection Act* 1970. Both the pipelines permit application and the works approval application were jointly advertised with the amendment and EES.

While the Panel understands that it does not have a direct role in making recommendations on those other approvals processes, Mr Frame advised that where a joint exhibition of a works approval and an EES occurs, the Panel hearing takes the place of a section 20B conference under the *Environment Protection Act.* He said that the EPA therefore is interested in the outcome of the Panel process.

The Panel also understands that while it has not been appointed under section 12(D)(6) of the *Pipelines Act* to consider submissions in response to the public notice of the application to own and use a pipeline, the Panel's findings on the environmental effects will be relevant to the provision of advice by the Minister for Planning to the Minister for Resources and Energy under section 12F of that Act concerning the suitability of the gas pipeline route. We understand that this lies behind our term of reference to advise whether the route of the pipeline is satisfactory.

The approvals under those related acts, however, were also of relevance to the Panel in another way. One of the terms of reference given to the Panel for the EES inquiry involved advising on the success of mitigation measures in the context of available legislation and policy.

Neither a draft pipelines permit nor a draft works approval was made available to the Panel, which made it somewhat difficult for us to determine whether mitigation measures would be appropriately implemented. We understand that the draft documents were not available because aspects of the project will not be finalised until an operator and contractors are appointed. Nevertheless, the Panel would have felt more confident in replying on the issue of mitigation within the context of available legislative mechanisms if the scope of such documents had been assessed by us.

The Panel recommends that thought should be given by DSE and other government agencies regularly involved in joint approvals processes involving EESs to making draft approvals documents (even preliminary ones) available to Panels so the scope of the future regulations of the project can be better assessed by a Panel.

In the absence of these documents in the present case, we heard from Mr Geoff Collins of DPI and Mr John Frame of EPA about usual practices in relation to pipelines permits and licences and works approvals respectively. We requested and were provided with an example of a permit for another pipeline and its required Environmental Management Plan. This has assisted the Panel in providing our response to the relevant term of reference for the EES inquiry.

3.2 OTHER APPROVALS

In addition to the planning scheme amendment, works approval and pipelines permit, numerous other approvals apply or potentially apply to the project. They include a waste discharge licence under the *Environment Protection Act*, a licence under the *Pipelines Act*, Council approvals for works in road reserves, VicRoads approvals for intersection works, authorisations under the *Water Act* 1989, and under the *Flora and Fauna Guarantee Act* 1988. Again all of this legislation has potential to affect our response to the term of reference concerning satisfactory mitigation of effects in the context of available legislation and policy.

We have not assessed these areas of legislation in any detail, however, as we have been satisfied that the other key mechanisms will prove effective in acting as vehicles for most mitigation measures. We are also of the view that residual mitigation matters not be able to be dealt with under the key regulatory legislative means - because they would be judged as falling outside the purposes of that legislation - would also not fall within the ambit of that other legislation.

3.3 NO PLANNING PERMITS

The drafting of the Special Use Zone provisions of the planning scheme amendment has obviously been intended to ensure that no planning permission is required for the project use and development on the site to proceed. This is appropriate given the current assessment process. As was pointed out by the Panel, however, certain of the schemes 'Other Provisions' were overlooked in the drafting in this regard - notably car parking and bicycle parking waivers. It is clear, however, that they might be incorporated into the exemptions from permit in the SUZ (see discussion in Part 6 of this report).

At the hearing, the Panel was referred to section 12H of the *Pipelines Act* which has the effect of exempting underground pipelines from all planning scheme controls. This extends not only to the use and development of land for a pipeline but to associated works ordinarily requiring separate permissions under schemes - such as native vegetation removals.

It is clear that the gas pipeline falls within the ambit of that provision but there was some uncertainty on the part of the parties as to whether the water pipelines were affected by the Act.

This became irrelevant anyway. So far as the water pipelines were concerned, Mr Lonie indicated that, being 'minor utility installations', their associated works would be exempted from scheme permission by clause 62.02. Mr Lonie's submissions also included an analysis of the need for permission for the use itself - which would only

potentially arise in the case of land included in the Public Use Zone. However, assuming the water pipelines would be carried out on behalf of the land manager of the Public Use Zone, no permit would be required. He indicated that agreement had been made with Wannon Water in this regard.

The issue of whether planning permission was required for removal of native vegetation for the water pipelines was discussed. The Panel's preferred view is that no permission would be required for this because it should be viewed as part of the exempt works under clause 62.02. As is the case for the site of the power station, it seems unlikely in any event that removal of significant native vegetation will be required for the water pipelines.

All this being said, it means that the current approvals stage is the only opportunity to ensure appropriate planning regulations are put in place. Albeit the SUZ contemplates approvals of second order documents and plans, their structure and content need to be committed as part of the amendment.

The Panel notes that planning approval may be required for any construction camp. We think that such scrutiny would be appropriate given the potential amenity impacts of the camp.

4. ASSESSMENT OF ENVIRONMENTAL IMPACTS

4.1 INTRODUCTION

The terms of reference set by the Minister for Planning require the Panel to inquire into and assess the potential environmental effects of the Mortlake Power Station project and alternatives addressed in the EES. The environmental effects which are the subject of the enquiry include physical, biological, social and economic aspects. The Panel is asked to advise whether potentially adverse effects can be satisfactorily ameliorated in the current legislative and policy context.

The Panel has undertaken this task by reviewing the EES and related documents placed on public exhibition, conducting a public hearing over 5 days at Mortlake at which further submissions and evidence were presented to us as described in Appendix A, and by undertaking a site inspection of the power station site and surrounds as well as parts of the pipeline routes.

In reporting our findings in relation to the environmental effects of the project, we have followed the order that this material was presented in the EES. The headings below therefore closely relate to those in the EES.

Before turning to the particular environmental effects, the Panel makes the general comment that we believe that the proponent has done a commendably thorough job in researching the environmental effects of the project. The only limited opposition to the proponent's case regarding the environmental effects as presented to the Panel perhaps reflects this. In fact there was considerable support given by some regulatory Government agencies at the hearing to the work which had been undertaken as input to and following the EES. The research into flora and fauna impacts and emissions modelling were especially supported. Generally the Panel found the expert witnesses to display a high level of expertise and knowledge of the particulars of the project.

4.2 FLORA AND FAUNA IMPACTS

Brett Lane & Associates Pty Ltd and Ecology Partners Pty Ltd assessed flora and fauna as input to the EES and both companies conducted follow up surveys for the proponent after the EES had been prepared. A total of six reports were prepared and these are listed below in the date order in which the assessments were made.

(a) 'Mortlake Power Station Project: Flora and Fauna Assessment – Terrestrial and Aquatic Ecosystems' is contained in the EES Volume 2 – Appendix 1. Brett Lane & Associates Pty Ltd conducted the field survey in May 2005 and the report covers the gas pipeline route and the power station site.

(b) 'Mortlake Power Station Project: Flora and Fauna Assessment and Preliminary Net Gain Investigation of the Proposed Water Pipeline, Mortlake, Victoria' is contained in the EES Volume 2 – Appendix 2. Ecology Partners Pty Ltd conducted the field survey in July 2005 and the report covers the water pipelines routes.

(c) 'Mortlake Power Station Project: Net Gain Assessment of the Proposed Gas Supply Pipeline, Port Campbell to Mortlake, Victoria' is contained in the EES Volume 2 – Appendix 3. Ecology Partners Pty Ltd conducted a field inspection in July 2005 and the report covers the gas pipeline route. The report uses information from the earlier survey of the gas pipeline conducted by Brett Lane & Associates Pty Ltd – refer (a) above.

(d) 'Targeted Spring/Summer Flora and Fauna Survey Mortlake Power Station Project'. Brett Lane & Associates Pty Ltd conducted the field survey in November & December 2005 and the report covers specific sections of the gas pipeline route that were identified as potentially important for flora and fauna in the earlier report – refer (a) above.

(e) 'Mortlake Power Station Project: Targeted Flora and Fauna Survey, Proposed Water Pipeline, Racecourse Lane, Mortlake, Victoria'. Ecology Partners Pty Ltd conducted the field survey in December 2005 and January 2006 and the report covers the water pipelines routes, focussing particularly on Racecourse Lane and the areas of remnant vegetation identified in the earlier report – refer (b) above.

(f) 'Mortlake Power Station Project: Preliminary Flora and Fauna Assessment for a Proposed Construction Camp, Mortlake Racecourse, Mortlake, Victoria'. Ecology Partners Pty Ltd conducted the field survey in February 2006 and the report covers potential sites for a construction camp on a site immediately to the north of the Mortlake Racecourse.

Mr Brett Lane of Brett Lane & Associates Pty Ltd and Mr Andrew Hill of Ecology Partners Pty Ltd then both gave evidence at the Panel hearing on the flora and fauna impacts.

4.2.1 GAS PIPELINE CONSTRUCTION – FLORA IMPACTS

The route of the proposed 78 kilometre of gas pipeline traverses two broad bio-regions that include several ecosystems and identifiable Ecological Vegetation Classes (EVCs). However, most of these ecosystems occur as remnant patches or as strips of vegetation associated with road reserves or streams. These ecosystems have typically been modified from their natural state through land clearing, livestock grazing, weed invasion, etc. The vast majority of the land has been heavily modified through being used for agricultural purposes. Consequently, its ecological significance for native flora and fauna is low.

The approach to pipeline siting adopted by the proponent has been to avoid native vegetation wherever practicable. Where this is not feasible, it is proposed to use techniques that avoid or minimise impacts on the vegetation, such as horizontal boring under road reserves, horizontal directional drilling under significant

waterways and narrowing of the pipe laying track through important native vegetation stands. This approach has reduced the area of native vegetation and the number of trees that would otherwise have to be removed.

The initial survey conducted in May 2005 identified 16 vegetation types of which 13 were EVCs described as vegetation communities that existed prior to European settlement in Australia, i.e. prior to 1750. The other 3 vegetation types were of exotic species and therefore are not described as EVCs. The total 16 vegetation types plus an additional EVC located in the water pipeline route are listed in Table 8.3 in the EES and they range from Riparian Forest to Plains Grassy Woodland to Plains Grassland to Aquatic Herbland.

The two flora surveys of vascular plants along the proposed gas pipeline route produced the following combined data.

Table 1 Numbers of floral species recorded during two surveys conducted in autumn & late spring 2005 and species identified as significant

Floral species		**Conservation significance rating**	
Indigenous	**Exotic**	**Nationally significant species**	**State significant species**
249 (64%)	142 (36%)	4	4
	Includes indigenous species that are not indigenous to the local area.	Carex tasmanica (Curly Sedge)	Juncus bassiuanus (Bass Rush)
		Glycine latrobeana (Clover Glycine)	Pneumatopteris pennigera (Lime Fern)
		Prasophyllum sp. aff. Frenchii A (Orford Leek-orchid)	Caladenia vulgaris (Slender Pink-fingers)
		Pterostylus tenuissima (Swamp Greenhood)	Dianella sp. aff. longiflora (Benambra) (Arching Flax-lily)

Detailed information about the species of conservation significance and their importance is given in the report of the follow up survey of the gas pipeline route conducted in November and December 2005 – refer pages 26 to 31 in report (d) above.

Of the eight significant plant species identified, the consultants suggest that only two species are potentially directly impacted by the construction of the pipeline. These are the Slender Pink-fingers and the Clover Glycine. However they suggested that by realigning the pipeline route it should be possible to avoid direct impact on both these species. The other six species occur in areas adjacent to the pipeline route and the consultants suggest that it should be practical to ensure that these areas are secured against any direct or indirect impact of the pipe construction procedures.

4.2.2 GAS PIPELINE CONSTRUCTION – FAUNA IMPACTS

The initial fauna survey revealed the existence of seven broad habitat types ranging from Remnant Forest to Shelter Belts and Revegetation to Native Grasslands to Aquatic habitats. Most of the habitat and fauna values along the gas pipeline route are rated as being of low value, as they usually consist of exotic pasture on private farming land. Such habitat is unlikely to support significant native species of fauna.

There are a number of road reservations, riparian habitat associated with the Curdies River, and other water bodies (including wastewater treatment plants), however, that do provide actual or potential foraging and breeding sites for terrestrial fauna. As is generally the case, where suitable vegetation communities exist and large to medium trees remain, useful habitat for fauna is likely to be found.

The total number of terrestrial vertebrate fauna recorded in the May and November 2005 surveys was 124 species, comprising 13 mammals (7 indigenous), 101 birds (94 indigenous), 4 reptiles and 6 frogs. However the number of fauna that were potentially using the areas surveyed could be around double the total number recorded in the surveys according to information in the Atlas of Victorian Wildlife and the EPBC database.

In addition to the above terrestrial vertebrate species, a survey of aquatic vertebrates was conducted during the first fauna survey in May 2005. Only 5 sites contained water and of these sites only 3 produced catches of fish. The fish catches together with physical and chemical analyses of the water samples indicated that all the five sites had a low likelihood of supporting native fish.

The second survey conducted in November 2005 targeted the following indigenous species - the Long-nosed Potoroo, Growling Grass Frog, Rufous Bristlebird, Powerful Owl, Grey Goshawk, Swamp Skink, and Southern Toadlet. The Long-nosed Potoroo and the Growling Grass Frog are of national significance as they are listed species under the Commonwealth *Environment Protection and Biodiversity Conservation Act* 1999 (*EPBC Act*). The other species are of State significance. None of these species was actually recorded although three possible nests of the Grey Goshawk were found.

The consultants suggest that fauna issues associated with the gas pipeline construction should be capable of adequate management via requirements that will be included in the pipeline construction EMP. These include minimising the time that the pipeline trench remains open, daily monitoring of trenches for trapped animals, providing mechanisms within the trench for animals to escape, etc.

4.2.3 IMPACTS OF POWER STATION CONSTRUCTION & OPERATION ON FLORA AND FAUNA

The power station site is agricultural land that has been used for many years for grazing and cropping. We were advised that it does not support any identified EVCs or any significant native flora or native fauna. The disturbance of this site during the construction of the power station is not expected to have any direct impact on significant flora or fauna. Nevertheless, it was suggested to the Panel that the

construction EMP will need to include requirements to prevent indirect impacts such as deterioration of surface water quality and soil contamination.

The operation of the power station will increase the level of noise and increase the human presence at the site. However local bird populations are likely to avoid the site or will habituate to the presence of the power station.

4.2.4 WATER PIPELINES CONSTRUCTION – FLORA IMPACTS

As earlier noted, 2 water pipelines, approximately 14 and 16 kilometres in length, will supply the power station with process water from two sources – Absaloms Bore located to the north of the Mortlake Township and the Mortlake Wastewater Treatment Plant located to the south of the Township. For approximately 10 kilometre of the route to the power station, the two pipelines will be laid adjacent to each other along Connewarren Lane.

The initial survey conducted in July 2005 identified 4 EVCs - Plains Grassy Woodland, Plains Grassy Wetland, Plains Grassland and Aquatic Herbland along the pipeline routes.

The two flora surveys of vascular plants along the proposed water pipeline routes produced the following combined data.

Table 2 Numbers of floral species recorded during two surveys conducted in winter 2005 & summer 2005/2006 and species identified as significant

Floral species		**Conservation significance rating**	
Indigenous	**Exotic**	**Nationally significant species**	**State significant species**
47 (64%)	28 (36%)	1	1
		Dianella amoena (Matted Flax-lily)	Dianella sp. aff. longiflora (Benambra) (Arching Flax-lily)

One plant of the Matted Flax-lily and four plants of the Arching Flax-lily were recorded, all plants occurring in Racecourse Lane. Several other species were considered to be of regional conservation significance.

Ecology Partners Pty Ltd has recommended that because of the recording of the Matted Flax-lily, the proponent should make a referral to the Commonwealth Environment Minister under the *EPBC Act*.

The section of the water pipeline from Absaloms Bore that will run along Racecourse Lane will be laid under the unsealed track. This procedure will avoid any direct impact on the identified existing plants of Matted Flax-lily and Arching Flax-lily, which are located towards the edges of the road reservation. It is recommended by the consultants that the position of these plants be marked and preferably fenced off to ensure no interference due to the pipe laying.

4.2.5 WATER PIPELINES CONSTRUCTION – FAUNA IMPACTS

Six broad habitat types were identified in the initial assessment, including the Mortlake Wastewater Treatment Plant (rated as being of high habitat value) and Blind Creek (rated as being of moderate to high value).

The total number of terrestrial vertebrate fauna recorded in the July 2005 survey was 64 species, comprising 6 mammals (2 indigenous), 56 birds (51 indigenous) and 2 frogs. However the number of fauna that were potentially using the areas surveyed could be 50% higher than the total number recorded in the survey according to information in the Atlas of Victorian Wildlife.

The second survey conducted in December 2005 and January 2006 targeted the Growling Grass Frog and the Striped Legless Lizard, both of which are of national conservation significance. Neither of these species was recorded in the survey. Since Blind Creek might still offer habitat for the Growling Grass Frog, a recommendation has been made for a specific survey of this drainage line where it crosses Connewarren Lane to be undertaken prior to the commencement of any earthworks associated with the laying of the water pipelines.

4.2.6 IMPACTS OF CONSTRUCTION CAMP AT MORTLAKE RACECOURSE ON FLORA AND FAUNA

The proponent is considering the need for a construction camp to house at least some of the workers who will work on the construction of the power station. Such a construction camp may be required to operate for a period of approximately 30 months during the construction of the first phase of the power station. An earlier proposal in the EES for a construction camp on the site of the power station has been abandoned due to opposition from the current landowner and the determination that a construction camp is an inappropriate use of the rural zoned land.

The area to the north of the Mortlake Racing Track, but within the property owned by the Racing Club, has been identified as a potential site for a construction camp. This site was assessed for its floral and fauna values to ensure that the siting of a construction camp would avoid unacceptable impacts.

The majority of the site carries introduced species of flora especially pasture grasses and weeds. However in the north-west corner, there is an area of several hectares of modified Plains Grassy Wetland vegetation. This area is considered to be at least of State conservation significance by the consultants and therefore should be avoided.

A small area of Western (Basalt) Plains Grassland EVC was also identified on the site.

No flora species of national or State significance were recorded during the survey. As the nationally significant Matted Flax-lily has been recorded within the adjacent Racecourse Lane, however, Ecology Partners Pty Ltd has recommended that a referral to the Commonwealth Environment Minister under the *EPBC Act* be submitted.

No fauna species of national or State conservation significance were recorded. However potential habitat for significant fauna, including the Striped Legless Lizard, does occur on the site. Because of the short duration of the survey together with the survey being in summer, the consultant has recommended that a further targeted survey be undertaken in late spring or early summer. This survey should target the Matted Flax lily, the Arching Flax-lily and the Striped Legless Lizard.

4.2.7 GAS PIPELINE - PRELIMINARY 'NET GAIN' ASSESSMENT

Based on the proposed realignment of the gas pipeline resulting from the initial flora assessment, remnant native vegetation occurs along about 1% of the 78 kilometre pipeline route. The combined length of remnant vegetation sections amounted to about a 1 kilometre length of pipeline.

Alignment choices about the pipeline have meant that potentially impacted remnant vegetation has been reduced from about 4% of the length of the pipeline route to around 1%. The consultants suggested that this demonstrates the adoption by the proponent of the first step of the Victorian Government's policy on native vegetation – 'Victoria's Native Vegetation Management – A Framework for Action' of avoiding loss of native vegetation.

The second step in the 'Framework' is the minimisation of loss of native vegetation. We were advised that the proponent proposes to implement this process by the use such techniques as:

- reducing the width of the pipeline route when it is close to significant native vegetation;
- moving the pipeline route from areas of native vegetation of high conservation significance to areas that are of lesser significance; and
- trimming native vegetation to enable pipe laying while conserving the vegetation.

Despite adopting actions to implement steps 1 and 2 of the 'Framework', some loss of native vegetation is proposed. This leads to the third step of the 'Framework': an offset calculation that will achieve a 'Net Gain' in the quantity and/or quality of native vegetation. Ecology Partners Pty Ltd performed a preliminary 'Net Gain' assessment using data from the initial flora survey of the gas pipeline route conducted by Brett Lane & Associates Pty Ltd. The details of the losses of individual EVCs (in terms of habitat hectares) and trees (in terms of numbers) are given in section 4.1 of Volume 2 – Appendix 3.

In summary, the estimated losses of native vegetation and trees and the proposed respective offsets are:

- 0.143 habitat hectares loss proposed to be made up by 0.206 habitat hectares offset.
- 11 large old trees loss proposed to be made up by 22 large old trees offset.
- 11 medium old trees loss proposed to be made up by 25 medium old trees offset.
- 14 other trees loss proposed to be made up by recruitment of 235 new trees.

In the above summary, individual types of vegetation (7 categories involving different EVCs and varying levels of conservation significance) have been added together to give the overall habitat hectare figure. The aggregation of the individual calculated offsets in this manner is suggested by the consultants as appropriate for the Mortlake pipeline project, as this approach is said to be particularly well suited to linear infrastructure projects given that the management and protection of very small offset sites is not generally ecologically or economically viable.

It was noted during the flora surveys of the gas pipeline route that there are several properties within and along the route that have the potential to provide offset sites. We were advised that these will need to be investigated when the pipeline route is finalised and after a final 'Net Gain' assessment has been undertaken.

4.2.8 WATER PIPELINES - PRELIMINARY 'NET GAIN' ASSESSMENT

A process of estimating native vegetation and tree losses together with a 'Net Gain' assessment has also been conducted as part of the survey of flora along the water pipelines routes. The details of the losses of individual EVCs (in terms of habitat hectares) and trees (in terms of numbers) are given in section 5.3 of Volume 2 – Appendix 2.

In summary, the estimated losses of native vegetation and trees and the respective offsets are:

- 0.151 habitat hectares loss made up by 0.227 habitat hectares offset.
- 4 Other trees loss made up by 8 medium old trees and recruitment of 40 new trees.

While there may be suitable offset sites near to the water pipelines routes, it is also suggested by the consultants that it would be acceptable to combine the water pipelines offsets with the gas pipeline offsets. This is said to have the benefit of enabling the management of one larger site (or perhaps two larger sites) instead of several very small sites if a 'like for like' approach as put forward by Corangamite Shire was adopted.

4.2.9 KEY ISSUES

Key issues that have been identified by the Panel during the hearing and those raised in submissions include the following:

- The adequacy of the flora and fauna assessments in meeting the obligations of the proponent under various forms of legislation. This includes various State legislation and especially the State Government policy as described in the 'Victoria's Native Vegetation Management – A Framework for Action'. It also includes obligations under the Commonwealth Government's *EPBC Act*.
- The implementation of the 'Net Gain' requirements for losses of native vegetation and native trees
- The acceptability of the proposed avoidance, management and mitigation measures for conserving native flora and fauna.

4.2.10 PANEL RESPONSE

Adequacy of the flora and fauna assessments

The commissioning of six reports by the proponent on flora, fauna and 'Net Gain', as listed at the beginning of this section of the Panel report, indicates the thoroughness with which the proponent has considered native flora and fauna issues. Mr Andrew Pritchard of the DSE in his presentation to the Panel commended the approach used by the proponent and the standard of the reports:

> *The consultation and pre-planning work undertaken by the proponent has been thorough and methodical. The flora and fauna assessments have been timely and of a high standard. The proponent has demonstrated design and siting methodology consistent with achieving biodiversity protection.*
>
> *The department is of the opinion that, consistent with the three-step approach to native vegetation retention in Victoria, as outlined in "Victoria's Native Vegetation Management – A Framework for Action", the proponent has made every effort to avoid and minimise the clearance of native vegetation in the siting of both the power station and the gas and water pipelines.*

We agree with DSE's comments.

In our view the field and other survey work undertaken by the proponent's consultants on flora and fauna has been a high quality response to the potential application of the requirements of the *Flora and Fauna Guarantee Act* and the Commonwealth *EPBC Act* together with the EES Guidelines which have specified that a 'Net Gain' assessment be undertaken. We are satisfied that plant and animal community impacts have been thoroughly investigated and that reasonable efforts have been made to avoid disturbance to them by deviating the pipeline, tunnelling or narrowing the construction pathway. We are also satisfied that the rehabilitation measures described to us by Mr Williams will assist in alleviating adverse impacts on native flora and fauna.

The Panel especially notes that 4 flora species of National conservation significance and 5 of State conservation significance have been recorded and that appropriate actions have been identified to conserve these plants. The Panel also notes that there has been a recommendation for the proponent to make an EPBC Act referral to the Commonwealth Environment Minister in relation to the recording of the Matted Flax-lily.

Implementation of the 'Net Gain' requirements

The proponent has emphasised in responses to matters raised in submissions that the likely loss of native flora due to the construction of the gas and water pipelines and the subsequent 'Net Gain' assessments are only preliminary as at the time of preparing the EES. The defence of the work on 'Net Gain' appeared to be prompted by Corangamite Shire's identification of some inaccuracies in the habitat hectare figures in the EES.

Ms Sophie Segafredo in her presentation to the Panel for Corangamite Shire also challenged the ratios for 'Net Gain' used in the assessment and suggested that there should be offsets for losses for each EVC (using the 'like for like' approach) and that an offset of a minimum of 1 hectare in area should be created for each EVC. This would require an offset of some 8 hectares. She stated that this is not only beneficial from a 'Net Gain' perspective but it is also preferable to managing very small areas of offset.

The proponent responded that while Corangamite Shire as a relevant planning body may set its own method of quantifying losses and gains in vegetation in order to achieve 'Net Gain', no such method was available from the Shire. They stated that as many of the EVC targets were very small, it is considered preferable to aggregate the offsets in order to obtain a total 'Net Gain' figure. This would lead to a more consolidated area of remnant vegetation being created as an offset and would achieve a better ecological and more economically sustainable outcome. The Panel notes that the approach of aggregating small 'Net Gain' offsets has been previously used, especially in the case of linear infrastructure projects.

The Panel accepts that a single offset site has management advantages over a series of very small sites. The Panel accepts that a larger stand of vegetation will be less susceptible to edge effects and other processes inimical to the sustainability of the vegetation community. However, the Panel acknowledges that the Net Gain objectives extend to biodiversity and sustaining a variety of EVCs and this will not be advanced so effectively under the aggregation option. It is also likely that non-aggregation would be more beneficial in the conservation of the least extensive EVCs.

The Panel is of the view that some compensation for these losses in the achievement of environmental objectives should be provided. We suggest that consideration should be given in the present case to providing one or more aggregated offsets, the total area of which exceeds the aggregated habitat hectare offset requirement (as finally calculated). If the offsets from the preliminary 'Net Gain' assessment are used (0.206 habitat hectares offset for the gas pipeline plus 0.227 habitat hectares offset for the water pipelines = 0.433 habitat hectares in total), the actual offset to be implemented should be more than the 0.433 habitat hectares. Perhaps a multiplication factor reflecting the relative rarity value of the offset EVC compared to that of EVCs not in the offset area might be appropriate, so that a proponent, while benefiting in management terms from an aggregation of offsets, does enhance 'Net Gain' by seeking and managing a larger offset than the actual aggregation figure. The Panel is nevertheless of the view that an offset of 8 hectares for a combined loss of 0.4 Hectares would be unfair on the proponent especially given the extensive efforts which have been made to avoid vegetation disturbance.

The Panel notes that in the absence of a planning permit requirement for the removal of native vegetation for the project as a whole (see part 6 of this report), some other mechanism to ensure the provision and management of the offset(s) is required. The Panel is of the view that it would not be responsible on the part of the decision-makers in relation to this project to merely leave the provision of offsets up to the good will of the proponent – as good intentions can become lost with changes in companies, personnel, economic circumstances and the like. The Panel is also of the view that the EMP to be required by the licence for the gas pipeline - which appears

to be the only other statutory mechanism 'on offer' - is not a legally appropriate mechanism to implement the 'Net Gain' policy. In our view 'Net Gain' conditions do not appear to fall within the ambit of the purposes of the *Pipelines Act* and permits issued under it.

Accordingly we have recommended that the offset requirements are appropriately the subject of an agreement made under section 173 of the *Planning and Environment Act*. This is further discussed in part 6 of this report.

Acceptability of avoidance, management and mitigation measures

During the Panel Hearing, Mr Tony Williams of GPA Engineering Pty Ltd provided a well-illustrated presentation of the techniques used in pipeline construction. This included the processes for clearing and grading the pipeline route, the avoidance of roadside and riparian vegetation by use of horizontal boring and horizontal directional drilling, the micromanagement of trenching through areas of important native vegetation, remediation of disturbed land, etc. We inspected some of the sites referred to by Mr Williams together with representatives of the parties on the second day of hearing.

While the Panel accepts the availability of such procedures, there is always the concern about how well they are actually implemented, especially on a day-to-day basis whilst the construction is being carried out. In the Panel's view, the Construction EMPs for the gas and water pipelines and for the power station will be critical to ensuring that the proponent and contractors achieve the desired and planned outcomes. In the context of flora and fauna impacts, the construction EMPs are likely to be of much greater significance than the operational EMPs.

The various reports on flora and fauna contain many suggestions and recommendations on what actions should be taken to minimise impact and to manage the construction processes. This particularly applies to reports listed as (a), (b) and (f), which are the larger reports. However the targeted reports listed as (d) and (e) also contain suggestions for managing impacts on the targeted species.

The proponent has listed the environmental management commitments that have been made in the EES. Mr David Browne from Origin Energy provided a useful summary of environment commitments and the appropriate EMPs for the implementation of each of the commitments.

Mr Pritchard from DSE included numerous items for inclusion in the gas pipeline construction EMP and the Panel recommends these for inclusion in the EMP.

Overall, the Panel is confident that adequate recognition has been given to the avoidance, management and mitigation measures for the potential impacts of the Mortlake project on flora and fauna. Obviously much additional work is needed to prepare drafts of the various EMPs for discussion with relevant government departments and local government authorities.

Panel Recommendations

1. **That the proponent give early consideration to the recommendation by Ecology Partners Pty Ltd that a referral be submitted to the Commonwealth Environment Minister in relation to the existence of the Matted Flax-lily plants recorded in Racecourse Lane and potentially occurring on adjacent land north of the Mortlake Race Course.**

2. **That the recommended management measures in the proponent's expert reports on flora and fauna and by DSE be implemented through the development of the required EMPs to the satisfaction of DSE and the Shires.**

3. **That should the final 'Net Gain' offsets for the gas and water pipelines include aggregation of offsets for the various EVCs, a higher overall offset figure should be provided.**

4. **That the proponent arranges for an additional targeted survey for the Growling Grass Frog at Blind Creek where it crosses Connewarren Lane prior to the commencement of any earthworks associated with the laying of the water pipelines, though such a survey would not be required if the creek is to be crossed using horizontal boring or horizontal directional drilling.**

5. **If a construction camp is to be located on a site to the north of the Mortlake Racing Track, the proponent arranges for an additional targeted survey in late spring-early summer for the Matted Flax lily, the Arching Flax-lily and the Striped Legless Lizard at the site prior to the detailed planning of the construction camp.**

4.3 WATER ISSUES

Water related potential impacts are associated with the:

- Supply of water to the power station,
- Construction of the gas and water pipelines,
- Stormwater management, and
- Disposal of process wastewater from the power station and water purification plant.

4.3.1 WATER SUPPLY

The operating power station has been estimated to require about 216 ML/yr which is to be supplied by the Wannon Regional Water Authority. This will be sourced from a combination of bore water from Absaloms Bore and treated effluent from the Mortlake Wastewater Treatment Plant. The Water Authority has offered to supply 260 ML/yr made up of at least 60 ML/yr of treated effluent, and 200 ML/yr of bore water. The main issue relates to the effect of increased bore water extraction on other ground water users. There is an EPA guideline for recycled water treatment and quality requirements which apply.

The EES refers to investigations and modelling of the potential effect of increased extraction and water yields before the granting of an increase in licensed extraction of up to 295 ML/yr. These indicated that the impact on all but the nearest of the surrounding bores was negligible and the drawdown on the nearest bore was predicted to be 28%, even under the extreme pumping regime to maximum licensed extraction. It was reported that this should not affect the bore's current operational status. It is acknowledged by Origin Energy that, if the impact of the additional abstraction at Absaloms Bore is deemed unacceptable for the local groundwater user, that an additional bore (at Origin's cost) may need to be constructed at the users site to maintain their existing supply. Origin does not expect to use all the bore water available as it intends to use the maximum available recycled water, which reduces its need for bore water.

The plant is designed to minimise water usage. The main, but not the only, water conservation measure is the use of air-cooled condensers for cooling requirements, and this is said to use 97% less water than an evaporative cooling systems.

Panel Assessment

The estimated water requirements are about 40 ML/yr less than offered by the Water Authority, so maximum licensed bore extractions are unlikely, and potential for effects on other ground water users reduced. The Panel accepts that the operational status of the nearest bore is unlikely to be affected, but that if it is, Origin Energy will meet the cost of drilling a deeper bore to maintain existing water supply.

4.3.2 CONSTRUCTION

Construction activities have the potential to impact on the quality of streams, stock-watering dams, and other surface waters. This can arise from sediment run-off from soil and fill stockpiles, pipeline trench excavations, site clearing and levelling, erosion of exposed soils from the cleared path to allow laying of pipelines, spills of chemicals, oils and other materials during construction and drilling, soil and sediment disturbance in crossing water courses, and contaminated run-off from materials potentially encountered in excavations, eg acid sulphate soils.

Hydrostatic test water, which has been chemically dosed with corrosion inhibitors and oxygen scavengers, will also require disposal.

The EES outlines a number of mechanisms for minimising impacts. These include timing of pipeline construction during the drier periods of the year, location of stockpiles in relation to water courses, use of erosion control techniques, and horizontal boring or horizontal directional drilling where warranted. Details will be included in separate construction EMPs for each of the major construction activities - the gas pipeline, the water pipelines, and the power station. These may involve different contractors. EPA has also highlighted the requirement to adhere to the EPA environmental guidelines for major construction sites including for the control of runoff and sedimentation. Enforcement and remedial actions can be taken under the *EPA Act*.

Hydrostatic test-water, after testing for suitability, will be disposed of by irrigating adjacent pastures with the landowners' consent. This water is regulated by DPI and

while not expected to have any adverse impacts, EPA recommend discharge through a diffuser to provide aeration.

Panel Assessment

The Panel acknowledges the proponent's commitment to using construction methods and practices that will minimise water quality impacts in the construction of the pipelines and power station. The Panel accepts that these commitments will be incorporated in relevant EMPs and that there are appropriate powers available to the relevant authorities to apply sanctions and remedial action for breaches of requirements and agreements.

4.3.3 STORMWATER MANAGEMENT

The main issue in stormwater management is to ensure that stormwater discharged to surface waters is not contaminated with oils, greases and chemicals that may have leaked on the ground during operations and thereby pollute the surface waters. Mr Weatherly expressed concern that run-off may contaminate stock waters.

The stormwater management system is described in the EES. Sources of stormwater at the power station are proposed to be treated according to potential levels of contamination. Run off from roofed areas will be collected in tanks and used for various purposes around the plant. Stormwater from oily-bunded areas will pass through an oil catch tank, first flush collection and settling pond, and an oil water separator before being discharged to natural swales or existing watercourses. Run-off from roads and other sealed surfaces are to pass through the first flush system. Liquids from bunded areas where chemical contamination could occur are proposed to drain to special sumps for testing and treatment prior to discharge or collection for off-site disposal.

The stormwater management system needs to satisfy the EPA works approval requirements. Bunding according to published EPA guidelines is required for areas where oils, chemicals and other potential pollutants are to be stored and/or used. An EMP that includes a water quality testing program is also required.

Panel Assessment

The system described in the EES is consistent with avoidance of contaminated stormwater run-off to surface waters, provided that the systems are properly constructed and maintained and that appropriate management practices are instituted. No off-site water impacts are expected, as the plant will be controlled via EPA works approval and licence conditions, and subject to an EMP system that includes a water quality testing program.

4.3.4 PROCESS WASTEWATER

Process wastewater from the plant would consist of a concentrated brine solution from the brine concentrator treating various streams from the power station. These include the concentrate from the reverse osmosis water treatment plant, blow-down from the boilers and gas turbine air intake evaporative coolers, and filter backwash. Ammonia or an amine used to dose boiler water to prevent corrosion carries through to the concentrated brine effluent. The concentrated brine would be stored and tankered for offsite disposal at the Warrnambool Wastewater Treatment Plant.

EPA does not consider this effluent stream a prescribed waste. Carryover amines are not expected to create an odour problem at the treatment plant because concentrations are low and the pH conditions are not conducive to ammonia releases.

Panel Assessment

The Panel did not identify any issues with process wastewater. There is no direct discharge of process wastewater to the environment so local impacts are not expected.

4.4 GREENHOUSES GASES

Carbon Dioxide (CO2) is the dominant greenhouse gas. It is emitted as a result of the combustion of carbon-containing fuels such as coal, oil and natural gas. Other greenhouse gases are emitted from various sources and their effects are usually expressed (CO2) equivalents (CO_2-e). The amount of greenhouse gases produced per unit of electrical energy generated in a power station depends on the fuel used, and the efficiency of the combustion and electricity generation processes. The Mortlake Power Station will use gas turbines burning natural gas to produce electricity.

The ultimate installed capacity is a nominal 1000 MW, but, depending on configuration, this can range from 650 MW up to 1150 MW. It is proposed to construct the power station in two stages. The first stage would comprise a nominal 500 MW of combined cycle gas turbines that would generate around 413 kg of CO2 - e per MWh of electrical energy. The second stage is proposed to be initially (an) open cycle gas turbine(s) of a nominal capacity of 350 MW and increasing this to 500 MW by converting to combined cycle when electricity market conditions are favourable. Although the range in total emissions cited in the EES is large, this reflects the range of output energy. The emissions per unit of energy generated are very similar for all the configurations considered. An open cycle plant produces around 40 – 45% more greenhouse gases than a combined cycle plant per unit of energy.

Issues raised in written submissions and during the hearing centred on the consideration of emission offsets, and best practice in relation to peaking power plant.

Submitters argued that because the proposed power station would add to greenhouse gases, consideration should be given to offsets. There was some discussion as to

whether the gas-fired power station would fully add to emissions or could be credited with reductions by partly displacing generation from more polluting coal-fired power plant. However it is clear that the energy is new energy, not replacement energy and this is not in dispute.

On this basis, it was suggested that offsets should be considered. The proponent argued, however, that emissions from the proposed plant would be much lower than the national average and represent best practice, and that therefore offsets need not be considered. Origin also argued that emissions trading and offset considerations ought to be considered nationally and not on a project-by-project basis.

In relation to best practice for peaking plant, the EPA accepts the proponent's view that the need for quick response and the generally low on-line factor, means that open cycle gas turbines can be considered best practice for peaking plant. There are different viewpoints between DOI and EPA on whether there ought to be some cut-off point based on the on-line generation time at which a plant can no longer be considered a peaking plant and consideration should be given to conversion to more energy efficient combined cycle plant.

On this point, the EPA pointed to the best practice requirements of the greenhouse gas emissions protocol for environmental management incorporated in the State Environmental Protection Policy (SEPP)(Air Quality Management). The Sustainable Energy Authority (DOI) pointed out that the average on-line hours for open cycle plant in operation (other than the 80 MW Bairnsdale plant) in Victoria was 288 hours per annum in 1993/1994. On this basis, 10% on-line factor represents 876 hours or more than 3 times the average. For the open cycle phase of the second stage of the power station, Origin projects an online factor of around 10% in their works approval application. Origin, with support from DOI, argues that energy market demand and supply considerations should determine the considerable investment in conversion to combined cycle technology and not an arbitrary environmental cut-off definition.

Panel Assessment

In the absence of viable greenhouse emission reduction technology, and no market or tax system for charging for carbon emissions, the Panel agrees with the proponent that applying emission offsets to new projects is not appropriate and unfairly penalises newer low emission plants in favour of existing more polluting plants.

In relation to the issue of best practice for peaking power stations, the Panel notes the low on-line hours of such existing plant, and the on-line estimate by Origin for the second stage peaking turbines, and on this basis the Panel can see merit in the EPA position for discussions about conversion to occur if the on-line time approaches 10% of annual hours. The Panel also understands the supply and demand arguments that operate in a national energy market system, the desire of governments to maintain security of supply, and the unenviable position an energy supply company would be in if the choice were to meet demand by exceeding on-line hour constraints and risk prosecution, limit supply and risk customer and energy regulator reaction, or invest in unprofitable conversion and risk shareholder anger.

The Panel agrees that there is a need for the proponent and EPA to agree to some on-line target at which negotiations about future actions should commence, but can offer no guidance for resolving differences in this area.

4.5 AIR EMISSIONS

Air emissions of any potential consequence identified in the EES are dust and particles from construction of the pipelines and the power stations, and oxides of nitrogen (NOx) and carbon monoxide (CO) from the gas turbine stacks.

Construction emissions were not raised as an issue by submitters and they will be subject to the relevant EMPs to avoid or minimise amenity impacts.

NOx emissions consist of nitric oxide (NO) and nitrogen dioxide (NO_2). State (and national) ambient air quality standards and criteria for NO_2 apply in Victoria, but not for NO. Most of the NOx emitted is as NO, but some of this is converted over time to the more harmful NO_2 in the atmosphere in complex chemical reactions.

State (and national) ambient air quality standards and criteria also apply for CO. The ambient standards are set at levels below those that have adverse health effects on the population and compliance with the criteria means that no adverse health effects are expected to occur.

Issues raised in submissions and during the Panel hearings relate to best practice emission standards for NOx, and impacts of pollutants on the health of the population potentially exposed to plant emissions.

The Sustainable Energy Authority (part of DOI) argued that 25 ppm NOx in stack concentrations are no longer best practice and that a maximum level of 20 ppm should be the design aim using dry NOx control technology. Origin Energy argued that while the plant options that they have considered are likely to meet the lower numbers, manufacturers have consistently refused to guarantee a number below 25 ppm.

Modelling has been undertaken by the proponent to determine what pollutant concentrations would likely occur at affected residences and elsewhere in the vicinity of the plant. Dr Graeme Ross gave evidence concerning the modelling methodology and results. The modelling assumed that the plant was a completed stage 1 and stage 2 plant with varying configurations of gas turbines and steam turbines in operation. The modelling was performed for when the plant was in normal operating mode and when all the gas turbines were in start-up mode. The modelling results indicated that for CO, for all configurations, and worst emissions (during start-up), the maximum predicted level at the worst affected residence was around 330 to 1300 times lower than the health related standard. For NO_2 the maximum level was around 10 times lower. Argument about the NO_2/NOx ratio (conservatively assumed to be 30%) is not relevant given the very low concentration predicted by the modelling compared to regulatory standards.

The question of the level of emissions and impacts from an open cycle plant was raised. The response indicated that, even if the plant were to run continuously in open cycle, the impacts would be lower than for the full combined cycle plant

because the emissions themselves are lower, and also because the hotter plume from the open cycle plant rises higher and therefore result in lower pollution levels at ground level.

Panel Assessment

The Panel accepts the evidence provided by the proponent that the emissions from the power station would not have health impacts for nearby residents. The predicted levels of pollutants are well below health protection standards set by the EPA and by the National Environment Protection Council.

In relation to best practice emission standards for NOx, the Panel notes that the impetus for lower emission technologies was initially aimed at reducing high photochemical smog levels, for which NOx is a precursor pollutant. Photochemical smog is an issue for large urban centres and would not be expected to be a problem in rural settings. It is nonetheless sound practice to minimise waste releases to the environment in concert with internationally accepted environmental principles embodied in Victorian State policy. The Panel is of a view that the EPA and the proponent can resolve the issue of a best practice level with the proponent by reference to documentation on emission guarantees.

4.6 NOISE

The site of the power station was assessed by EPA to be in a very low noise area, and applicable noise limits were set in line with the EPA Noise Guidelines for Country Victoria. The limits set are: 54dB (A) daytime, 39 dB (A) evening, and 34 dB (A) night time.

Mr Chris Turnbull gave evidence concerning predicted noise emissions associated with the project. Origin proposes to meet the EPA noise limits at sensitive receptors (residences) other than the three closest residences where an agreement has been reached with the owner for a higher level of 37 dB (A) under neutral weather conditions.

Origin has adopted construction noise limits for the power station site as above. For the pipeline route, 'best practice' noise control techniques are proposed as more practical than numerical values. Noise issues raised in submissions and during hearings include:

- Power station construction noise;
- Pipeline construction noise;
- Construction hours, particularly on weekends;
- Power station operating noise levels and monitoring; and
- Vibration from the power station operation.

In response to construction noise issues, the proponent has undertaken to apply best practice to control construction noise. However, some noises such as reversing beepers are required for safety reasons and will be unavoidable. It was suggested that less intrusive tonal beepers may be available and this would be explored.

Actual construction work on the power station and pipeline is proposed to occur only between daylight hours as defined by EPA (7 am to 6 pm), although working hours will be between 6 am and 6 pm. Some activities may need to occur outside daylight hours and in these cases, further assessment, monitoring, acoustic treatments or consultation with affected parties to reduce impacts will be undertaken as appropriate.

In response to the issue of restricting pipeline construction on weekends, as was suggested by Corangamite Shire, Origin argued that this was not a practical proposition, and at the rate of construction, impacts on individual properties would not occur on more than 1 or 2 weekends and thus were not unreasonable.

Modelling of noise emissions for power station construction (first stage) indicated that noise levels at nearby receptors would be lower than the limits adopted for both day and evening. The night-time noise limit may be exceeded for short periods when continuous activity is required (eg concrete pours).

For power station operation, modelling using an accepted acoustic model (CONCAWE) indicated that all noise limits set by EPA or under agreements with owners would be met. In response to questions about noise levels at sensitive receptors for the open cycle gas turbines phase, it was acknowledged by the proponent that additional acoustic treatment would be necessary and would be undertaken. This is because there would be fewer plant structures to act as noise barriers in this case.

Monitoring of noise levels at derived monitoring locations would be measured initially and as required during operation to ensure compliance with noise limits.

In response to concerns raised by the Mifsuds about the possibility of vibrations at the power station being felt at their property, the proponent pointed out that vibration was an indication of malfunction in a turbine and there would be an automatic shut down of the plant should vibration occur. In invited correspondence received after the hearing, the proponent also advised that the clayey nature of the soil and absence of underlying rock within 20 metres of the ground surface would mean that even if vibration were to occur at the plant, it would not be discernable at the Mifsud property 4 kilometres away nor at the nearest property - 1.6 kilometres from the site boundary.

Panel Assessment

The Panel acknowledges that there may be some noise amenity impacts during the construction phase of the pipeline, but is of the view that these will be of short duration at any one location, and that appropriate systems are in place to minimise and manage impacts. The Panel is also of the view that commitments to apply best practice construction noise reduction techniques are appropriate and can be incorporated in the construction EMP for the pipeline.

The modelling indicates that the power station construction and operation would meet the required limits. The Panel notes that there are mechanisms available to ensure that the limits become a requirement: the EPA works approval and licensing systems and the EMP requirements.

The Panel notes the somewhat unusual arrangements which have been made in relation to noise emissions whereby an agreement has been reached with a property owner to accept a higher noise level than that which would apply in other sensitive locations, and the incorporation of this level in a title covenant. The Panel also notes EPA comment, however, that this would only become an issue for EPA if a complaint were to be lodged.

The Panel agrees that an Environmental Significance Overlay as is proposed for land to the east of the power station is an appropriate mechanism for controlling development in areas that might be affected by noise.

The Panel is satisfied that vibration will not be an off-site impact of plant operations.

4.7 LANDSCAPE ISSUES

Landscape impacts have proven to be one of the more difficult aspects of the project to address. As Mr John Cleary's evidence for Origin indicated, there are the views of neighbours be considered and broader regional views, as well as views from both public and private spaces.

The landscape in the general locality is flat to undulating and intersected by a number of river valleys including that of the Hopkins to the west and north of the site. The landscape has largely been cleared for pasture and cropping. The trees in the landscape (which have the potential to screen views of the new power station) include farm windbreaks and woodlots, some small farm plantations of commercial timber and some garden plantings. There are nevertheless clear views to the site from parts of surrounding roads and some properties.

The Mifsuds, the Hoods and Mr Allen all raised landscape impacts as a matter of concern. It was suggested that to the extent it might be argued that existing plantings would preclude views into the site from certain vantage points, much of the screening was by Blue Gums which have a limited life cycle or was on land not under the control of the proponent.

The Panel, however, was persuaded by Mr Cleary's evidence that existing and proposed screening both on and off the site (this planting is intended to be on the affected properties) would or could effectively minimise views to the power station development. In particular he indicated that distant screening is currently effected by a mix of plantation blocks, shelter belts and stands of paddock trees and it would be unlikely that all would be removed at once. He also described how selective planting to direct views away from the plant could be used at the Hood property to restore the river valley outlook and a complete screen could be planted at the western boundary of the Mifsud property. Mr Cleary indicated that off-site screen planting at 5 neighbouring properties would be funded by Origin. Origin also submitted that the nearby Blue Gum plantation was planned for several rotations allowing other screening planned on the site itself to become established.

Mr Cleary further suggested that the choice of colour for the main structures on the site could be directed to minimising visibility of the structures in the landscape.

The night lighting at the power station was another visual impact of concern.

The Panel was again persuaded by the proponent's evidence and submissions that light intrusion could be minimised. Mr Cleary's report in the EES indicates that the switchyard would not be lit at night, plant lights would be switched off unless equipment needed to be inspected and low level directional lighting could be used on paths. Light shielding and spot lighting rather than omnidirectional lighting would be appropriate, Mr Cleary said.

4.8 TRAFFIC IMPACTS

GTA Consultants assessed roads and traffic in the report 'Mortlake Power Station Project: Environment Effects Statement - Roads and Traffic Impact Assessment' contained in the EES Volume 3 – Appendix 8. A summary and findings is included in Section 9.5 of the EES Main Report. Mr David Graham from GTA Consultants gave expert evidence before the Panel on the roads and traffic assessments.

4.8.1 GAS PIPELINE CONSTRUCTION

The proposed 78 kilometre gas pipeline (steel, 300 mm diameter) is expected to cross some 15-20 sealed roads and 5-10 unsealed roads. The proponent intends that its contractors will use horizontal boring under the sealed roads so that traffic will not be impeded by the pipe laying process except when machinery needs to be transferred from one side of the road to the other. Horizontal boring has the significant benefit of avoiding damage to the road seal.

Trenching would be used for the unsealed roads and this is expected to result in some traffic delays, quoted as being no more than 30 minutes closure of the road. Forewarning of these closures would be given to the local community and the timing of the trenching is proposed to be managed so as to avoid as far as practicable school bus and milk tanker schedules.

The laying of the gas pipeline will obviously increase the amount of traffic on the roads that are required to be crossed and the roads used for the delivery of pipes, materials and work teams. Since the pipeline laying is expected to be completed in 16 to 20 weeks, the rate of pipe laying will on average be approximately 4 to 5 kilometres per day based on a 7-day week work schedule. Consequently the extra traffic on most of the impacted roads should occur for only a few days.

The Shire of Corangamite was particularly concerned about the potential impact of the additional heavily laden, semi-trailer trucks on the road network and the lack of room to manoeuvre such large trucks to enter properties where the pipe laying is occurring. Their experience with other pipe laying projects in the Shire had led them to seek a mechanism, such as a bond, to ensure that any damaged roads were reinstated to the satisfaction of the Shire.

4.8.2 POWER STATION CONSTRUCTION

Connewarren Lane will be expected to carry a significantly increased amount of traffic during the 30 months of construction of the first phase of the power station. The current traffic volume on this road was quoted in the EES as 170 vehicle movements per day (with about 25 being commercial vehicles) but during the Panel hearing Mr Guest from the Moyne Shire advised that the Shire's more recent data was that the traffic volume was 320 vehicle movements per day. During the peak construction period, the proponent expects that the road will need to carry 250 – 350 additional vehicle movements per day.

The expert evidence of Mr David Graham was that Connewarren Lane had capacity to carry the additional traffic. However he recommended:

> *'Improvements to the construction standard of Connewarren Lane east of the power station site, to be considered in conjunction with Moyne Shire Council with particular reference to the width of seal and depth of pavement formation between Hamilton-Highway and the power station site.'*

4.8.3 WATER PIPELINES CONSTRUCTION

Two water pipelines (polyethylene, 85 mm diameter, approximately 14 and 16 kilometre in length) will be needed to supply process water to the operating power station. The two sources of water will be groundwater from the sub-surface Absaloms Bore and the treated effluent from the Mortlake Wastewater Treatment Plant. Both sources of water are close to the Mortlake Township. Because the water pipes will be much smaller than the gas pipes and because they will mostly be laid in easements or road reserves with very few road crossings, impacts on traffic are not expected to be large.

4.8.4 GAS PIPELINE & POWER STATION OPERATIONS

The road traffic associated with the periodic inspections of the gas pipeline and the operation of the power station will be much less than during the construction period. Inspections of the operating pipeline will be conducted every 1 to 3 months while it is estimated that the operation of the power station would probably involve around 30 vehicle movements per day. In addition, there will be periodic specialised maintenance activities at the power station and these will add to the traffic along Connewarren Lane for limited periods of time (weeks).

4.8.5 KEY ISSUES

Key issues that have been identified by the Panel during the hearing and those raised in submissions include the following:

- Corangamite Shire's concern about the recovery of costs for repairing local roads. It is expected that there will be significant impacts on the Shire's road network due to the increased traffic associated with the pipe laying, particularly the delivery of truckloads of gas piping. This is in addition to the impact of trenching of non-sealed, minor roads compared to the use of horizontal boring under sealed, minor roads.

- The capability of Connewarren Lane to handle the impact of increased traffic and heavy loads associated with the construction of the power station. This concern also includes traffic that might enter Connewarren Lane from the Hexham-Ballangeich Road, located to the west of the power station site.
- The inadequacy of the current Connewarren Lane / Hamilton Highway intersection to the east of the power station site to handle the increase in traffic due to the construction of the power station. This includes the need to cater for over dimensional loads bringing major components of the power plant to the power station site.

4.8.6 DISCUSSION AND PANEL RESPONSE

Recovering the costs of repairs to local roads

At the Panel hearing, Ms Segafredo from Corangamite Shire advised the Panel that the Shire's concern about road deterioration resulted from the Shire's recent experience of the construction by contractors of other gas pipelines.

The Shire's original submission had raised numerous issues in relation to roads and traffic and these included:

- The need to involve the Shire in the development of the Traffic Management Plan.
- Requirements for minimum depth for the gas pipeline under roads and surface or underground drains.
- The need for the maintenance of the roads during the pipeline construction period to be borne by the proponent and at no cost to the Shire.
- The proponent to bear full costs of returning roads and reserves to original condition to the satisfaction of the Shire after construction operations ceased.

In her presentation to the Panel, Ms Segafredo stated that:

> *The core traffic objective of the Corangamite Shire in relation to this project is maintaining the integrity of the local road network at no cost to the local community.*

She also emphasised the need for the proponent to undertake an assessment of the road conditions prior to the commencement of works and after the works were completed.

The Shire proposed that a bond be required based on the per kilometre usage of the local road network. The proposal listed varying dollar amounts per kilometre that would apply to different types of road. The amounts varied from $900 per kilometre for a link road to $1,800 per kilometre for an access road and $4,400 per kilometre for a sealed, limited access road.

The Shire also proposed:

> *'…… that the CTMP (Construction Transport Management Plan) require strength testing of any minor roads that will be subject to frequent truck traffic; and also require before and after audits of road condition with the burden of proof of attributing damage being on the proponent.'*

When Ms Segafredo was questioned by the Panel, however, it was clear that the Shire did not have any estimate of the total amount of bond that might be required from the proponent. It is acknowledged that making such an estimate would be difficult without some further data on the amount of road usage that might be involved in the construction of the gas pipeline.

The Panel appreciates the difficult position of a local roads authority when endeavouring to assess whether excess road deterioration has occurred and to show that the deterioration was due to a particular road user or group of road users.

The Panel notes, however, the written advice from the DPI (letter dated 27 March 2006) that traffic management issues – and this would apparently include road damage issues – can be addressed in the Traffic Management Plan that would form part of the Construction EMP required under the *Pipelines Act*. This was also Mr Graham's view.

In the Panel's view an appropriate approach would be to rely on pre- and post-construction audits jointly conducted by the proponent (or their contractor) and the appropriate roads authority. In this regard, the Panel notes Mr Graham's suggestion that pre- and post-construction video recordings of roads and road surfaces would be used to establish whether any deterioration has occurred and to indicate how such deterioration might have been caused. The proposed use of video footage to show the condition of a road appears to the Panel to have significant advantages over a system that just uses written audits.

The Panel does not favour the use of a system of bonds to cover the cost of repairs and the reinstatement of roads because at present there is no specified mechanism for the operation of such a bond system and no real indication of what amount the bond might be.

The Panel also does not endorse the approach put forward by the Shire of Corangamite of a system of 'reverse onus of proof'. This would place an unreasonable surveillance obligation on a private operator.

As a result of questioning by the Panel, the proponent advised that there would be approximately 216 loads of gas pipes delivered and these would be delivered direct to the pipe laying sites unless a stockpile(s) of pipes was established. This indicates that there will be approximately 2.8 truckloads per kilometre of pipeline if all the pipes were delivered direct to the pipe laying sites. If a secondary delivery system involving stockpiles was used in addition to some direct deliveries, the number of truckloads might increase to say 4 truckloads per kilometre of pipeline.

The Panel does not think that the number of truck movements will represent a large increase in traffic on most of the minor roads, especially if they are roads that already carry milk tankers and other large trucks. Any deterioration of roads is more likely to be a function of heavy loads and accessibility for long semi-trailers such as trucks carrying 18 metre lengths of pipe. If this really is the situation, this reinforces the Panel's view that a detailed pre- and post-audit system of roads is needed.

Capacity of Connewarren Lane

The Panel accepts the expert advice of Mr Graham that Connewarren Lane has the capacity to carry the amount of traffic predicted to occur during the construction of the first phase of the power station. However there will be a need for the proponent to fund an increase in the width of seal (of at least some parts of the eastern section of the road) and may also have to fund an increase in the depth of the road pavement.

The Panel has observed that the road to the west of the power station site is clearly inferior to the section of road to the east of the site. In addition, the Panel notes that the width of seal of the Hexham-Ballangeich Road is only 4 metres for most of its length and is not suitable for safely carrying large numbers of heavily laden trucks. On this basis the Panel agrees with Mr Graham that truck traffic travelling to the power station site from the west along Connewarren Lane should be minimised and any trucks using that route be no larger than rigid tray trucks. The Panel does not believe that a total ban on construction traffic approaching from the west is acceptable or enforceable. This would especially be the case for construction workers who might live to the west of the power station site and who will travel to the work site in their own cars by the most practical route.

Connewarren Lane / Hamilton Highway intersection

There is agreement by the proponent, VicRoads and the Moyne Shire that the Connewarren Lane / Hamilton Highway intersection needs to be upgraded to cope with the expected increase in traffic along Connewarren Lane. The current approximate 45° alignment would not be adequate in safety and physical capacity terms for the expected increase in vehicle usage, especially of large trucks and over dimensional loads. The proposed realignment, involving some land acquisition and changing the alignment to close to 90°, is supported by the Panel.

While there might be general agreement that the ideal intersection would include lanes for both left turn (from the south along the Hamilton Highway to the west into Connewarren Lane) and right turn (from the north along the Hamilton Highway to the west into Connewarren Lane), there is no agreement about the allocation of costs. VicRoads claims that it does not have funding for the intersection upgrade and that a State government contribution would be a very low priority.

Origin claims that it is difficult to justify the construction of the right turn lane solely on the expected number of right turning vehicles associated with the proposed power station. The number of truck movements coming from the north along the Hamilton Highway to the power station site is not expected to be significant. Truck traffic is expected to primarily come from/ travel to Melbourne, Geelong and Warrnambool and perhaps other towns such as Portland, all of which would approach the power station site from the east or the south and therefore turn left into Connewarren Lane. Origin has also pointed out that traffic associated with a Moyne Shire proposal for an industrial estate at the eastern end of Connewarren Lane and current traffic associated with the Mortlake Racing Club track should be taken into account in determining the allocation of costs for a right turn lane.

The cost of the intersection realignment (excluding land acquisition costs) was quoted as being $0.5 million with about 40% of this cost being for the right turn lane.

The Panel believes that a more detailed Construction Transport Management Plan needs to be completed to provide more accurate information about existing and predicted traffic flows including the proportion of truck traffic. This needs to take into account the likely distribution of the workforce, the source of supplies and equipment and the movement of traffic to be generated by other developments. It should also take into account the more recent data from Moyne Shire that Connewarren Lane carries 320 vehicle movements per day rather than the 170 vehicle movements per day used in the preparation of the EES.

The Panel notes that Mr Guest of Moyne Shire advised that an application for a grant from AusRoads would be made involving support from Moyne Shire, VicRoads and Origin. The Panel supports this initiative.

The Panel considers that the realignment of the intersection is needed. The Panel considers that the upgrade of the intersection should be a full upgrade involving both left and right turning lanes. Adding a right turn lane at a later stage would be more costly than including a right turn lane during the proposed current upgrade of the intersection. It is unclear how much of the intersection upgrade costs might be funded by any AusRoads grant, but assuming that at least a portion of the funding will be required to be found from elsewhere, the Panel considers that VicRoads should be required to contribute to the cost of the realignment. The sharing of the total cost should reflect the proportionate use of the intersection by all groups in the community.

Panel Recommendations

1. **That the proponent in preparing the Traffic Management Plan for the construction of the pipeline:**
   - **Include defined and reliable methods for the joint auditing with the relevant Shire of the condition of local roads pre- and post-construction of the gas pipeline.**
   - **Include a mechanism for conducting at least one internal audit of the condition of local roads during the period while they are actually being used by heavy truck traffic associated with the construction of the pipeline.**
   - **Include measures to encourage large trucks associated with the construction of the power station to primarily access the site via Connewarren Lane east.**

2. **That VicRoads work co-operatively with the proponent and the Moyne Shire to fund on an equitable basis the upgrade of the Hamilton Highway / Connewarren Lane intersection that includes both left and right turn lanes and the acquisition of land to realign the intersection to a 90 degree or similar intersection.**

4.9 HERITAGE ISSUES

The EES contains an assessment of impacts on both Aboriginal and non-Aboriginal cultural heritage in Chapter 9 and in parts 9.6 and 9.7 of the summary report.

Andrew Long and Associates prepared the report on Aboriginal cultural values. The report indicates that few sites had been earlier recorded in the area of the pipeline and power station and field work identified only one site near the gas pipeline route and one place near the route of the water pipeline. The report indicates that a cultural heritage management strategy will be prepared addressing management of known sites and identification and management of new sites.

The same firm prepared the report on non-Aboriginal cultural heritage values. Again few sites were identified in the vicinity of the project site. The report makes recommendations concerning avoidance and management measures.

No witness was called at the Panel hearing in relation to these matters.

The only issue which arose during the hearing was the possible impact on the heritage values of Merrang Homestead. It is noted that while Mr Cleary's report had noted the presence of the heritage property and it does appear on a number of maps in the EES, the Andrew Long report does not mention the property at all.

Merrang homestead was classified 'A' by the National Trust in 1968 and is included on the State Heritage Register. It was suggested by Mr Hood that the power station would have a substantial impact on the views from this 1859 homestead – which has been sited and oriented to benefit from views down the Hopkins River.

The impacts of the power station on views are discussed in section 4.7 above. In that section impacts on views and landscape are assessed as an amenity impact which may affect properties of any age. We indicate in that section that we do not believe the impacts would be unreasonable and mitigation measures can be successfully applied.

To the extent that the Hoods' submission is suggesting that there would be a loss of heritage value because of the visibility of the power station in the view from the homestead, we do not agree. It is our assessment that this particular property would be of heritage value to the community even if it had no views. Indeed the Heritage Victoria citation does not refer to views or siting but rather to historic associations with the Hood family and the architectural values of the property as modified by architect Andrew Kerr.

We do not say that there might never be a circumstance where loss of views would impact on heritage values but it would have to be a sizeable impact to warrant refusal of developments over 3 kilometres away in a broad landscape.

4.10 LAND USE IMPACTS

A summary and findings dealing with land use and infrastructure are included in Section 9.8 of the EES Main Report. There was no specific report included in the Appendices dealing with this subject and no expert witness was called to present information to the Panel. However Mr Tony Williams of GPA Engineering Pty Ltd appeared as an expert witness and provided the Panel with an understanding of the methods used for laying pipelines. The Panel has relied on information provided in the EES and on information provided in Mr William's presentation.

The current land use in the areas proposed for the route of the gas pipeline, the routes of the water pipelines and the site of the power station is predominantly dryland farming. In the Moyne Shire, grazing of cattle and sheep is widespread in the areas that will be impacted by the gas pipeline and the power station. In the Corangamite Shire, dairy farming is the most important agricultural activity in the areas impacted by the gas pipeline. The water pipelines will largely be located in easements or road reserves and not on farming land.

A number of potential impacts on the farming community due to the gas pipeline have been identified in the EES and these include temporary loss of grazing pasture, constraints on the movement of stock and equipment, possible introduction of weeds onto farms, and constraints on the future use of land in a gas pipeline easement.

The power station will be constructed and operated on land that will be owned by the proponent and therefore the main impact of this development on infrastructure will be off-site effects. These impacts are not expected to be major ones with noise, light and visual impacts likely to be the most noticeable off-site impacts that may affect neighbouring farmland.

There are a number of waterways that need to be crossed by the gas pipeline with the most important being the Curdies River and Mount Emu Creek. Although the pipeline will not cross the Hopkins River, this river is within approximately 3 kilometres of the pipeline and of the power station site. Minimising the impact on significant waterways ultimately will depend on the use of appropriate construction techniques that reduce disturbance to riparian vegetation and streambed structures. In this context, the Panel notes (and supports) the proponent's intention to use Horizontal Directional Drilling for both the Curdies River and Mount Emu Creek crossings.

Other potential impacts will occur on the Melbourne to Warrnambool railway line, the network of communications cabling, the electricity transmission and distribution system and other existing water and gas pipelines. With appropriate management and the adoption of relevant construction techniques, these impacts should be adequately managed.

The nearest significant conservation areas to the project are the Port Campbell National Park (approximately 6 kilometre to the south of the commencement of the gas pipeline), and the Western District Lakes that are Ramsar-listed wetlands (approximately 30 kilometre to the east of the power station site). In view of the considerable distances between the proposed project development activities and these conservation areas, it is very unlikely that these areas would suffer any impact.

4.10.1 KEY ISSUES

Key issues that have been identified by the Panel during the hearing and those raised in submissions include the following:

- The widespread impact on agricultural land use due to the construction of the gas pipeline and the resultant interruption to normal farming activities such as the temporary loss of grazing pasture, constraints on stock and farm management, potential for spread of weeds, etc.
- The specific impact on farms that occupy land on either side of Connewarren Lane where livestock, equipment and materials need to frequently cross the road.

4.10.2 PANEL RESPONSE

Impacts on agricultural land generally

The Panel notes that while the laying of the gas pipeline will temporarily reduce the area of land used for agriculture, the operation of the gas pipeline will not permanently reduce the area of land available for farming. The Panel also notes that while the area of land to be occupied by the power station and switchyard will be around 20 hectares, the remaining 80 hectares of land of the subject site can continue to be used for agriculture. A reduction of 20 hectares of agricultural land is not significant in the context of the total agricultural area in Moyne Shire.

From the information in the EES and the evidence presented at the Panel hearing about the gas pipeline siting and construction, the Panel has formed the view that the proponent has been diligent in attempting to work with farmers to reach satisfactory agreements for the location and construction of the gas pipeline. This involves both actions to minimise the impact on farming activities and to reach agreement on appropriate compensation for the easement and construction disturbance. The Panel notes that the proponent has used information in the APIA / VFF Pipeline Easement Guidelines for these purposes.

The minimisation of impacts on farming properties will, however, in large measure turn on the performance of the proponent during the construction phase, and more particularly, the performance of the proponent's contractors and their sub-contractors. Therefore the effective implementation of the pipeline Construction EMP will be crucial to managing the impacts of the construction of the gas pipeline on farms and farmers.

By contrast, the operation of the gas pipeline will have very limited impact on land use, whether the land use is farming, road usage or conservation.

The existence of a pressurised gas pipeline on a farming property inherently restricts certain works within the pipeline easement, but these restrictions cannot be regarded as unreasonably onerous as the area of the easement will typically constitute a very small portion of a farm and the restrictions will have only a limited effect on farming practices. A more positive aspect of the construction of the pipeline is that most farmers will have the opportunity to obtain some benefits such as the installation of new gates for paddocks, possibly some new fencing, and the advantage of renovating some areas of pasture.

Impacts on Connewarren Lane farmers

In his presentation to the Panel, Mr Richard Weatherly advised that he farmed properties on both sides of Connewarren Lane and this entailed relatively frequent movement of livestock, equipment and materials across the road. He advised the Panel that livestock movements would occur weekly or more frequently at certain times of the year, that vehicles would cross at least daily and feed for livestock would on average need to be carted across the road about twice per week. Mr Weatherly stated that most of these transfers would occur at the 'laneway' although some would occur at the 'top of the hill'. The Panel notes that both of these transfer points are west of the power station site and Connewarren Lane will be subjected to a much lower increase in road traffic at these locations compared to the eastern section of the road between the Hamilton Highway and the power station site.

The potential for an underpass for Mr Weatherly's properties was raised at the hearing and Mr Russell Guest of the Moyne Shire later advised the Panel that the cost of such an underpass was likely to be around $60,000. The proponent later advised that while they would support an application for an Auslink grant for an underpass, '*the issue of stock crossing Connewarren Lane was the subject of specific provision in the contract of sale which was attached to the option agreement and was reflected in the purchase price which was negotiated between Origin Energy and Mr Weatherly*'. Based on this information, the Panel declines to make any recommendation on the matter of an underpass.

No information was placed before the Panel that indicated that there would be other farmers in a similar situation to Mr Weatherly with respect to movement of livestock, machinery and materials across Connewarren Lane.

Panel Recommendations

The Panel makes no specific recommendation on land use and infrastructure.

4.11 SOCIO-ECONOMIC IMPACTS

As earlier described, the power station is to be located near Mortlake in Moyne Shire and the gas pipeline crosses both Corangamite and Moyne Shires. The combined population of the two shires is around 33,500. The major commercial centre for the region, the City of Warrnambool, is some 50 kilometres south-west of Mortlake. It has a population of around 29,500. There are several small towns in the vicinity of the power station and gas pipeline route including Mortlake, Terang, and Timboon, with populations of around 1000, 1900, and 900 respectively.

The pipeline construction will occur over a 6-month period with a peak workforce of around 140 people. The power station has a construction period of 28 months and a peak workforce of around 400. The construction periods overlap and most of the workforce will come from outside the district because of the specialised skills involved.

Potential adverse socio-economic impacts arise from the relatively large population influx into relatively small communities during the construction phase of the project. Issues raised at the hearing, included creation of accommodation shortages and

increased rental prices, impacts on health services and schools and child-care services, and labour and skill shortages for construction, maintenance, and other trades. Funding of additional services and apprenticeship schemes were suggested as mitigation options.

At the time of the hearing, decisions on accommodation for the workforce had not been made, except that a construction camp at the power station site had been ruled out thereby allaying neighbour concerns. The likely accommodation scenario, which appeared to be emerging, is for the pipeline workforce to use commercial accommodation. Glenormiston College was suggested as a possible option favoured by the community. Power station construction workers are likely to be housed in a variety of other rental accommodation, with possibly a small construction camp at the Mortlake racecourse site.

A preliminary survey of rental housing undertaken by Origin, however, has indicated a potential shortage of available rental housing. It was nevertheless suggested that, with a number of other major construction projects due for completion, the apparent shortage would be eased. In the Panel's view, the survey data in this respect fell well short of providing convincing evidence that accommodation needs would be satisfactorily met without significant impacts on the local accommodation markets. It is critical, in our view, that an early analysis of housing needs be undertaken so that suitable arrangements can be made.

So far as community services are concerned, the proponent argued that their availability needed to be looked at regionally rather than on a township basis, particularly if the workforce is to be dispersed across the wider region. It was said, for example, that Warrnambool provides hospital and medical services for a region covering around 100,000 people and could therefore service the incoming contract workers. It was also argued that shortages in local services occurring from an uptake in employment opportunities by local labour would only be temporary and there would be economic benefits to the local community.

The Panel was advised that, closer to commencement of construction, a more comprehensive survey would be undertaken of the demographics and accommodation preferences of the likely construction workforce, as well as the types and locations of available accommodation. Origin has undertaken to work with the Shires and the construction companies to identify and address housing and other service requirements. The Panel believes that this should be undertaken with some urgency as community services adjustments may take time to be arranged the funding of an additional doctor in Mortlake was suggested as a possibility but, when pressed, a definite commitment on this by Origin was not forthcoming.

4.11.1 PANEL ASSESSMENT

In the Panel's view, while some of the service demands to be generated by the construction workforce will be able to be met across the wider regional community and in regional towns such as Warrnambool, there is a real likelihood that the relatively large influx of workers, and in some cases their families, will place considerable strains on local services in the small townships close to the project. In our view, regional services cannot be expected to cater for large increases in specifically local needs such as, for example, home medical and nursing

requirements. The extent of the strains will be a function of the demographics of the construction workforce and their distribution in the community.

The Panel strongly endorses the proponent's commitment to undertaking a more extensive and comprehensive survey, and to work with the Shires and the construction companies in identifying needs and identifying and implementing mitigation measures.

4.12 SAFETY AND RISK MANAGEMENT

Worley Parsones Services Pty Ltd assessed safety and risk management in the report 'Mortlake Power Station Project: Preliminary Hazard Analysis and Risk Assessment' contained in the EES Volume 3 – Appendix 12. A summary and findings dealing with hazard analysis and risk assessment are included in Section 10.3 of the EES Main Report. No expert witness was called to present information to the Panel. Therefore the Panel has relied on information provided in the EES and in Appendix 12.

Section 10 of the EES describes the Health and Safety Environmental Management System (HSEMS) used throughout the Origin company. Major Development Projects (MDP) is a business unit of the company responsible for the development, design, construction, and commissioning of all major projects within Origin. The MDP follows the company's HSEMS but develops its own more specific HSEMS and any contractor employed to work on a project must integrate their own HSEMS with the MDP's HSEMS.

Origin uses a risk-based approach to its HSEMS and this forms the basis of the development of both the Environment Management Plan and the Health and Safety Management Plan. Other plans used for major projects such as new power stations are an Emergency Response Plan, a Traffic Management Plan and a Community Consultation Plan.

The preparation of the EES for the Mortlake project initially involved Origin in identifying the environmental and safety issues of the project and making a preliminary assessment of the potential risks associated with these. The result of this process was later considered as part of the Technical Reference Group's setting the assessment guidelines for the EES. The EES in effect performs the role of a risk assessment of the various potential environmental, safety and other impacts of the Mortlake project.

The EES indicates that the preparation of the Safety Management Plan involved the preparation of a preliminary hazard analysis and risk assessment. This identified that the only scenario where an off-site fatal impact was credible was the catastrophic rupture of a cylinder of hydrogen in a non-vertical position (The cylinders are normally stored and used in a vertical position). The risk assessment undertaken estimated that the risk of an individual fatality beyond the boundary of the power station site on a per year basis was 0.000000015.

This can be compared with other general risks faced by the community such as the risk of being killed by lightening of 0.0000001 per year and the risk of a fatality when travelling by aircraft of 0.00001 per year. These are higher orders of risk than

the risk of the rupture of a hydrogen cylinder as estimated by the proponent's experts.

A follow up hazard analysis and risk assessment will need to be undertaken when more detailed plans of the project (including the gas pipeline and the operation of the power station) are finalised. This will include the preparation of a safety case document as part of the process to obtain a licence to construct and operate the gas pipeline.

4.12.1 KEY ISSUES

The only key issue that has been identified by the Panel during the hearing and those raised in submissions is the need for the proponent to work with the CFA in preparing the Emergency Response Plan and to ensure that CFA personnel are able to cope with the increased risk due to the operation of the power station in the Mortlake area.

Panel Response

The CFA in its written submission raised several matters related to emergency management and emergency training. These included the fitting of fire hydrants to the water pipeline from Absaloms Bore, the available first line fire-fighting capability by Origin at the power station, contribution by Origin towards infrastructure upgrade at the Mortlake Fire Station, the need for Origin to provide specialist technical training concerning events at the power station to CFA volunteers, the need to refer the Construction Transport Management Plan to the CFA and other emergency services, etc.

The Panel notes that the proponent has responded in a positive manner to the matters raised by the CFA and we were advised that a private agreement would be entered into between the proponent and the CFA. We are of the view that the need for CFA training etc fairly arises from the project and should be given statutory effect in a public document. The EMP for the power station in operation would be one such document but might instead form part of an agreement made under section 173 of the *Planning and Environment Act.*

The Panel also notes that while there is recognition in the EES for the preparation of a safety case for the construction and operation of the pipeline, there is no mention of a safety case for the operation of the power station.

Panel Recommendation

That the proponent's commitments to fire safety training and services upgrades should be included as part of an enforceable approvals document.

4.13 OTHER ISSUES

This section considers impacts not addressed in the EES.

4.13.1 LAND VALUES

Mr Allen's submission raised the issue of land values, arguing that the power station would have an adverse effect on property values in the locality. He suggested that this was an economic impact which should have been addressed in the EES. He referred to the inclusive nature of the references to economic impact assessment in the EES.

The Hood submission also referred to loss of value of their property as might arise from having a power station in view and/or earshot.

Panel Comment

In relation to this issue, the Panel would say that while the EES is apparently inclusive with respect to the assessment of economic impacts, court and tribunal decisions have consistently indicated that it is not appropriate in making a planning assessment of a development proposal to consider the effects of the proposal on land values. The Origin opening submission lists a number of such cases. This approach to land values has also been adopted by Panels generally, and specifically in assessing EESs.

This approach has been adopted for a number of reasons.

First it is said that the proper focus of the assessment of development impacts on nearby properties is the amenity consequences for those properties. Land value changes - assuming they bear a relationship to these impacts – are merely a secondary outcome.

It is also said that land values are influenced by a range of factors which may act positively and negatively. Factors may be local or economy wide, direct and indirect. It can be difficult both to predict values and to discern the true cause of changes when they do occur. It requires expertise to do so. Therefore courts and tribunals have indicated that even if land value changes were to be relevant, assertions about the changes made by persons who are not qualified valuers are not to be given any weight in decisions.

Further, changes of land value for particular properties amount to assessing private economic impacts rather than looking to economic impacts at a wider community level. The courts have specifically discounted consideration of similar private economic impacts in the assessment of new retail proposals – impacts on other businesses being irrelevant to the decision unless they translate into impacts for the wider community.

Moreover, with the exception of land compulsorily acquired for a public purpose, the statutory planning system does not currently include compensation entitlements for decisions on development (or indeed betterment entitlements).

4.13.2 GENERAL LOSS OF AMENITY

Mr Allen attached a statement from Ms Luki Weatherly to his written submission in response to the public exhibition. Ms Weatherly is a member of the same Weatherly family as Mr Richard Weatherly but, as we understand it, does not have ownership interests in the subject site. Ms Weatherly's statement raised concerns that the power station would intrude on her quiet rural lifestyle and the environment of the area would be changed for all time – for the worse. Similar concerns were expressed in the statement by the Hood family.

Panel Comment

The Panel understands that residents will be apprehensive about the change to the locality. It is true that there will be some inconvenience during the construction phase. Also the introduction of a power station to the locality, it has to be said, will not be a mere incremental addition to the typical building pattern of a dry land farming landscape. There is no doubt too that the power station will be visible in the landscape – even if what are seen are only the plumes from the stacks on cold mornings.

It does have to be recognised, however, that the locality is one which is already crossed by the Portland to Moorabool transmission lines and the power station will be relatively less prominent than those towers. The site is also one which is relatively well shielded visually: from many viewing points only the emission stacks are expected to be visible above the tree line. Judicious landscaping choices can assist in restoring lost outlooks. Night lighting for security is a concern but as discussed above it can be baffled and sensor operated and does not have to be elevated.

The Panel is satisfied that that noise, traffic, risk, air emissions, water use and discharge etc will not cause any disamenity for the locality.

To the extent that these submissions represent a call for no change to the locality or no intrusion by major non-rural uses of this kind, the Panel would comment that the residents of any locality cannot expect that their area will never be subject to change and that footloose uses (not tied to urban or rural areas) will not be proposed. What has to be assessed is whether the change would so unreasonably impact upon the amenity or the environment that it should be refused – with this assessment being made within the State and local strategic policy context.

5. STRATEGIC POLICY CONTEXT

The DSE Strategic Assessment Guidelines of 1991 which are to be applied to the assessment of the planning scheme amendment require consideration of whether the proposal is consistent with the State and Local Planning Policy Frameworks of the scheme.

Mr Andrew Clarke addressed this issue in his evidence before the Panel.

He suggested that State planning policies relevant to the Mortlake Power Station include the following:

- *Clause 11.03-2: Environment.*

  This policy includes that:

  Planning is to contribute to the protection of air, land and water quality and the conservation of natural ecosystems, resources, energy and cultural heritage. In particular, planning should:
  - *Adopt a best practice environmental management and risk management approach which aims to avoid or minimise environmental degradation and hazards.*
  - *Prevent environmental problems created by siting incompatible land uses close together.*
  - *Help to protect the health of ecological systems and the biodiversity they support (including ecosystems, habitats, species and genetic diversity).*
  - *Protect areas and sites with significant historic, architectural, aesthetic, scientific and cultural values*

- *Clause 11.03-3: Management of Resources.*

  This policy seeks the conservation and wise use of various natural resources including energy.

- *Clause 11.03-5: Economic Well-Being.*

  This policy includes:

  Planning is to contribute to the economic well-being of communities and the State as a whole by supporting and fostering economic growth and development by providing land, facilitating decisions and resolving land use conflicts so that each district may build on its strengths and achieve its economic potential.

- *Clause 15.04: Air Quality.*

  The policy includes:

  Decision-making by planning and responsible authorities must be consistent with any relevant requirements of the State Environment Protection Policy

(The Air Environment) as varied from time to time. Planning and responsible authorities should ensure that development is not prejudiced and community amenity is not reduced by air emissions by ensuring, wherever possible, that there is suitable separation between potentially amenity reducing and sensitive land uses and developments. Responsible authorities should have regard to the potential for conflict between land uses or development within a zone due to air emissions impacts.

- *Clause 15.05: Noise Abatement:*

  Planning and responsible authorities should ensure that development is not prejudiced and community amenity is not reduced by noise emissions, using a range of building design, urban design and land use separation techniques as appropriate to the land use functions and character of the area.

- *Clause 15.12: Energy Efficiency.*

  The Objective seeks to encourage land use and development that is consistent with the efficient use of energy and the minimisation of greenhouse gas emissions.

- *Clause 17.03: Industry.*

  The policy identifies the provision of adequate separation and buffer areas between sensitive uses and industry to ensure that adverse environmental effects, nuisance or exposure to hazards does not affect residents.

- *Clause 17.05: Agriculture. The policy seeks to ensure that the State's agricultural base is protected from the unplanned loss of productive agricultural land due to permanent changes of land use and to enable protection of productive farmland which is of strategic significance in the local or regional context.*

He also said that those parts of the Local Planning Policy Framework of the scheme relevant to the project were:

Clause 22.02-3: Rare and Threatened Species Policy.

Clause 22.03-1: Industrial Development Policy.

Clause 22.03-4: Agricultural Production Policy

Rare and Threatened Species Policy

This policy is relevant in so far as it applies to all land in the municipality.

The objectives of the policy are:

'To maintain and enhance biodiversity in Moyne.

To recognise the location of Victorian Rare and Threatened Flora and Fauna Species including but not limited to those listed under Schedule 2 of the Flora and Fauna Guarantee Act 1988.

To maintain and enhance the habitat, particularly the critical habitat of Victorian Rare and Threatened Flora and Fauna species

including but not limited to those listed under Schedule 2 of the Flora and Fauna Guarantee Act 1988.'

Industrial Development Policy

The policy is relevant in so far as it applies to industrial development in Industrial and Rural Zones. The objective of the policy is:

'To encourage well planned industrial development throughout the municipality setting out the requirements for industrial development and dealing efficiently with proposals that meet these requirements.'

The policy sets out information requirements to accompany applications and some broad policy considerations under the sub-headings Setbacks, Car Parking, Advertising and Landscaping.

In dealing with Industrial Development in Rural Areas the policy states that development sites in rural areas may be supported where they can:

'Minimise impact on agriculture land and land management practices.

Have sealed access roads.

Dispose of effluent properly.

Maintain the visual qualities of the rural landscape.'

In dealing with Noise Abatement Measures the policy states that before deciding on an application, the responsible authority should consider any significant effects which the use or development may have on the environment or which the responsible authority considers the environment may have on the use or development.

Agricultural Production Policy

The Agricultural Production Policy is relevant in so far as it applies to all land in Rural and Rural Living Zones.

The Policy Basis is premised on the fact that agriculture is the most significant land use in the shire and is the most important sector of the local and regional economy in terms of its contribution to gross product, value adding, employment and trade and should be supported, while encouraging improved agricultural and environmental management measures.

The objectives are:

'To protect the natural and physical resources upon which agricultural industries rely.

To promote agricultural industries which are ecologically sustainable and incorporate best management practices.

To prevent land use conflicts between agricultural uses and sensitive uses and ensure that use and development in the

municipality is not prejudicial to agricultural industries or the productive capacity of the land.

To support the diversification of agriculture, the development of agroforestry and the processing of agricultural products grown within the municipality.

To support, protect and assist in the diversification of agriculture.

To ensure that land capability and land suitability will be considered in the assessment of use and development proposals.

To ensure that the use and development of land within Moyne is not prejudicial to agricultural industries or to the productive capacity of the land.

To facilitate the development of an agroforestry industry.

To facilitate the processing of agricultural products grown within the region.'

Mr Clarke then went on to assess how the project met those policies at pages 14 to 17 of his report.

This matter of the relationship of the project and amendment to State and local planning policy was not directly disputed by any party and the Panel generally accepts Mr Clarke's evaluation.

We do note that at page 17 he suggests that the Moyne Planning Scheme's Rare and Threatened Species Policy is unaffected in so far as the land does not accommodate significant flora and fauna species. This is true only of the power station site, as significant species were found along the pipelines routes. Mr Clarke was engaged, however, only to address the amendment and introduces his evidence by advising that he is not commenting on the gas pipeline.

6. STATUTORY PLANNING ISSUES

This part of the report deals with drafting and other matters associated with the scheme amendment.

6.1 DRAFTING OF SCHEDULES

A number of issues relating to drafting of the schedules to the SUZ and ESO were discussed at the hearing and Mr Clarke produced a number of redrafts of both schedules. His latest versions have provided the base for our recommendations in Appendix D but there are some additional changes.

The Panel accepts that the rezoning to a Special Use Zone is appropriate for the reasons set out in Part 2 of this report and also because the zone offers the ability to tailor-make controls appropriate to the use and development. This includes the ability to remove the need for subsequent permit applications.

As earlier noted, an exemption from the need to obtain permission for a car parking reduction or waiver was not included in the SUZ at time of exhibition.

At the hearing there was discussion of whether a car parking variation could be included in the schedule. DSE advised that it could be done and the proponent and Shire of Moyne supported this inclusion. The Panel has included their preferred approach in Appendix D.

There was also discussion about the desirability of the use of the phrase ‘generally in accordance’ in relation to compliance with the development plan as referred to in clauses 3 and 4 of the schedule to the SUZ.

The Panel recommends that it not be included. We agree with DSE in this respect. The ‘accordance’ required by the schedule is qualified in one case by ‘to the satisfaction of the responsible authority’ - enabling a degree of flexibility. The schedule also allows the development plan to be varied. The project is somewhat uncertain in its details at the present time but its details will become more certain in time.

There was discussion about whether reference should be made to the CONCAWE model in determining noise levels as referred to in the ESO.

We believe this is not required as other models are available that would be acceptable for predicting noise impacts.

Mr Weatherly sought to have a sunset provision included in the amendment so that the land would revert to Rural Zone when the project life was ended. We think ordinary scheme amendment processes should apply if the project were to come to an end as zoning options and other circumstances may have changed. We are also satisfied that the structure of the controls now proposed would enable planning scrutiny of land use options as might emerge for the site.

The Panel has some concerns about the 'mix and match' approach taken to noise controls – alternate use of the overlay and a covenant.

It can perhaps be said that the public controls of the scheme should be used in preference to private covenants – at least where there is a choice. We suspect, however, that the use of covenants forms part of the proponent's commercial agreements with land owners and in any case Mr Taylor indicated that DSE did not favour use of the overlay at all.

The Panel supports the use of the overlay as an appropriate means to protect the operation of a major infrastructure project. We do not recommend that the area of its application be changed.

The Panel also notes the use of the term 'building height' in relation to height limits of 45 metres to be imposed on the project by the clause of the SUZ schedule relating to the requirement for a development plan.

Under clause 72 of the scheme, this term is defined as:

> *The vertical distance from natural ground level to the roof or parapet at any point*.

This would have the effect of permitting the building to be 45 metres tall with even higher stacks. It is appropriate to refer to an 'overall height' of 45 metres instead. A building height limit might also be retained but should be the 30 metres put forward by the proponent.

A number of other drafting changes have been suggested by the Panel to the exhibited documents.

6.2 LACK OF CERTAINTY AND IMPLEMENTATION MECHANISMS

The Panel has 2 areas of concern in relation to the statutory aspects of this project.

The first relates to the tools available to implement the proponent's commitments in relation to the implementation of some of the mitigation measures.

A wide range of mitigation measures were suggested by the proponent at the Panel hearing. Most of these were suggested to be implemented through requirements in one or other of the key statutory approvals processes. For some other 'commitments', however, no statutory mechanisms were identified. In these cases, the proponent was effectively volunteering certain measures and requesting that the Panel, regulatory agencies and indeed others at the hearing should take the proponent's word that these measures would be implemented.

These matters included the establishment of 'Net Gain' offsets, arrangements for compensation for road damage by construction vehicles, contributions to the upgrading of CFA services, development of an accommodation and community services strategy and, possibly, off site planting on neighbours' properties.

The Panel does not believe that it would be responsible of us to recommend that implementation of mitigation measures which contribute to the acceptability of the project be left to the good will of the proponent. The best of intentions can be set aside by changed circumstances such as company ownership, personnel, financial circumstances or priorities.

Accordingly we made attempts to identify other means to ensure implementation of certain of Origin's 'commitments', including the possibility of adding 'Net Gain' obligations into the pipeline permit etc.

In the end we were not satisfied that the main approvals processes are able to be legally 'stretched' to accommodate all of the mitigation measures. It is our view that it is only those conditions that are pertinent to the purpose for which an administrative decision under a legislative instrument is being exercised that can be lawfully applied.

Also while some proposed mitigation measures directly relate to only one part of the project such as the gas pipeline and the relevant approvals for that part, some of the commitments relate to more than one part. One example is the accommodation strategy. We do not think it is convenient to split any statutory requirement for that strategy between a number of approvals.

Other commitments relate to land not in the control of the proponent.

The second matter of concern to the Panel relates to the lack of certainty about the ultimate development outcome for this project. It is in the nature of an EES assessment that a project is generally not yet firmed up by the time it comes before a Panel and the project cannot be treated as fixed as if it were a planning permit application.

Uncertainties about implementation of the project also can arise in the case of development processes in which various contractors and sub-contractors are heavily involved. While private contractual arrangements are generally effective in ensuring that works are carried out in the manner committed to by a proponent, contractual disputes about obligations are by no means unknown and there can sometimes be difficulty in identifying who is responsible for a breach of contract. Ms Segafredo raised concerns in this respect about road and fencing repairs required as a result of damage during the construction phase of the project.

These factors combine to lead us to recommend use of an agreement made under section 173 of the *Planning and Environment Act* to give effect to some of the mitigation measures and to allow their enforcement. We believe that such an agreement might be voluntarily entered into before the amendment would be approved by the relevant agencies and the proponent together with private land owners as required. We have not included it in the SUZ schedule in Appendix D as it goes beyond issues relating to the plant site alone. The inclusion in that Schedule is nevertheless another option - enabling a time requirement to be formally prescribed for completion of the agreement.

We recommend accordingly.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 GENERAL CONCLUSIONS

The Panel has considered all the submissions referred to it and all the material presented at the hearings and, in addition to the conclusions reached with respect to matters discussed in the body of this report, has reached the following conclusions concerning the Mortlake Power Station Project:

- **The project can proceed satisfactorily without unacceptable environmental impacts due to the availability of suitable mitigation measures and techniques within the current legislative and policy context.**

- **One such measure is an agreement made under section 173 of the *Planning and Environment Act* which is required to ensure off site mitigation works are satisfactorily implemented and matters beyond the legal framework of formal approvals are implemented and can be enforced.**

- **The gas pipeline route is satisfactory.**

7.2 GENERAL RECOMMENDATIONS

Based on the reasons set out in this report, in addition to the particular recommendations made in the body of this report, the Panel makes the following recommendations to the planning authority concerning the amendment:

Amendment C20 the Moyne Planning Scheme should be adopted subject to the following:

- **Amend both the maps and schedules to both the Special Use Zone and the Environment Significance Overlay as shown in Appendix D.**

- **Require the proponent to enter into a section 173 agreement or agreements to the satisfaction of the planning authority and both responsible authorities which relate to the following matters:**

    - **Early conduct of an accommodation and community services strategy for the project**

    - **Screen planting on nearby properties to shield views of or divert views from the power station as discussed in Mr Cleary's report to the satisfaction of the landowners and the responsible authorities**

- **Implementation of offsets for native vegetation clearance to the satisfaction of DSE**

- **Implementation of compensation agreements with the Shires for repair of roads subject to construction damage**

- **Implementation of commitments to assist in upgrading CFA services.**

APPENDICES

A. THE PANEL PROCESS

THE PANEL

This Panel was appointed under delegated authority on the 2 February 2006 pursuant to Sections 153 and 155 of the *Planning and Environment Act* 1987 to hear and consider submissions received in response to the public exhibition of Amendment C20 to the Moyne Planning Scheme. The amendment proposes to rezone a parcel of rural land in Connewarren Lane, some 12 kilometres west of Mortlake, to a Special Use Zone to facilitate the development of a gas-fired electricity generating plant. The amendment also would introduce a new schedule (Schedule 3) to the Environmental Significance Overlay, which would impose constraints on residential development in the vicinity of the power plant.

The planning authority is the Minister for Planning and the proponent is Origin Energy Power Ltd.

The Panel consisted of:

- Chairperson: Jenny Moles
- Member: Jack Chiodo
- Member: Geoff Angus

The same persons were appointed on 14 February 2006 under Section 9(1) of the *Environmental Effect Act* 1978 as an Inquiry Panel to consider submissions received in response to exhibition of the Environmental Effects Statement relating to the proposal.

Throughout this report we refer to ourselves merely as the Panel rather than Panel/Inquiry Panel.

TERMS OF REFERENCE

The Terms of Reference for the Panel's EES Inquiry included the following principal parts:

1. BACKGROUND

Origin Energy Power Limited (Origin) proposes to develop a gas-fired power station at a site approximately 12 kilometres west of Mortlake in south-west Victoria. The proposal was previously known as the "Victorian Generator Project". The site is known as proposed Lot 1 PS 543659K, Connewarren Lane, Mortlake. It is located on the northern side of Connewarren Lane and adjoins the Moorabool-Portland electricity transmission line.

The proposal includes:

- *installation of gas turbines and associated infrastructure in two stages to provide electricity generating capacity of up to .1150 MW;*
- *construction of an underground high-pressure gas pipeline between the site and the Otway Gas Plant near Port Campbell (a pipeline length of approximately 78 kilometre);*
- *construction of water pipelines to the site from 'the Mortlake Sewage Treatment Plant and Absaloms Bore.*

On 10 January 2005, the Acting Minister for Planning determined that the project requires an Environment Effects Statement (EES) under the Environment Effects Act 1978.

On 17 November 2005, the following documents relating to the project were placed on public exhibition:

- *Environment Effects Statement for Mortlake Power Station (EES) prepared under the Environment Effects Act 1978*
- *Amendment C20 to the Moyne Planning Scheme, including documents that support the amendment and the explanatory report about the amendment, under the Planning and Environment Act 1987*
- *Works Approval Application No WA 58927 for the power station (jointly advertised pursuant to Section 20AA of the Environment Protection Act 1970)*
- *Pipeline Permit Application 259 under the Pipelines Act 1967.*

The Minister for Planning has appointed a Panel to conduct an inquiry into the environmental effects of the Mortlake Power Station under section 9(1) of the Environment Effects Act 1978.

After the Panel provides its report to the Minister for Planning, the Minister will make an assessment of the project under the Environment Effects Act 1978 to inform the relevant statutory decision-makers.

2. TASK

The Panel is required:

- *To inquire into the potential environmental effects - including the physical, biological, social and economic aspects - of the proposal and the alternatives examined in the EES.*
- *To consider the exhibited EES, all submissions received in response to the exhibited EES as well as other relevant matters.*
- *To advise whether potential adverse environmental effects of the project are capable of being effectively managed in the context of relevant legislation and policy.*
- *To recommend whether the proposal should be approved either as generally described in the EES, or with modifications, including environmental management measures and monitoring programs.*
- *To advise whether the route of the proposed pipeline is satisfactory.*

3. METHOD

The Panel must conduct a public hearing and may make other such inquiries as are relevant to the proposal and its potential environmental impacts. The Panel must conduct the inquiry in accordance with the following principles:

- *The inquiry hearings will be conducted in an open, orderly and equitable manner, in accordance with the rules of natural justice, with a minimum of formality and without the necessity for legal representation.*
- *Parties without legal representation will not be disadvantaged - cross-examination will be strictly controlled and prohibited where not relevant by the inquiry chair.*
- *The inquiry process will aim to be exploratory and constructive, where adversarial behaviour is minimised.*

The Panel will meet and conduct hearings when there is a quorum of at least two of the Panel members present including the Panel chair.

4. OUTCOMES

To prepare a report for the Victorian Minister for Planning presenting:

- *The Panel's response to the matters detailed in section 2;*
- *Relevant information in support of the Panel's recommendations; and*
- *A description of the proceedings conducted by the Panel and a list of those consulted and heard by the Panel.*

5. TIMING

The Panel is required to report to the Minister for Planning in writing within six weeks of its last hearing date.

At the Directions Hearing, the Panel queried the meaning of the fourth dot point under the heading 'Task' in the Terms of Reference. As drafted it was unclear as to whether the Panel had the option of recommending refusal of the project as a whole. Advice was received by email from Mr Ashley Stephens of the Department of Sustainability and Environment on 15 February indicating that:

> *…the intention of the wording in dot point four is to ask the Panel to: firstly recommend whether or not the project should be approved; and secondly (if approved) whether the proposal should be approved generally as described in the EES or approved with modifications…*

HEARINGS, DIRECTIONS AND INSPECTIONS

A Directions Hearing was held on 13 February 2006 at Mortlake. A number of directions were made which provided guidance for the conduct of the hearing. All were complied with to the satisfaction of the Panel and to this extent their function has been discharged. They are not reiterated here.

The Panel Hearings were held on 20 – 24 March 2006 at Mortlake.

The Panel members have inspected the site and surrounding area. The Panel made an unaccompanied inspection of the general locality of the power station site on 13 February and an accompanied inspection on 21 March of the site (the Panel was not able to gain entry to the site itself) and key places of environmental concern along the route of the gas pipeline from Port Campbell.

SUBMISSIONS

The Panel heard the parties listed in Table A.1 below.

Table A.1

Party	Represented By
Origin Energy	Mr Ian Lonie of Clayton Utz, Lawyers. He called the following witnesses: - Mr Geoff Burns, Senior Development Executive, Major Development Projects, Origin Energy (Project Manager) - Mr Tony Williams, Principal Project Engineer of GPA Engineering Pty Ltd - Mr Brett Lane, Zoologist of Brett Lane and Assocs - Mr Andrew Hill, Environmental Scientist of Ecology Partners Pty Ltd - Dr Graeme Ross, Air Emissions Modeller of Graeme Ross and Assocs Pty Ltd - Mr David Graham, Traffic Engineer of GTA Consultants - Mr Chris Turnbull, Acoustics Engineer of Sonus Pty Ltd - Mr Heath Doodie, Environmental Scientist of Enesar Pty Ltd - Mr Andrew Clarke, Town Planner of Matrix Consultants - Mr David Browne, Manager Environment and Regulatory Affairs, Origin Energy - Mr John Cleary, Landscape Planner of John Cleary Planning

Party	Represented By
Department of Planning and Environment (representing the Minister for Planning as the Planning Authority and as assessor of the environmental effects)	Mr Jason Taylor, Regional Planner, South-West Region and Mr Ashley Stephens, Senior Policy Officer, Environment Assessments, respectively.
Department of Sustainability and Environment as Referral Authority	Mr Andrew Pritchard, Threatened Species Officer of DSE's Warrnambool Office
Environment Protection Authority	Mr John Frame, Project Manager, South-West Region
Department of Primary Industry	Mr Geoff Collins, Manager, Petroleum Projects
Department of Infrastructure (a late submission to the EES Inquiry was permitted by the Panel)	Ms Marianne Lourey, Director, Energy Investment and Sustainability
Shire of Moyne	Mr Russell Guest, Manager Development Services
Shire of Corangamite	Ms Sophie Segafredo, Manager Strategic Planning and Environment (except on Day 2 when Ms Michele Granger was in attendance for the Shire)
Mr Richard and Mrs Jenny Weatherly and Connewarren Partnership	Mr Richard Weatherly assisted by Mr Alan Williamson, Solicitor
Mr Robert and Mrs Leanne Mifsud	Themselves
Mr Bruce Allen	Himself
The Hood Family (a late submission to the EES Inquiry was permitted by the Panel)	Mr David Hood (except on part of Day 4 when his sister, Ms Ann Hood, was in attendance)

All submitters in relation to the EES and scheme amendment are included in this list of parties at the Panel hearing with the exception of VicRoads (South-Western Region Office) and Country Fire Authority (South West Area) (CFA) who did not request to be heard by the Panel.

The Panel has considered all written and oral submissions and evidence presented at the hearing and has been further informed by our inspections. The written submissions of VicRoads and CFA have also been considered.

B. STRATEGIC ASSESSMENT GUIDELINES

The Panel has considered the response to the Strategic Assessment Guidelines included in the exhibited Explanatory Report for the Amendment, together with submissions on the Guidelines from the Planning Authority and in Mr Clarke's evidence. The Panel considers that the Amendment complies with the Guidelines.

In the body of this report we have addressed the substance of the Guidelines in some detail, particularly in Sections 3, 5 and 6.

The table in this appendix refers to those parts of our report which examine the Amendment against the Strategic Assessment Guidelines.

Table B.1

Strategic Issue	Response or Reference
Is an amendment necessary?	Considered in Section 2.4 above.
Does the amendment comply with the requirements of the *Planning & Environment Act*?	The amendment complies.
Does the amendment support or implement the SPPF?	Considered in Section 5 above.
How does the amendment support or implement the LPPF, and specifically the MSS?	Considered in Section 5 above.
Does the amendment make proper use of the VPP?	Considered in Section 6 above. The amendment makes proper use of standard and local provisions from the VPP.
How does the amendment address the views of relevant agencies?	The views of relevant referral and advisory agencies are considered in the preparation of the EES and scheme amendment. Agencies were generally supportive of the amendment.
Have the resource and administrative implications of the amendment for the responsible authority been properly considered?	The resource and administrative implications of the amendment were of concern to the Shires – who had not been the planning authorities for this amendment. However there was overall support for the scheme amendment.

C. AMENDMENT DOCUMENTS AS EXHIBITED

SCHEDULE 1 TO THE SPECIAL USE ZONE

Shown on the planning scheme map as **SUZ1**

MORTLAKE POWER STATION

Purpose

To facilitate the development and use of a gas-fired power station in a manner which recognises the character and amenity of the surrounding area.

To provide for electricity generation using natural gas.

1.0 Table of uses

Section 1 - Permit not required

USE	CONDITION
Accommodation (other than Caretaker's house)	Must be for the purpose of accommodating persons constructing and commissioning a gas-fired power station on the land. Must not be permanent buildings and all buildings must be movable. Must meet the requirements of Clauses 2 and 3 of this Schedule.
Animal keeping (other than Animal boarding)	Must be no more than 5 animals.
Agriculture (other than intensive animal husbandry and cattle feedlot)	
Apiculture	Must meet the requirements of the Apiary Code of Practice, May 1997.
Caretaker's house	
Crop raising (other than Rice growing and Timber production)	
Extensive animal husbandry	
Industry	Must meet the requirements of Clauses 2 and 3 of this Schedule. Must be for gas-fired power generation.
Mineral exploration	
Mining	Must meet the requirements of Clause 52.08-2.

Minor utility installation	
Natural systems	
Road	
Search for stone	Must not be costeaning or bulk sampling.
Utility installation (other than Minor utility installation)	Must meet the requirements of Clauses 2 and 3 of this Schedule.

Section 2 - Permit required

USE	CONDITION
Any other use not in section 1 or 3	

Section 3 – Prohibited

USE
Accommodation (other than Caretaker's house) (if the Section 1 condition is not met)
Brothel
Materials recycling
Office
Refuse disposal
Refuse transfer station
Retail premises

2.0 Use of land

A permit is not required to use land for a gas-fired power station in accordance with this Clause.

For the purpose of this Schedule, a gas-fired power station means an industrial complex or utility installation using plant, equipment and facilities for the generation of electricity for public use and for connection and export of the electricity into the high voltage transmission system. This includes import of natural gas by pipeline, import of raw water by pipeline, treatment of the water to remove contaminants, purification and storage of raw and treated water, any waste treatment systems, lagoons, ponds and storage tanks, fire protection, utilities, control rooms, administration, maintenance, chemical storage areas, training and amenity buildings and facilities which are ancillary to the use of the land as a gas-fired power station.

The exemption from a permit under this clause does not apply to:

- The use of any plant, equipment or facilities on site as gas storage reservoirs.
- The retail sale from the site of any material stored or processed on the land.

The use of the land must be consistent with the Environmental Management Plan approved by the responsible authority.

3.0 Buildings and Works

A permit is required to construct a building or construct and carry out works. This does not apply to a building or works that:

- Are in accordance with a Development Plan approved by the responsible authority.
- Rearrange, alter or renew plant if the area or height of the plant is not increased.
- Are a modification necessary to comply with a direction or licence under the Dangerous Goods Act 1985, Petroleum Act 1958, Gas Industry Act 1994 or a Waste Discharge Licence, Works Approval or Pollution Abatement Notice under the Environment Protection Act 1970,
- Result in a minor rearrangement of on-site roads and access ways, car parking areas and landscaping providing that their areas and effectiveness are not diminished.
- Are carried out for fire protection under relevant legislation.
- Are accommodation and amenities provided for persons constructing and commissioning any plant on the land.
- Are a temporary building, shed or structure not exceeding 100 square metres in floor area.

All buildings and works must be consistent with the Environmental Management Plan approved by the responsible authority.

Development Plan

Prior to the construction of any buildings and works, a development plan must be prepared to the satisfaction of the responsible authority. The Development Plan must provide for a gas-fired power station with a maximum building footprint of 22 hectares (including the switch yard area but excluding the area used for accommodation, outdoor car parking and landscaping) and a maximum building height of 45 metres above ground level. The Development Plan must include:

- The location and layout and height of all buildings and plant and details of site and other works.
- The colour, material and finish of all buildings.
- The location of all vehicle and pedestrian access ways.
- The location of all loading areas.
- The location of security areas or areas not available for public access and security fencing.
- Details of proposed signage.
- Details of proposed outside lighting and measures to reduce the impact of outside lighting on nearby dwellings, properties and roads.
- Details of proposed landscaping.
- Details of the staging of the development, if any.

- Details of the provision of major physical infrastructure to accommodate the development and use including provision of water, sewerage, drainage, electricity and telecommunications.

The Development Plan may be prepared in stages to the satisfaction of the responsible authority.

The Development Plan may be amended to the satisfaction of the responsible authority.

Environmental Management Plan

The Environmental Management Plan must describe (but not necessarily be limited to) management processes and procedures to minimise the amenity and environmental impacts of the use and development of the site as a gas-fired power station and associated construction activities. The Plan must set out objectives, performance and monitoring requirements. It must be prepared as two separate parts, one part covering construction and the other part covering operations.

The Construction part of the Environmental Management Plan must address the following:

- Environmental assessment and management of soils, water, flora and fauna, weeds, cultural heritage and air emissions
- Noise
- Erosion control
- Storm water runoff
- Off-site dust emissions
- The transfer of site mud to roads
- Staff training and communication
- Reporting for monitoring, audits, incidents and complaints
- Emergency response.

The Operations part of the Environmental Management Plan must address the following:

Environmental Management Framework

- Environmental management system
- Standards and guidelines
- Environmental objectives
- Organisational responsibilities
- Training
- Reporting
- Routine
- Incidents
- Complaints
- Emergency response

Operational Guidelines

- Water management including groundwater quality
- Air emissions
- Noise
- Vegetation and fauna management
- Cultural heritage
- Weed control
- Waste management and minimisation
- Spill prevention and response
- Fuel and chemical storage and handling
- Monitoring.

The Environmental Management Plan may be prepared in stages and may be amended to the satisfaction of the responsible authority.

4.0 Advertising Signs

Advertising sign requirements are at Clause 52.05. This zone is in Category 2.

SCHEDULE 3 TO THE ENVIRONMENTAL SIGNIFICANCE OVERLAY

Shown on the planning scheme map as **ESO 3.**

MORTLAKE POWER STATION ENVIRONS

1.0 Statement of environmental significance

The Mortlake Power Station will provide gas-fired power to meet the growing and future demand for electricity in Australia. The development and use of the power station will be in accordance with an approved Development Plan and Environmental Management Plan.

There is potential for noise generated by the power station to impact on any proposed sensitive uses and developments of land surrounding the power station site, particularly accommodation uses and developments.

If accommodation land uses and developments which are sensitive to potential noise emissions from the power station are permitted to be located in proximity to the facility this may result in real or perceived impacts and land use conflicts.

To achieve World Health Organisation recommendations aimed at protecting the community against sleep disturbance the equivalent noise level (Leq) outside a bedroom window should be limited to 42 dB(A) to achieve 30 dB(A) inside.

Accommodation land uses and developments should not be permitted within the 42 dB(A) contour for worst case weather conditions without consideration of the potential noise impacts from the facility.

2.0 Environmental objective to be achieved

To ensure that the development and use of the Mortlake Power Station is not detrimentally affected by the establishment of inconsistent and potentially conflicting accommodation uses and developments nearby.

To ensure that potential noise impacts are considered prior to any decision regarding accommodation land use and development.

To apply acoustic measures in the design of any accommodation developments near the Mortlake Power Station.

3.0 Permit requirement

A permit is not required to construct a building or construct or carry out works except if the buildings or works are to be used for accommodation including a dwelling.

4.0 Decision guidelines

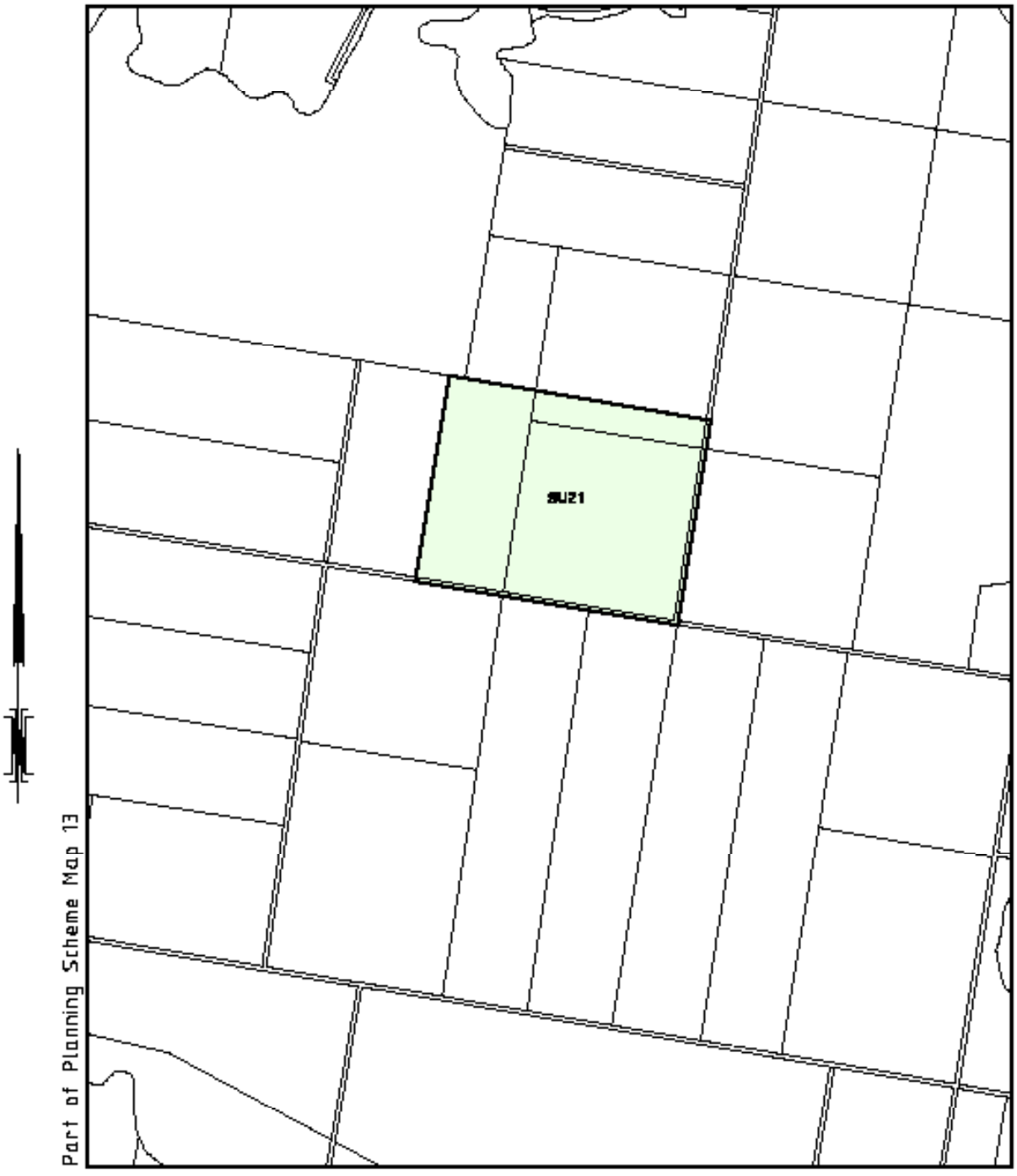
Before deciding on an application the responsible authority must consider, as appropriate:

- The comments of the Environment Protection Authority.
- The comments of the manager of the Mortlake Power Station in relation to the likely acoustic impact of the power station on the development.
- The likely amenity of the proposed development.
- The potential impact of the development upon the continued use of the Mortlake Power Station, Connewarren Lane, Mortlake.

- The possibility of locating the development in a location less affected by the Mortlake Power Station.
- Proposed sound attenuation measures to be used in construction of the development, and the effectiveness of such measures.

MOYNE PLANNING SCHEME

Local Provision



LEGEND

SUZ1 SPECIAL USE ZONE 1

AMENDMENT C20

PREPARED BY: JCA LAND CONSULTANTS

1


MOYNE PLANNING SCHEME
Local Provision
ES03
Part of Planning Scheme Map 13 ESO
LEGEND
ES03
ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 3
AMENDMENT C20
PREPARED BY: JCA LAND CONSULTANTS
2

D. AMENDMENT DOCUMENTS – RECOMMENDED CHANGES

SCHEDULE 1 TO THE SPECIAL USE ZONE

Shown on the planning scheme map as **SUZ1**

MORTLAKE POWER STATION

Purpose

To facilitate the development and use of a gas-fired power station in a manner which recognises the character and amenity of the surrounding area.

To provide for electricity generation using natural gas.

1.0 Table of uses

Section 1 - Permit not required

USE	CONDITION
Accommodation (other than Caretaker's house)	Must be for the purpose of accommodating persons constructing and commissioning a gas-fired power station on the land. Must not be permanent buildings and all buildings must be movable. Must meet the requirements of Clauses 2, 3 and 4 of this Schedule.
Animal keeping (other than Animal boarding) **Agriculture (other than intensive animal husbandry and cattle feedlot)**	Must be no more than 5 animals.
Apiculture	Must meet the requirements of the Apiary Code of Practice, May 1997.
Caretaker's house	
Crop raising (other than Rice growing and Timber production)	
Extensive animal husbandry	
Industry	Must meet the requirements of Clauses 2, 3 and 4 of this Schedule. Must be for gas-fired power generation.
Mineral exploration	
Mining	Must meet the requirements of Clause 52.08-2.

Minor utility installation	
Natural systems	
Road	
Search for stone	Must not be costeaning or bulk sampling.
Utility installation (other than Minor utility installation)	Must meet the requirements of Clauses 2 and 3 of this Schedule.

Section 2 - Permit required

USE	CONDITION
Any other use not in section 1 or 3	

Section 3 – Prohibited

USE
Accommodation (other than Caretaker's house) (if the Section 1 condition is not met)
Brothel
Materials recycling
Office
Refuse disposal
Refuse transfer station
Retail premises

2.0 Use of land

A permit is not required to use land for a gas-fired power station in accordance with this Clause.

For the purpose of this Schedule, a gas-fired power station means an industrial complex or utility installation using plant, equipment and facilities for the generation of electricity for public use and for connection and export of the electricity into the high voltage transmission system. This includes import of natural gas by pipeline, import of raw water by pipeline, treatment of the water to remove contaminants, purification and storage of raw and treated water, any waste treatment systems, lagoons, ponds and storage tanks, fire protection, utilities, control rooms, administration, maintenance, chemical storage areas, training and amenity buildings, works and facilities which are ancillary to the use of the land as a gas-fired power station.

The exemption from a permit under this clause does not apply to:

- The use of any plant, equipment or facilities on site as gas storage reservoirs.
- The retail sale from the site of any material stored or processed on the land.

The use of the land must be consistent with the both the Development Plan and Environmental Management Plan required by Clause 3 as approved by the responsible authority.

3.0 Buildings and Works

A permit is required to construct a building or construct and carry out works. This does not apply to a building or works that:

- Are in accordance with a Development Plan approved by the responsible authority.
- Rearrange, alter or renew existing plant if the area or height of the plant is not increased.
- Are a modification necessary to comply with a direction or licence under the Dangerous Goods Act 1985, Petroleum Act 1958, Gas Industry Act 1994 or a Waste Discharge Licence, Works Approval or Pollution Abatement Notice under the Environment Protection Act 1970,
- Result in a minor rearrangement of on-site roads and access ways, car parking areas and landscaping providing that their areas and effectiveness are not diminished.
- Are carried out for fire protection under relevant legislation.
- Are accommodation and amenities provided for persons constructing and commissioning any plant on the land.
- Is a temporary building, shed or structure not exceeding 100 square metres in floor area.

All buildings and works must be consistent with the Environmental Management Plan and the Development Plan required by this clause as approved by the responsible authority.

Development Plan

Before the construction of any buildings and works starts, a Development Plan must be prepared to the satisfaction of the responsible authority. The Development Plan must provide for a gas-fired power station with a maximum building footprint of 22 hectares (including the switch yard area but excluding any areas used for accommodation~~,~~ outdoor car parking and landscaping) and a maximum overall height of 45 metres above ground level.

The Development Plan must include:

- The location and layout and height of all buildings and plant and details of site and other works.
- The colour, material and finish of all buildings.
- The location of all vehicle and pedestrian access ways.
- The location of all parking areas.
- The location of all loading areas.

- The location of security areas or areas not available for public access and security fencing.
- Details of proposed signage.
- Details of proposed outside lighting and measures to reduce the impact of outside lighting on nearby dwellings, properties and roads.
- Details of proposed landscaping, including such landscaping measures as appropriate both on the land and on surrounding land to screen views of the development from existing dwellings.
- Details of the staging of the development, if any.
- Details of major physical infrastructure ancillary to or to be used in conjunction with the use including provision of water, sewerage, drainage, electricity and telecommunications.

All buildings and works shall be in accordance with the Development Plan to the satisfaction of the responsible authority.

The Development Plan may be prepared in stages to the satisfaction of the responsible authority.

The Development Plan may be amended to the satisfaction of the responsible authority.

Environmental Management Plan

Before the construction of any buildings and works starts, a Construction Environmental Management Plan and prior to the commencement of the use as a gas-fired power station an Operations Environmental Management Plan must be prepared satisfaction of the responsible authority. The Environmental Management Plans must describe (but not necessarily be limited to) management processes and procedures to minimise the amenity and environmental impacts of the use and development of the site as a gas-fired power station and associated construction activities. The Plan must set out objectives, performance and monitoring requirements.

The Construction part of the Environmental Management Plan must address the following:

- Environmental assessment and management of soils, water, flora and fauna, weeds, cultural heritage and air emissions
- Noise
- Erosion control
- Storm water runoff
- Off-site dust emissions
- The transfer of site mud to roads
- Staff training and communication
- Reporting for monitoring, audits, incidents and complaints
- Emergency response.
- Traffic Management, including but not limited to:
    - Preferred traffic routes with truck movements to the west of the power station site on Connewarren Lane to be minimised
    - Over-dimensional vehicles and loads

- The upgrade of the Connewarren Lane/Hamilton Highway intersection to the satisfaction of VicRoads and the responsible authority
- Stock movements on Connewarren Lane
- Hours of construction and construction deliveries
- Procedures for access to adjacent properties
- Provision of staff car parking
- Traffic circulation within the construction zone
- Emergency vehicle access
- Provision for public pedestrian access
- Training
- Notice of works and their publicity
- Contact personnel

The Operations part of the Environmental Management Plan must address the following:

Environmental Management Framework

- Environmental management system
- Standards and guidelines
- Environmental objectives
- Organisational responsibilities
- Training
- Reporting
- Routine
- Incidents
- Complaints
- Emergency response

Operational Guidelines

- Water management including groundwater quality
- Air emissions
- Noise
- Vegetation and fauna management
- Cultural heritage
- Weed control
- Waste management and minimisation
- Spill prevention and response
- Fuel and chemical storage and handling
- Monitoring.

The Environmental Management Plans may be prepared in stages and both may be amended to the satisfaction of the responsible authority.

4.0 Car parking

This clause exempts a gas-fired power station from the provisions of Clause 52.06.

A gas-fired power station must have provision for a minimum of 10 staff parking spaces and 5 visitor parking spaces except with the consent of the responsible authority.

The location, design and construction of car parking spaces for a gas-fired power station must be to the satisfaction of the responsible authority.

5.0 Advertising Signs

Advertising sign requirements are at Clause 52.05. This zone is in Category 2.

SCHEDULE 3 TO THE ENVIRONMENTAL SIGNIFICANCE OVERLAY

Shown on the planning scheme map as **ESO 3.**

MORTLAKE POWER STATION ENVIRONS

1.0 Statement of environmental significance

The Mortlake Power Station will provide gas-fired power to contribute to meeting the growing demand for electricity in Australia. The development and use of the power station will be in accordance with an approved Development Plan and Environmental Management Plans.

There is potential for noise generated by the power station to impact on any proposed sensitive uses and developments of land surrounding the power station site, particularly accommodation uses and developments.

If accommodation land uses and developments which are sensitive to potential noise emissions from the power station are permitted to be located in proximity to the facility this may result in real or perceived impacts and land use conflicts.

Accommodation land uses and developments should not be permitted within the 42 dB(A) contour for worst case weather conditions without consideration of the potential noise impacts from the facility.

2.0 Environmental objective to be achieved

To ensure that the development and use of the Mortlake Power Station are not constrained by the establishment of potentially conflicting accommodation uses and developments nearby.

To ensure that potential noise impacts are considered in any decision regarding accommodation land use and development.

To apply acoustic measures in the design of any accommodation developments in proximity to the Mortlake Power Station.

3.0 Permit requirement

A permit is not required to construct a building or construct or carry out works except if the buildings or works are to be used for accommodation including a dwelling.

4.0 Decision guidelines

Before deciding on an application the responsible authority must consider, as appropriate:

- The comments of the Environment Protection Authority.
- The comments of the manager of the Mortlake Power Station in relation to the likely acoustic impact of the power station on the development.
- Proposed sound attenuation measures to be used in construction of the development, and the effectiveness of such measures.
- The likely amenity of the proposed development.
- The potential impact of the development upon the continued use of the Mortlake Power Station, Connewarren Lane, Mortlake.
- The possibility of locating the development in a location less affected by the Mortlake Power Station.

MOYNE PLANNING SCHEME

Local Provision

LEGEND

SUZ1 SPECIAL USE ZONE 1

AMENDMENT C20

PREPARED BY: JCA LAND CONSULTANTS

1


MOYNE PLANNING SCHEME
Local Provision
ESO3
Part of Planning Scheme Map 13 ESO
LEGEND
ESO3 ENVIRONMENTAL SIGNIFICANCE OVERLAY - SCHEDULE 3.
AMENDMENT C20
PREPARED BY: JCA LAND CONSULTANTS
2