NSW GOVERNMENT
Department of Planning

MAJOR PROJECT ASSESSMENT
Parkes Peaking Power Plant
International Power (Australia) Pty Ltd

Director-General's
Environmental Assessment Report
Section 75I of the
Environmental Planning and Assessment Act 1979

June 2008

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EXECUTIVE SUMMARY

International Power (Australia) Pty Ltd (the Proponent) proposes to construct and operate a 120 to 150 megawatt open cycle gas turbine facility. To provide fuel for the plant, a 10km underground natural gas pipeline lateral will be constructed from the existing Central West Pipeline at Parkes. The proposed facility would operate as a peaking power plant, providing additional electricity supply during periods of peak demand and providing 'black start' capability in the event of a high voltage transmission system failure in the Parkes region. The peaking power plant would thus generate electricity only on an as-required basis, anticipated to be no more than 10% of any year. The project has a capital cost of approximately $50 million and would employ forty full-time staff during construction and four full-time staff during the operation of the project. The construction of the power plant and natural gas pipeline will take six to eight months to complete.

The NSW Government has expressed a preference for the private sector to invest in future electricity generation assets. This is due to two main reasons: improving electricity reliability for NSW and the better allocation of Government resources. NSW has a network reliability of 99.96% and power is relatively inexpensive, with NSW's electricity prices some of the lowest in the world. As outlined in the State Plan, the NSW Government is committed to improve this reliability to at least 99.98% by 2016. To realise this, a diverse and secure power network in NSW is required. Currently peaking power in NSW is under-supplied, which could limit future pool prices and consequently reduce incentives for the development of this power supply. This in turn will reduce the capacity for peak loads to be met and makes the power supply network susceptible to supply interruptions. For example, a diverse power network would minimise the existing vulnerability to power supply disruptions, caused by having large coal-fired power plants dependent on a limited amount of high voltage transmission lines. As such, creating a vital generating mix would meet NSW's future electricity generating requirements and thereby create a secure and stable supply of fuel.

During the exhibition period of the Environmental Assessment, the Department received a total of eight submissions. These comprised of seven responses from agencies and one private submission, which came from a landholder who emphasised concern of potential landuse impacts to the landholder's private property, located approximately 500 metres from the proposal site. The landholder stated that the project may impact the future potential to subdivide and develop land in the vicinity of the project site. The Department has identified that potential noise and visual impacts may affect the possible selling value of this property. This property is located in close proximity of the existing six closest residences to the project site. The noise impact assessment concluded that the predicted noise levels resulting from the operation of the project, would meet the noise criteria at all existing residences. The Department has however recommended a range of conditions to manage and mitigate potential noise related impacts. For example, the Department has recommended a requirement for the Proponent to conduct noise monitoring at Velvedere, a residence located in close proximity of this property, to ensure compliance with the Department's recommended criteria and the Proponent's predicted noise levels. The Proponent has committed to specific measures during the design and operational phases of the project, to ensure the minimisation and mitigation of any visual impacts associated with the project. The Department is satisfied that the direct impacts to this private property have been addressed in the Environmental Assessment and that potential impacts can be managed and mitigated provided the Department's specific recommendations are carried out and the Proponent implements its environmental commitments.

The main issues that were raised in the other seven submissions were potential noise, air and ecological impacts and Aboriginal heritage impacts. The Department is satisfied that the environmental impacts associated with this proposal are considered to be acceptable, subject to the imposition of the Department's recommended conditions of approval. The Department has recommended specific conditions to be imposed on the Proponent to address those issues raised in the assessment process:

- noise impacts – specific conditions to limit hours of construction to acceptable times and to limit noise generated during operations to mitigate amenity noise impacts;
- air impacts – specific conditions to mitigate dust and odour and limit the discharge of air pollutants during the construction and operation of the facility;
- ecological impacts; specific requirements to ensure the boundary of the project site is vegetated with species that are representative of the Fuzzy Box Woodland community and locally indigenous woodland

species, to avoid impact to all canopy trees during the natural gas pipeline construction, and to monitor possible weed infestation.

- Aboriginal heritage – specific requirement to ensure no disturbance to the three identified site of Aboriginal heritage significance occurs.

The Department is satisfied that the proposal is necessary to help meet the growing peak power demand for electricity and will contribute to the provision of a secure and reliable energy supply network.

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1. BACKGROUND

1.1 Location

International Power proposes to construct and operate a new gas-fired peaking power station, adjacent to the existing TransGrid 132kV substation, at a site located near Condobolin Road, approximately 10 kilometres west of Parkes (refer to Figure 1). The site is Condobolin Road, Parkes - Lot 1 of DP 602329; Lots 173, 760, 759, 758, 765, 764, 763, 762, 500 and 409 of DP 750152; Lot 1 DP 1015719; Lot 2 DP 808701; Lot 1 DP 877903; DP 1059946 PT 7044; Goldrush Road Reserve. An indicative site layout is displayed in Figure 2.

Figure 1: Site Location (reproduced from the Proponent's Environmental Assessment)

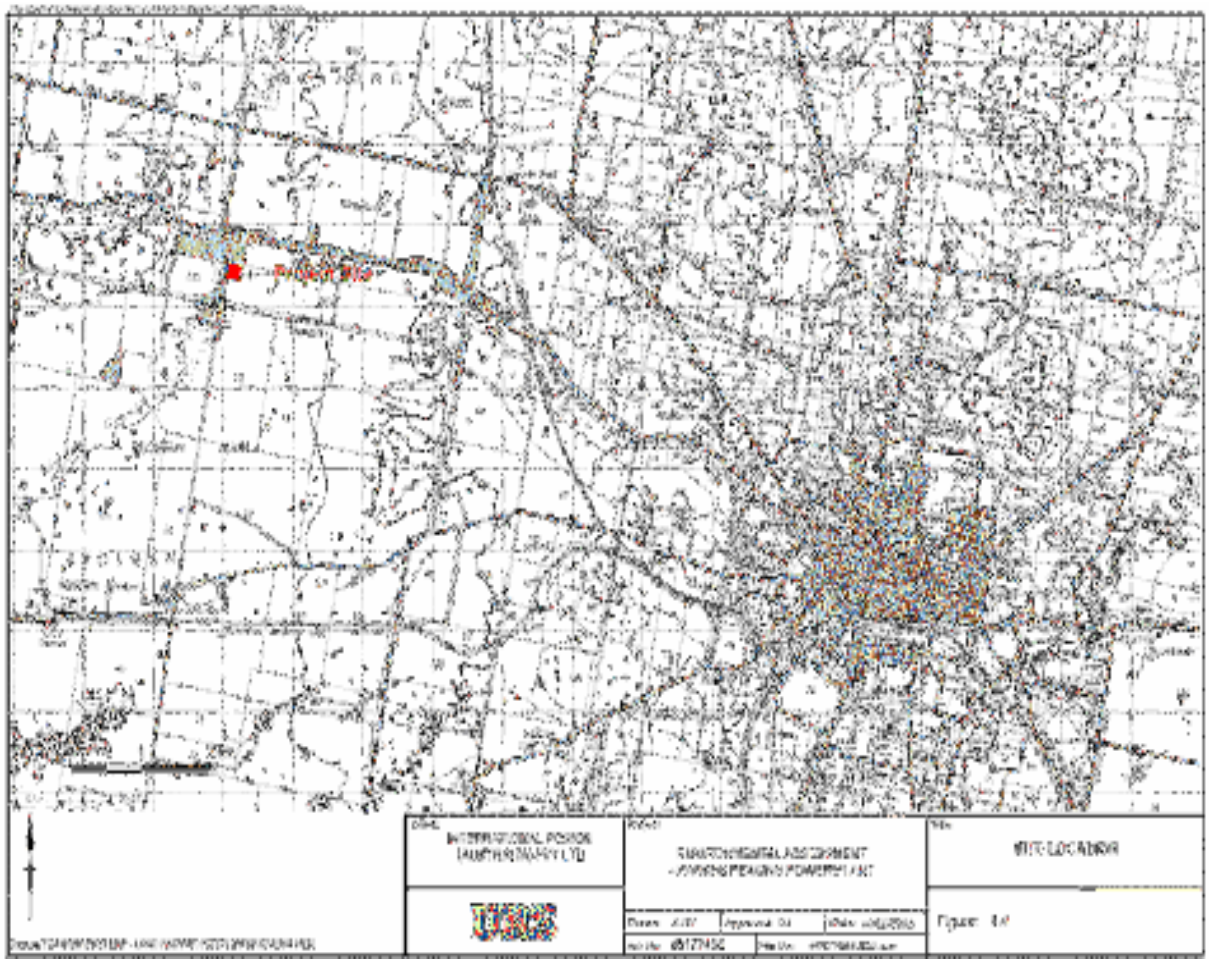


Figure 2: Site Layout (reproduced from the Proponent's Environmental Assessment)

1.2 Existing Site

The entire site for the proposed power station is cleared and currently used for wheat cultivation. The project includes the construction and operation of a gas-fired power station and a pipeline lateral to supply fuel to the power station. The Proponent has finalised arrangements with the landholder to secure the land for the project and has similarly secured easement options for the natural gas pipeline route. The land upon which the power station is proposed is zoned 1 (a) (Rural "A" Zoning) under the *Parkes Local Environmental Plan 1990*. Development for the purposes of 'generating works' is permissible with development consent.

In order to supply natural gas to the power station, an approximately 10 km underground lateral will be built from the existing Central West Pipeline. The route identified by the Proponent in the Environmental Assessment was selected over which land could be occupied and the pipeline constructed, operated and maintained for its design life. The Proponent undertook an iterative process of route selection during the project development phase, as property negotiations progressed and the results of the field surveys were incorporated. The pipeline would be located beneath existing agricultural land, apart from small sections beneath road and rail lines. The natural gas pipeline will cross under Back Trundle Road, Condobolin Road, the Parkes to Narromine rail line

and a Travelling Stock Route (TSR) and transect private property (refer to Figure 3). As the pipeline would be underground, no current land uses will be affected.

Figure 3: Gas Pipeline Route (reproduced from the Proponent's Environmental Assessment)

1.3 Surrounding Land Use

Land immediately surrounding the proposed gas-fired station and the natural gas pipeline route is predominantly used for rural enterprises on medium size holdings with a number of rural home sites of between two and ten hectares adjacent to the eastern end of the gas pipeline. To the immediate north of the proposed power station site is the TransGrid owned substation. To the immediate west is a public owned easement, and beyond that private rural property. The area where the power station is proposed to be constructed is currently part of a wheat farm.

1.4 Impression of Proposed Power Station

The three exhaust stacks, which are the highest structures associated with the project, will be approximately 20 metres high. However, subject to final design parameters and air emission considerations, the final height of these stacks may be less than 20 metres. Turbine enclosures and air inlet ducts, which will be up to 10 metres high, water storage tanks, the workshop and auxiliary structures may also be visible from the surrounding areas. The Proponent assessed seventeen view locations, of which 12 have been determined to have a nil visibility rating and five to have a low visibility rating. Only one of the view locations from the residences was determined to have a direct line of sight toward the project site. From this view location, Figure 4 shows the view of the site following construction and Figure 5 shows the view of the site 10 years post construction.

Figure 4: Visual Simulation Following Construction (reproduced from the Proponent's Environmental Assessment)

Figure 5: Visual Simulation 10 Years Post Construction (reproduced from the Proponent's Environmental Assessment)

2. PROPOSED DEVELOPMENT

2.1 Project Description

International Power proposes to construct and operate a new gas-fired power station. An underground natural gas pipeline lateral will fuel the power station, with distillate backup.

The gas turbine power station will be of open-cycle nature, consisting of up to three turbines capable of producing an approximate nominal output of 120 to 150 megawatts. Electricity would be generated by air being drawn into the gas turbine, filtered to remove particulate mater, transferred into the compressor to be mixed with natural gas or distillate fuel and then injected at high pressure into a combustion chamber. Combustion products enter the turbine and both pressure and temperature are reduced. The turbine rotates the compressor and electrical generator, thus producing electricity.

Each gas turbine would have an electrical generator attached to it, producing electricity when rotated by the turbine. Electrical transformers would be placed adjacent to each turbine and would be required to increase the 11kV voltage as produced at the gas turbine generator to 132kV for connection into TransGrid's high voltage switchyard and hence to the National grid. The final switchyard design requirements will be determined during the Connection Application process. The Proponent has lodged a Connection Inquiry and a Connection Application with TransGrid, to determine its broad requirements for connection to the existing TransGrid substation.

Ancillary facilities associated with the gas turbine power station include fire water and process water storage tanks, domestic and rainwater tanks, a distillate storage tank, a domestic wastewater treatment and disposal system, a sedimentation pond, an evaporation pond and transmission connection infrastructure.

The construction and operation of an underground pipeline would connect the power station to the existing Central West natural gas pipeline. A natural gas receiving station would be located at the termination point of the new underground gas pipeline lateral, and a header pipework will deliver gas to a fuel conditioning skid associated with each gas turbine unit. The pipeline would extend 10 km from the existing Central West Pipeline at Parkes. The diameter of the pipeline will be between 300mm and 500mm. The pipeline will be located within an easement of between 15 to 25 metres in width, however in all areas of Fuzzy Box Woodland, which is an Endangered Ecological Community, a maximum seven metre width construction footprint will be implemented.

Distillate would be used as a backup fuel to ensure continuous generation capability to the network, under natural gas limitations. Two tanks would store the distillate on site, with a normal storage capacity of 1,200 tonnes. The distillate tanks, associated pipelines and fittings would be constructed in accordance with the relevant Australian Standards and with regular inspection and/or testing conducted.

2.2 Analysis of Potential Hazards and Safety Risks

The main hazard associated with this project, is the handling of natural gas, which is a flammable gas held under pressure. The Proponent prepared a Preliminary Hazard Analysis, which demonstrated that the proposed risk mitigation measures could adequately reduce off-site impacts to an acceptable level (i.e. the proposed development would not be "hazardous"). Other, less significant hazards are associated with the handling of flammable and combustible liquids. The Preliminary Hazards Analysis found that the risk of injury to the public from the proposal is very low. The Proponent has committed to a range of measures to ensure potential hazardous impacts are mitigated:

- Design Phase
  - natural gas pipeline design would be to all appropriate standards and will include a review of temperature cycling effects;
  - use of leak detection in high risk natural gas piping would be to industry standards;
  - detailed design of the gas turbine enclosure and associated equipment would clearly outline the basis of safety used to ensure that explosive situations do not arise (or that risk is rendered negligible); and
  - fire protection inside the gas turbine enclosure would be determined, including use of explosion panels and use of fire retardant material where required by design standards.

- Operation Phase
  - carry out a review of the operational safety management system after the first year of operation; and
  - high pressure in the gas pipeline from the Central West Pipeline would be managed by an automatic trip and/or emergency isolation of gas flow.
- Design, Construction and Operation
  - Operational safety systems would ensure that any removal of critical safety function (e.g. for repair or exchange) is subject to prior scrutiny by competent plant management.

As part of the Department's assessment process for this project, the Major Hazards Unit of the Department, reviewed the risk and hazard assessment documents, prepared by the Proponent. The Major Hazards Unit provided a list of recommended studies to be carried out by the Proponent prior to the construction and commissioning of the project. These studies include a Fire Safety Plan, a Hazard and Operability Study and a Final Hazard Analysis, which are to be submitted to the Department prior to the commencement of construction. An Emergency Plan and a Safety Management System is also recommended prior to the commissioning of the project as well as various reports and audits during the operation of the project. The Major Hazards Unit concluded that the potential hazard related issues of the project have been adequately addressed by the Proponent and that the project can operate under acceptable safety levels, provided the Proponent implement all the nominated environmental commitments and the abovementioned studies, which all require the Director-General's approval. The Department has recommended a requirement for these studies in the instrument of approval.

2.3 Project Need

The proposal would serve two important purposes, i.e. meeting peak demand of electricity and contributing to reliable and stable power network. The gas fired power station would provide additional electricity supply during periods of peak demand and provide 'black start' capability in the event of a high voltage transmission system failure in the Parkes region. The peaking power station would generate electricity only on this as-required basis, anticipated to be no more than 10% of any year. The National Electricity Market (NEM) governs the supply of electricity in Australia and is managed by the National Electricity Market Management Company (NEMMCO). NEMMCO in its latest "*Statement of Opportunities 2007*" predicted an annual NSW peak demand growth of 2.3-2.8% (summer) and 1.5-2.8% (winter).

There is a need for additional electricity supply, particularly in the supply of peak electricity demand. The peak demand of electricity generation is growing at a higher rate than average demand, with peak load demand generally occurring during very hot summer weather or very cold winter weather (due to increased use of air conditioners and electrical heating respectively). With a growing economy and increased use of electricity, particularly at these peak times, the gap between supply and demand of electricity is narrowing.

In effect 10% of NSW generation and network capacity is used for only one per cent of the time. However, if current growth rates continue, then in 10 years approximately 18 per cent of generation capacity will be required for only one percent of the year. This trend towards peaking electricity demand has potentially significant cost implications for NSW consumers. Due to this volatility of the NEM and the potential opportunities for hedging and other market contracts, the NSW Government has expressed a preference for the private sector to invest in future generation assets.

For the State to achieve a reliable energy power network, it is critical to secure future electricity generating requirements. This can be realised through the development of a sufficient mix of power generating infrastructure, which would directly minimise the State's current vulnerability to supply disruptions and provide competitively priced electricity. Gas fired power stations can be constructed and commissioned in a relatively short period and assist in the diversification of the State's power network.

3. STATUTORY CONTEXT

3.1 Major Project

On 19 October 2006, the Director-General, as delegate of the Minister for Planning, formed the opinion pursuant to clause 6 of *State Environmental Planning Policy (Major Projects) 2005* (Major Projects SEPP) that the proposal is for the purpose of development described in Schedule 1 to that Policy (clause 24(a) – development for the purpose of an electricity generation facility for gas fired generation that has a capital investment value of more than $30 million). The proposal is thus declared to be a project to which Part 3A of the *Environmental Planning and Assessment Act 1979* (the Act) applies.

3.2 Permissibility

There are no State Environmental Planning Policies that apply to the proposal that substantially govern the carrying out of the development.

The *Parkes Local Environmental Plan 1990* applies to the site of the proposed peaking gas fired power station, including the natural gas pipeline route, and zones the land as Zone No 1(a) (Rural "A" Zone). The project is permissible with development consent. The *State Environmental Planning Policy (Infrastructure) 2007* applies to this proposal, making the natural gas pipeline permissible without consent.

3.3 Director-General's Requirements and Adequacy of Environmental Assessment

The Director-General's requirements for the preparation of an Environmental Assessment for this proposal were issued on 25 October 2006. The draft Environmental Assessment submitted to the Department on 20 December 2006 was found to be inadequate by the Department on 13 February 2007. The subsequent revised Environmental Assessment dated 24 August 2007, was also deemed inadequate by the Department on 4 October 2007. A further revised Environmental Assessment (dated 18 October 2007) was submitted to the Department. The Department of Environment and Climate Change (DECC) advised the Department that issues relating to ecology and cultural heritage should be further assessed. The DECC stated that during the public exhibition period of the Environmental Assessment, it will provide detailed recommendations regarding these matters.

The Department noted that the views of the Local Aboriginal Land Council were not able to be obtained prior to the exhibition of the Environmental Assessment. The Department advised the Local Aboriginal Land Council of the opportunity to comment on the Environmental Assessment, during the public exhibition period. For the purpose of section 75I(2)(g) of the Act, the Environmental Assessment for the project complied with the Director-General's requirements and the Proponent was notified of its compliance on 31 October 2007.

3.4 Minister's Approval Power

The application and Environmental Assessment were placed on public exhibition from 21 November 2007 to 21 December 2007 and submissions were invited in accordance with Section 75H of the Act. The exhibition locations were:

- Department of Planning's head office in Sydney;
- Parkes Shire Council; and
- Nature Conservation Council.

The Environmental Assessment was also provided for download on the Department's internet site. Notification of the exhibition period was made through two separate advertisements in *The Parkes Champion* newspaper on 21 November 2007 and 5 December 2007. The Department has met all its legal obligations so that the Minister can determine the application.

4. CONSULTATION AND ISSUES RAISED

4.1 Introduction

The Department received a total number of eight submissions, of which one was from a private resident and seven were from public authorities.

Private Landholder – does not state a clear position regarding the project. The landholder does not want to stop development if it will help the region's growth, however is concerned that the project may impact the future potential to subdivide property and develop private land in the vicinity of the project site.

NSW Rural Fire Service (RFS) – does not state a position regarding the project and provides key issues for consideration:

- proposed site is not identified as bushfire prone and but may be a potential source of ignition for a fire;
- adequate water supply for fire fighting purposes within the site and immediate surroundings should be available;
- adequate egress/access should be provided to the proposed site as outlined within section 4.1.3 (1) of *Planning for Bush Fire Protection* 2006; and
- adequate exhaust gas treatment to prevent the possible spread of exhaust embers should be considered.

***Peak Hill Local Aboriginal Land Council (PHLALC)* – states an objection to the project** as PHLALC did not participate in the Aboriginal Cultural and Heritage Assessment and has conveyed the following concerns:

- no aboriginal cultural and heritage survey performed by the PHLALC or any input by PHLALC presented in the Environmental Assessment, which is a requirement of the *Aboriginal Lands Right Act 1983*; and
- would like a site survey conducted with representatives of the PHLALC present and make own assessment on the sites that may be found in the area.

***Department of Water and Energy (DWE)* – supports the project** provided the proposed mitigating measures from DWE are implemented with the following four specifications:

1. impermeable liner for the evaporation ponds to prevent contaminated water entering the groundwater system;
2. floor of bunded areas used for the storage of chemicals, fuels and oils are to be lined with an impermeable material;
3. a construction soil and water management plan is to be developed to effectively manage potential soil erosion issues on-site and in downstream environments; and
4. runoff sourced from potentially contaminated areas on-site is retained in on-site storages. Runoff sourced from clean areas is to be directed into stormwater drains and off-site.

***Department of Environment and Climate Change (DECC)* – supports the project** provided the draft Statement of Commitments be amended as per DECC's proposed changes. DECC's main concerns are summarised below:

- ensure that the power station operates as a peaking power station, and 200 of the total operating hours can use distillate as the alternative fuel source;
- recommended an annual average NOx limit for the operation of the project and an annual report is required to confirm the operation is as stated by the Proponent;
- recommends low impact construction techniques be implemented in Fuzzy Box Endangered Ecological Community (i.e. 7m width for works be adopted in the woodland areas) and an ecologist is present during the detailed design phase. Landscape plantings around the site will provide a partial offset for the vegetation clearing however the offsets described are not well defined and are not met to DECC's satisfaction. The nature of revegetation along the pipeline route is not clearly defined and should be further detailed;
- recommends that noise monitoring be conducted to its specified requirements; and
- ensure the evaporation ponds are lined with a synthetic liner and that the removal of solids from the ponds will not cause damage to the liner.

***Parkes Shire Council* – does not state a position regarding the project** and provides key issues for consideration:

- appropriate controls for the storage of raw water on site need to be in place to eliminate any potential for contamination to the surrounding areas of the site;
- contrary to the statements in the Environmental Assessment, does not necessarily support the trucking of effluent to the proposal site;
- is concerned with water availability, constructed lined evaporation ponds, storage of raw water on site, transportation of treated effluent and the lack of investigation for piping water from the treatment plant to the proposed power station site;
- lack of detail provided for the management strategies to achieve zero discharge;
- on-site parking must comply with Australian Standards with regard to spacing and heavy vehicle allowances should be made to ensure that the transport required for the project only accesses the site in a forward direction and that it leaves the site in a forward direction;
- ensure prevention of runoff contamination through the appropriate design of all internal stormwater systems;
- assessment does not include any options for monitoring groundwater or potential for unwanted groundwater flows;
- status of Gold Rush Road should be considered particularly in reference to the proposed 25 metre construction width, within a road reserve that is only 20 metres wide. There is considerable overland stormwater flow in the newly constructed table drains and this may impact on the proposed gas pipeline construction; and
- location of the proposed natural gas take-off compound is not defined and may conflict with the RTA and the Council's plans for a north-south bypass ring road.

***Roads and Traffic Authority (RTA)* – does not state a position regarding the project** and provides key issues for consideration:

- assessment fails to include the full extent of traffic generation required for the operation of the proposed power station;
- probable high level of traffic generation will require reassessment of the Pat Meredith Drive construction requirements, and access treatment to the adjacent TransGrid substation;
- ensure the Proponent does not limit or remove the right of the road authority or the RTA to undertake necessary works within the road reserve;
- a Road Occupancy Licence may be required if traffic is impacted by the works;
- a Work Authorisation Deed may be required should the Proponent wish to undertake private financing and construction of the access with any Highway; and
- all works are to be carried out at no cost to the RTA.

***Civil Aviation Safety Authority (CASA)* – does not state a position regarding the project** and determines that there will be no impact to the operations of the Parkes airport.

The above requirements detailed in the submissions have all been addressed in the Department's recommended conditions of approval and the Proponent's Statement of Commitments.

4.2 Submissions Report

The PHLALC's submission concerning the aboriginal heritage assessment and Parkes Shire Council's submission concerning the source of raw water for the proposal required the Proponent to further consult with these agencies. The majority of the issues raised in the submissions have been adequately addressed in the Proponent's Submissions Report, the Department's recommended conditions of approval and in the Proponent's Statement of Commitments.

Cultural Heritage Assessment

In the Submissions Report, the Proponent has stated that it had sought early engagement with the local Aboriginal Community for its input into the aboriginal heritage assessment. The PHLALC was unable to attend the first and second field surveys conducted in late 2006.

After the public exhibition period of the Environmental Assessment, the Proponent further assessed the proposal site for cultural heritage items. This is because the proposed access road and the alternate pipeline alignment were not previously surveyed. Two PHLALC representatives were present during this survey, which also included an inspection by foot and vehicle, of the whole pipeline corridor and the proposed power station site. The additional area inspected allowed the PHLALC to conduct a total cultural heritage assessment of the project site. Three previously unrecorded Aboriginal sites were located during this survey, which consisted of two isolated finds (PIF1 and P1F2) and one possible Aboriginal scarred tree (P2). The Proponent has recommended that PIF1 and PIF2 be removed from the site prior to any development occurring as they may be directly impacted by the works. P2 is situated in close proximity to the pipeline route. However, the tree is located off the track that the pipeline route will utilise as an easement and as such, no direct impact is anticipated.

The Proponent has recommend measures to avoid any impact to the tree in its Submissions Report. The Department believes that the issues raised by the PHLALC have now been addressed and the Department is satisfied with the final assessment and the management and mitigation measures presented by the Proponent. To the DECC's satisfaction, the Department has included these management and mitigation measures in the Department's recommended conditions of approval.

Consultation with Parkes Shire Council

After the exhibition period of the Environmental Assessment, the Proponent further consulted with the Parkes Shire Council and the RTA in relation to land-use planning and traffic impacts, respectively. The Proponent gained in principle support from the Parkes Shire Council for the use of the "Brickpit" and the "Golf Course Dam" as the primary and secondary sources of water to be used as process water for the proposal respectively. These water sources are situated south-west of Parkes and are a preferred option to the Parkes Sewage Treatment Plant's (STP) treated effluent. This is mainly due to the reduced need for water truck movements through the centre of Parkes, the consequent minimisation of noise and safety impacts, the future availability of the approved Parkes Intermodal Terminal designated roads as the route between these water sources and the proposed power station site, and the reliability of water supply. As such, the RTA concerns on the adequacy of roads in the vicinity of the STP have now been addressed.

4.3 DECC and RTA Review of the Submissions Report

The DECC has advised the Department that the conditions of approval should require the implementation of the management considerations and recommendations included in the Proponent's Submissions Report to ensure the adequate protection of the three identified Aboriginal sites. The Department has noted this and included measures to ensure the Aboriginal sites are managed and maintained appropriately in the recommended conditions of approval.

The DECC recommended a Statement of Commitments requiring that a biodiversity offset strategy be developed to improve or maintain the biodiversity values of the project site. Negotiations have occurred between the DECC and the Proponent, and the DECC is satisfied that the response to the submissions meets its requirements. Impacts to biodiversity have either been avoided or mitigated through:

- revegetation of the eastern, western and southern boundaries of the project site with species that are representative of the Fuzzy Box Woodland community and locally indigenous woodland species;
- avoidance of disturbance to all canopy trees during the construction of the natural gas pipeline; and
- monitoring of revegetated areas along the natural gas pipeline for weed infestation and the active management of any infestations.

The DECC recommended that either the Statement of Commitments be amended or that a condition of approval be imposed which adequately identifies the DECC's requirements concerning methods to protect the biodiversity of the area. The Department has noted this, and included to the satisfaction of the DECC, measures to maintain and improve the biodiversity values in the conditions of approval.

The RTA stated that the comments in its submission have been incorporated into the Submissions Report. The RTA notes that during the detailed design stage of the project, the Proponent will liaise with itself and Council as required to scope the necessary upgrade requirements of Pat Meredith Drive. To ensure these requirements are incorporated into the project delivery, the Department has specified this in the recommended conditions of approval.

5. ASSESSMENT OF ENVIRONMENTAL IMPACTS

After consideration of the Environmental Assessment, submissions and the Submissions Report, the Department has identified the following key environmental issues associated with the proposal:

- land-use impacts
- air quality impacts;
- noise impacts; and
- ecological impacts

All other issues are considered to be minor and have been adequately addressed as part of the Proponent's Submissions Report (dated 28 February 2008) and the Department's conditions of approval.

5.1 Land-use Impacts

Issue

A private landholder is concerned with the impact the project may have on the future potential to subdivide its property and develop private land close to the project site. The property is located immediately north of the Condobolin Road, opposite Pat Meredith Drive and approximately 500 metres from the project site. The Council has advised the Department that the property is zoned as Rural 1 (a) (Rural "A" Zone) and can still be subdivided without any rezoning required. However, the Council has also advised that the application for this subdivision was approved in 1992, which has since lapsed.

Consideration

Even though the Development Application consent has lapsed for this property, the landholder may still have plans to subdivide the property. Noise and visual impacts may affect the potential selling value of this property. Impacts from air, traffic flow volumes and operational hazard are considered to be minor and have been adequately addressed in the recommended conditions of approval.

As nobody currently resides in this property, operation noise rather than construction noise may have a direct impact to the future selling value of this property. The Department's noise assessment is detailed in section 5.3 of this report. This property is located in the vicinity of the existing six closest residences to the site, identified in section 5.3 of this report. The property is adjacent to the Hazelwood property and opposite the Velvedere property. Velvedere is the closest existing residence to the project site, located approximately one kilometre southeast of the site. No exceedance of noise is predicted during the construction phase expect potentially at the Velvedere location. The Proponent has stated that the predicted construction noise levels would be reviewed prior to construction and a Construction Noise Management Plan would be developed to include a suitable construction program, avoiding or minimising the actual noise levels. No exceedance of noise is predicted at these existing six closest residences during operation of the power station.

The property is situated close to the northern boundary of the project site, which adjoins the existing TransGrid substation (refer to Figure 2). Mature trees along the majority of its boundary, including dense tree planting alongside Condobolin Road, predominantly screen the substation. As the exhaust stacks are the highest structures associated with the project, they may be partially viewed from this boundary. The Proponent states that the use of colours that blend into the surroundings and non-reflective materials would minimise the visual contrast between the power station structures and tree canopy background to the north of the project site from potential surrounding views. The Proponent also states that tree planting around the boundary of the project site would provide for additional visual screening to potential views from surrounding areas.

The Department is satisfied that the direct impacts to this private property have been addressed in the Environmental Assessment and that potential impacts can be managed and mitigated provided the Department's recommendations of noise monitoring are carried out and the Proponent implements its environmental commitments.

5.2 Air Quality Impacts

Issues

An air quality assessment was undertaken as part of the Environmental Assessment. The assessment on local air quality was conducted in accordance with the *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales* (DEC 2005).

Impact on local air quality
The key contaminants that were considered are those that are typically associated with gas fired power stations, that is, carbon monoxide, nitrogen dioxide (all nitrogen oxides are assumed to be in the form of nitrogen dioxide), sulfur dioxide, hazardous air pollutants and particulates. Dispersion modelling of predicted site emissions was conducted as part of the assessment. The modelling evaluated two different scenarios of facility operation. The operating scenarios evaluated were:

1. natural gas operation; and
2. distillate operation

Start-up conditions of operation were not included in the dispersion modelling. The Proponent states that the proposed turbines would reach full load within ten minutes from the commencement of combustion and that NO_2 emissions would be greatest during full load, not during start-up. The results of the dispersion modelling, under both natural gas and distillate operation, revealed that all the key air contaminant concentrations did not exceed the DECC regulatory criteria and were well below it (i.e. the predicted total impact of pollutants generated by the power station are below the 'relevant air quality goal' criteria). For example, for both the one hour and eight hour averages, cumulative concentrations of carbon monoxide, operating under natural gas, were shown to occur at concentrations below regulatory guidelines, i.e. 4507.3 $\mu g/m^3$ (DECC criteria: 30,000 $\mu g/m^3$) and 3227.4 $\mu g/m^3$ (DECC criteria: 10,000 $\mu g/m^3$) respectively.

It should be noted that the modelling was conducted on the basis that the power station would be operating continuously under the two scenarios described above. However, the Proponent is not seeking approval for continuous operation, rather, the Proponent is seeking peak demand operation with additional hours permitted only as may be necessary to respond to an electricity network emergency.

There is no exceedance of the DECC's established ambient air quality criteria. For this assessment, the ground level guidelines for oxides are limited to NO_2. It is nitric oxide (NO) which is mostly formed from fuel combustion, with approximately less than 10% occurring as NO_2. The assessment was based on the assumption that all NO_X emitted by the power station was emitted in the form of NO_2[1]. As such the Proponent states that the cumulative NO_2 values estimated are conservative. Furthermore, the Proponent emphasises that the facility is expected to operate for less than 10% of any year and the short-term dispersion modelling results were based on the worst case scenario, where the facility will operate for every hour of the year on natural gas or distillate. Thus the impacts will be significantly less than modelled. In addition, the Proponent states that the annual average NO_2 concentrations, when modelled under the operating conditions, were shown to be well below the guidelines. Hence the long term impacts are considered to be negligible.

Consideration

The Department is satisfied that the assessment undertaken of potential air quality impacts from the proposal is adequate. Predictive air dispersion modelling was undertaken, which examined operating scenarios that all involved the operation of the facility on a continuos basis. The proposal was found to meet the relevant DECC criteria for each of the contaminants.

It should be noted that the air quality assessment examined the impact of the proposal under continuous operating conditions whereas the actual operation would be limited to approximately 5% to 10% of the time with additional hours permitted only in the event of an electricity network emergency. Therefore any air quality impact, even that which has been shown to comply with the DECC's ambient air quality goals, will be considerably less than that described in the Environmental Assessment.

[1] DECC air quality criteria for NO_2 concentrations levels do not specify NO_x concentration levels.

The Department believes that provided the Proponent implements all the nominated environmental commitments during the design and construction phases of the project, the resultant air quality impacts from the proposal would be negligible:

- Design phase
  - the assumptions and emission estimates used in the assessment would be reviewed and should the expected emission rates or stack details increase over the values used, the modelling would be revised to ensure that relevant air quality standards would be met; and
  - opportunities to minimise emissions to air would be investigated and implemented wherever practicable to ensure that off-site impacts are kept to a minimum.
- Construction phase
  - Any emissions of dust particulates would be controlled through the implementation of mitigation measures, which would be incorporated into a Construction Environmental Management Plan;
  - In dry windy conditions, dust suppression measures would be implemented on disturbed areas. Construction or earthmoving activities which have the potential to create dust will cease when wind speeds reach 30 km per hour;
  - Where practical, earthmoving works or particularly dusty works would be scheduled under favourable meteorological conditions;
  - Loose materials movement by vehicle to/from the site would be managed appropriately;
  - Any long-term stockpiles would be stabilised using measures such as fast seeding grass or synthetic cover spray; and
  - Measures such as reducing vehicle speeds on unsealed areas would be employed to minimise dust.

Notwithstanding this, the Department believes the Proponent should be required to undertake regular emissions testing to ensure that air contaminants from the site remain well below the nominated criteria. The Department has recommended a range of conditions to ensure that strict air emission limits are met throughout the entire life of the project. These include dust management at the construction stage and requiring that fuel burning equipment meet air emission requirements when operational. The Department, in consultation with DECC, has recommended maximum allowable air discharge concentration limits for the oxides of nitrogen. The Department has also recommended that prior to the installation of any fuel burning equipment associated with the proposed power station, the Proponent will submit to the DECC, a manufacturer's performance guarantee. This will ensure that the equipment, which, when operating at design load will comply with the air discharge limits specified by the Department. Further, the Department recommends that an air quality monitoring program be established and maintained throughout the operational life of the project, with annual reports detailing the results required to be submitted to the Department as detailed in the conditions of approval.

The Department notes that gas turbines are clean burning, the fuel is burnt at very high temperatures, with a large amount of excess air, which promotes complete combustion of the fuel, thereby reducing the emissions of particulates, carbon monoxide and volatile organic compounds. The large volumes of air in the gas turbine combustion process reduces the production of such air contaminants, however excess air at high temperatures does promote the formation of NO_x, where atmospheric nitrogen is oxidised into nitric oxide and nitrogen dioxide.

The Proponent states that a significant fraction of the proposed operation of the gas turbines would be at low operational loads, and that wet low NO_x burners provide better overall control for NO_x under the proposed low-load operating regime than dry Low NO_x burners. As such the Proponent will be using wet low NO_x burners. As noted by the DECC in its submission, dry Low NO_x burners provide greater NO_x control at higher or full operational loads than wet low NO_x burners. Low NO_x burners control fuel and air mixing at each burner, which creates larger flames. This reduces the peak flame temperature and results in less NO_x formation.

The DECC has recommended an annual average NO_x limit for the operation of the power station. The Proponent must provide an annual report to the DECC to confirm the NO_x emissions from the operation of the power station. The Department agrees with the DECC's opinion and has recommended appropriate pollutant discharge limits and reporting requirements.

It is the opinion of the Department that provided the Proponent's mitigation measures be implemented and the recommended conditions of approval are adopted, the project would meet all relevant air quality criteria.

5.3 Noise Impacts

A noise assessment was conducted as part of the Environmental Assessment to determine the potential noise impacts associated with the construction and operation of the proposal. The operational noise assessment was conducted in accordance with the requirements of the *NSW Industrial Noise Policy* and considered both intrusive noise impacts and the impact on local noise amenity. The assessment of the construction noise impacts was assessed against the criteria provided in Chapter 171 of the *Environmental Noise Control Manual*. The assessment of construction and operational traffic noise along the main access routes to the site was assessed in accordance with the *Environmental Criteria for Road Traffic Noise*.

Construction Noise

Construction of the power station

The construction noise criterion for this project is 35 dB(A). The following two scenarios were considered to predict the worst case noise levels associated with the construction:

1. A worst case month where activities, including earthworks, construction of the internal roads and construction of the slab are anticipated to occur simultaneously.
2. A worse case month where activities, including construction of the building, fitout and landscaping are anticipated to occur simultaneously.

Table 2 shows the calculated construction noise levels for the power station, measured at the six nearest residential receivers in relation to the plant location. It should be noted that the area shaded red represents an exceedance to the noise criteria.

Table 2: Calculated Power Station Construction Noise Levels at Existing Receivers (reproduced from the Proponent's Environmental Assessment)

Location No.	Calculated Noise Level $L_{Aeq,\ 15min}$(dBA)		Noise Criteria $L_{Aeq,\ 15min}$(dBA)
	Scenario 1	Scenario 2	
1 (Velvedere)	44	39	35
2 (Millers Lookout)	<20	<20	35
3 (Hazelwood)	23	<20	35
4 (Pine Lodge)	<20	<20	35
5 (Warawee)	<20	<20	35
6 (south-west of project site)	<20	<20	35

A 9dB(A) exceedance is predicted for the worst case month at Location 1 (Velvedere). The Proponent states that once the contractor is selected, the plant, processes and duration will be better known. A Construction Noise Management Plan will be developed to confirm the assumptions of the potential construction noise. The Proponent states that appropriate mitigation measures will be investigated. For example, the selection of quiet plant and processes, limiting the number of processes which will occur simultaneously, retrofitting reverse alarms that are quieter and would not annoy any residents, such as "smart alarms" and "quacker alarms".

The Proponent further states that the noise will sound similar to agricultural equipment and hence may not be perceived as a nuisance by residents. The Proponent also states the residence at Location 1 will be notified and noise mitigation will be discussed as part of the Construction Noise Management Plan. It should be noted that the calculated noise levels for the construction of the power station do not take into account any mitigation measures.

Installation of the Natural Gas Pipeline

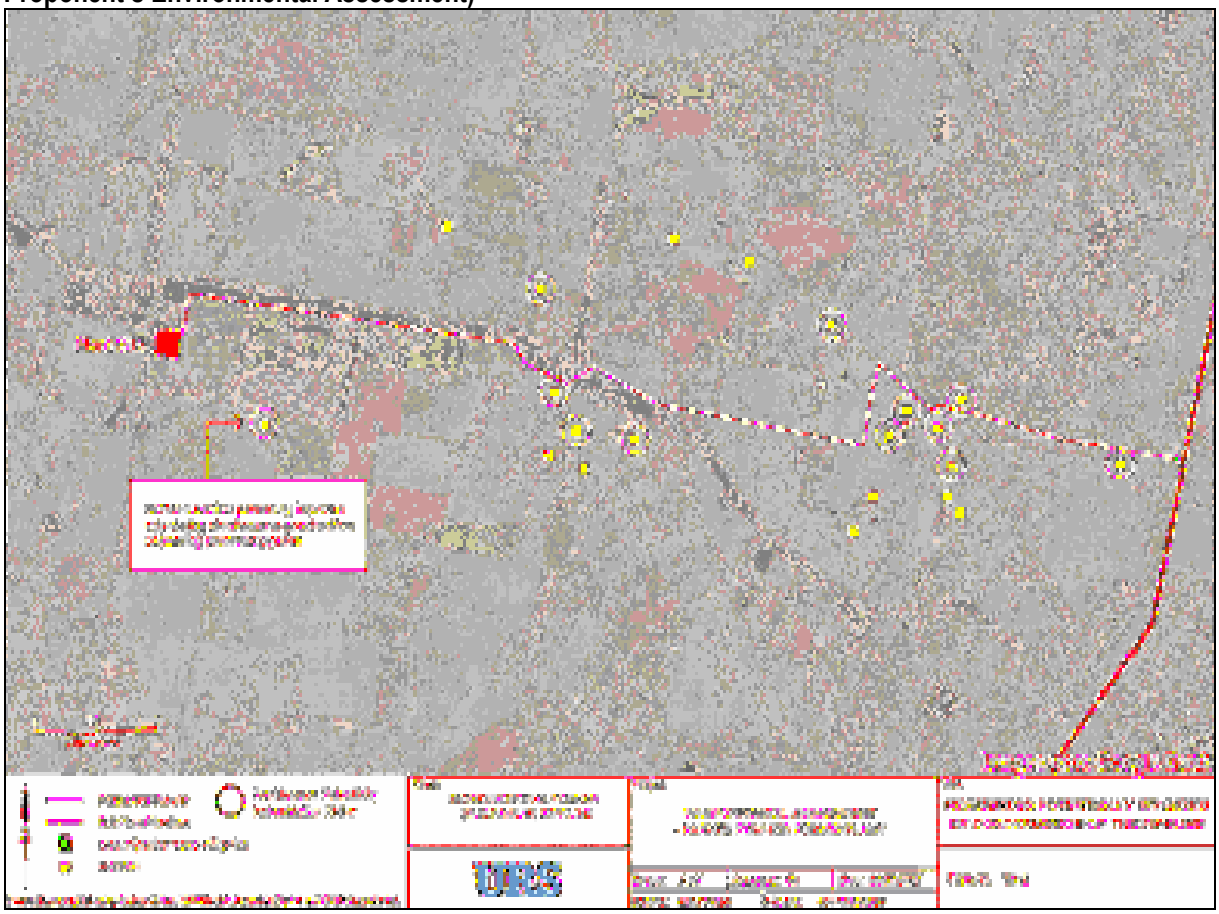
The noise criterion for the installation of the natural gas pipeline was established as 50 dB(A). This is because the construction site will move along as the pipe is laid, and it has been estimated that any residence will be impacted by the noise for less than four weeks. Hence the noise criterion for this construction was calculated as the minimum background dB(A) plus 20dB(A).

Any residence within 600 metres of the pipeline will experience noise levels above the noise criterion of 50dB(A). The assessment identified 11 residences within this distance as shown in Figure 6 below. The houses within 200 metres of the construction zone noise levels, could expect noise levels between 60-64dB(A) and 69-73dB(A) if a rock breaker is used, exceeding the 50dB(A) noise criterion. All the 21 houses shown in Figure 6 would have some noise impact if the construction site would be within approximately 1200 metres.

The Proponent states that all the residences within 200 metres of the construction zone would be notified when the construction commences. The Proponent also states that if necessary, the use of temporary screens will mitigate the noise impact from the extensive use of rock breakers. Furthermore, some of these residences are closer to Parkes, where background noise levels could be above that of 30dB(A). Additionally, the construction noise will be similar in character to agricultural machinery. The Proponent states that these factors would mitigate the noise impact to a small extent.

Location 1 (Velvedere) would experience a noise level up to 48dB(A) if the construction of the pipeline coincides with one of the noisier phases of power station construction. However, the Proponent states that once the construction contractor is selected, the power station, processes and duration will be better known and reviewed against assumptions made in the assessment. A Construction Noise Management Plan will be developed and all reasonable and feasible noise mitigation measures will be investigated. The residence at this location will be notified and the noise mitigation measures will be discussed as part of the Construction Noise Management Plan.

Figure 6: Residents Impacted by the Construction of the Natural Gas Pipeline (reproduced from the Proponent's Environmental Assessment)



Operational Noise

Predicted Noise Levels

The noise impact assessment found that under all calm isothermal conditions and adverse conditions, the predicted noise levels would meet the noise criterion of 35 dB(A) at all existing residences. At locations 2 (Millers Lookout), 5 (Warawee) and 6 (SW of site), the noise levels will always be less than 20 dB(A). Impacts from traffic and vibration noise are considered to be negligible for this assessment.

Potential for Sleep Arousal

The potential for sleep disturbance within the residences will likely be greatest during the early morning hours (2.00-4.00am) when background noise levels are at their lowest. The Proponent states that there are no sources identified that will produce instantaneous, short-duration, high level noise events. There would also be no reason for the site to be visited during the night-time period, even if there is need to operate the facility. Any repairs or maintenance would be scheduled for the daytime period. Therefore, the overall impact to the sleep of nearby residences would be negligible.

Consideration

The Department is generally satisfied that the assessment undertaken for impacts associated with noise is adequate. However both the DECC and the Department agree that the proposal site is situated in a very quite rural location, where any increase of noise will likely be easily noticed and affect the amenity of the residents. The noise assessment finds that while operational noise emissions from the project site will comply with the applicable limits, predicted noise levels during adverse weather conditions are predicted to be slightly above the noise levels during neutral or calm weather conditions. Furthermore, it will be determined during the detailed design phase, whether the gas turbines will emit low frequency tones and if there is a need for the power station to be designed to account for low frequency noise modification factor of 5 dB(A). The assessment concludes that a reduction of 5 dB(A) is achievable, however no evidence is provided which identifies mitigation measures that would ensure this occurs. As such and as noted by the DECC, the Department recommends that once operation commences, noise monitoring is conducted at the Velvedere property in accordance with the requirements of the *NSW Industrial Noise Policy*.

The Department recommends a requirement for the Proponent undertake noise monitoring within 90 days of the commencement of operation, which should meet the requirements of the DECC. The noise monitoring program will confirm the noise emission performance of the power station. The Proponent must provide a report of the monitoring results to the Director-General and the DECC within 28 days of completion of this testing. This will make certain that operation of the facility is occurring within the Department's recommended criteria and the Proponent's predicted noise outcomes. The report must include, but not be necessarily limited to, details of:

- noise monitoring methodology;
- location of noise monitoring;
- frequency of noise monitoring; and
- any complaints relating to noise impacts.

The Proponent is required to submit a Construction Environmental Management Plan (CEMP) for the approval of the Director-General prior to the commencement of any construction works. The CEMP would include the measures to monitor and control noise emissions during construction works. The Proponent, in order to avoid or minimise actual noise levels, would develop a Construction Noise Management Plan, which would be included in the CEMP. This plan would contain a review of the predicted noise levels and include a suitable construction program.

Similarly, the Proponent is also required to submit an Operation Environmental Management Plan (OEMP) for the approval of the Director-General prior to the commencement of operation of the project. The OEMP would include a Noise Management Plan, where the measures to mitigate and manage operational noise would be further detailed. To demonstrate that the noise levels comply with the applicable limits, the Proponent is also required, as

part of the Noise Management Plan, to submit to the Department, the procedures to generate documentation for environmental auditing.

The Department believes that the noise impacts can be managed provided the Proponent's mitigation measures and the Department's recommended management measures in the conditions of approval are implemented.

5.4 Ecological Impacts

The Proponent conducted an assessment of the potential impacts the project will have on the local flora and fauna. To assess the impacts of the project on ecological values, the Proponent's ecological impact assessment was based on the following legalisation:

- *NSW Threatened Species Conservation Act 1995* (TSC Act);
- *Commonwealth Environment Protection Biodiversity Conservation Act 1999* (EPBC Act);
- *Environmental Planning and Assessment Act 1979* (EP&A Act);
- *Native Vegetation Act 2003*;
- *State Environmental Planning Policy No 44 – Koala Habitat Protection*; and
- *Noxious Weeds Act 1993*.

The assessment consisted of literature reviews and field surveys. The literature reviews were stated to have involved the identification of the environmental features of the locality by reviewing available literature and government databases, such as the NSW National Parks and Wildlife Services Wildlife Atlas database and the *Environment Protection and Biodiversity Conservation Act* (EPBC) online Protected Matters Database. The literature review results are summarised in Table 4 and Table 5 on the following pages. Results from the literature review identified five threatened plant species and twenty-two threatened animal species to have been previously recorded in the area. The koala and the grey-headed flying fox are the two vulnerable species predicted to occur in the local area. Of the twenty-two animal species, sixteen are considered to occur on site of which fourteen are classed as vulnerable and two endangered under the TSC and/or EPBC Acts.

Table 4: Threatened Flora Recorded within the Locality (reproduced from the Proponent's Environmental Assessment)

Scientific name	Conservation Status	Potential Occurrence at the Site
Diuris sheaffiana[1+#]	V	Low-medium
Goodenia macbarronii[1+]	V	Medium
Austrostipa metatoris[1+#]	V	Low-medium
Austrostipa wakoolica[1,2]	E, E1	Medium
Swainsona murrayana[1+#]	V	Medium

1 = Threatened species listed under TSC Act 1995 previously recorded within 10km of the site
2 = Threatened species or species habitat listed under EPBC Act 1999 predicted to occur in local area
+ = Vulnerable species listed on TSC Act
# = Vulnerable species listed on EPBC Act
E1 = Endangered species listed on TSC Act
E = Endangered species listed on EPBC Act

Table 5: Threatened Fauna Recorded within the Locality

Animal Classification	Total Number of Vulnerable and Endangered Species Listed on the TSC Act 1995 and/or EPBC Act 1999	Potential High Occurrence at the Site	Potential Medium Occurrence at the Site
Aves	20	1	13
Mammalia	4	2	2
Osteoycthes	2	Nil	Nil

From the literature review, it was predicted that two significant ecological communities may occur in the area - White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and the Fuzzy Box Woodland (endangered under the TSC Act). The Fuzzy Box Woodland community was observed during field surveys in the vicinity of the power station site and gas pipeline route. Figures 7, 8 and 9 illustrate the areas on site covered by this community. This woodland is highly fragmented in the regional landscape and features moderate to high levels of disturbance.

Targeted field surveys identified 74 flora species in the study area. None of these species are listed under the TSC or the EPBC Act. However at the time of the field assessment, the region was in a period of prolonged drought. It is therefore suspected that many species present as dormant tubers or in the seed bank would have been undetected.

Field surveys of the locality were stated to have been conducted in accordance with the *Threatened Biodiversity and Assessment Guidelines for Developments and Activities Working Draft* (2004). The field assessment surveys revealed five vegetation communities in the area (refer to Figure 7, 8 and 9):

1. Fuzzy Box Woodland
- Fragmented regionally however a thin strip of degraded woodland vegetation creates an intermittent connection to other remnants.
- Large hollow trees observed within this community, which may provide habitat for woodland birds, bats and some local reptile species. However, the Proponent states that it is unlikely that large forest owls or arboreal fauna species are abundant within the area, as there is limited extent and connectivity of woodland or forest in the area.
- Contains high densities (>75% of the total number of trees) of the secondary food trees *Eucalyptus microcarpa* and *E. blakelyi*. Although no signs of the koala, including scats or scratch marks, were found during the site survey, this woodland is considered to be a potentially significant habitat for the koala. The construction of the gas pipeline will impact on approximately 0.18 hectares of this woodland.

2. Disturbed Remnant Woodland
- Supports some mature canopy trees and with moderately sparse ground cover of grasses, herbs and weeds.
- Contains significant habitat for native birds and possibly arboreal mammals, such as hollows and fallen timber.
- The construction of the power station site will impact upon an approximately 50 metres wide strip of this woodland, i.e. the entrance road of the site. The Proponent states that less than five mature trees will need to be removed.

3. Ungrazed Cleared Land
- Consists of grassland or shrubland, with occasional isolated paddock trees and restricted to fence lines and road reserves.
- Construction of the proposed access road will impact upon approximately 0.87 hectares of this vegetation, around the existing Pat Meredith Drive and entrance road to the TransGrid Substation.

4. Cleared Grazed Land
- Consists of tussock grassland, dwarf open-heathland, and includes sparse groundcover, which is heavily grazed and severely drought affected. Species diversity is very low and dominated by escaped crops including wheat and barley, pasture grasses, and weeds.
- Native vegetation is restricted to sparse cover of the herb *Vittadenia gracilis*, heavily grazed salt tolerant plants and isolated clumps of perennial native grasses. The construction of the pipeline would impact upon eight hectares of cleared grazed land.

5. Ploughed Cropland
- Consists of the occasional isolated paddock tree with no shrub-small tree layer present. The entire power station site footprint is located within this vegetation type. During construction of the pipeline, approximately 5.9 hectares of this cropland would be impacted.

The Proponent suggests that the construction of the power station would not have a significant impact because no threatened flora was observed during the field surveys of the plant site and there are no previous records of protected flora occurring on the site. With the exception of the entrance road for the site, the power station site footprint is located entirely within ploughed, low ecological value, cropland.

The assessment suggests that the cleared and disturbed woodland habitat in the vicinity of the power station site is unlikely to support a local population of the Grey-crowned Babbler, due to lack of shrub layer and understorey. This species was observed during the field survey and a 7-Part test of significance was performed for it, as the Fuzzy Box Woodland is a potential habitat for this species. It was found that the removal of this vegetation would have a minor impact on the foraging resources available in this locality. Significant areas of equivalent grade habitat are available in the local area, including 47.5 hectares of existing Fuzzy Box Woodland. The adjacent and surrounding areas that contain high quality habitat will not be impacted by the project. The test concluded that the

project is unlikely to have a significant impact on local populations of this species. The Proponent further states, that due to the absence of a shrub layer, the area would unlikely be able to provide a habitat for woodland birds.

A 7-Part test of significance was also performed for the Greater Long-eared Bat, as the power station site may be a potential foraging habitat for this species. It concluded that the proposal is unlikely to have a significant impact on a local population of this species. Construction impact is further stated to be of low significance to other native fauna, including large macropods and birds. Fauna using these areas are likely to be generalist, open country species and there are other substantial areas of equivalent habitat in the vicinity of the proposal site. Furthermore, the Proponent determined that construction activities for the power station are unlikely to have significant impacts on surrounding areas of higher grade fauna habitat, e.g. Fuzzy Box Woodland. This is because areas of quality fauna habitat are already disturbed, fragmented and weed susceptible, due to the developed nature of the surrounding region.

Secondary construction impacts may include increased risk of soil erosion and the transmission of weed propagules. The management of these potential impacts are to be addressed by the Proponent in the Construction Environmental Management Plan (CEMP), in line with the mitigation measures presented in the Environmental Assessment. Such measures include the temporary fencing of intact areas prior to constructing the power station to limit the spread of weeds into adjoining remnant vegetation and not placing stockpiles of fill or vegetation in areas of adjoining vegetation during the construction of the natural gas pipeline.

There are unlikely to be operational impacts associated with the construction of the natural gas pipeline, since the ground surface would be reinstated and revegetated. There will be no above ground infrastructure associated with the natural gas pipeline itself. Potential operational impacts resulting from the construction of the power station may include sediments and runoff. The CEMP would include the safeguards and mitigation measures to minimise such potential impacts from additional runoff and associated erosion and the transfer of sediments. The Proponent considers the risk of additional impacts with respect to the power station to be low. This is due to the plant site location, very flat local area and low rainfall rate in the local region. The Proponent also states that artificial lighting may be required for emergencies, maintenance or security, however would be designed as 'down lights'. These lights would not spill outside areas of disturbance proposed by the project and hence would reduce the potential discouragement of habitat use by nocturnal animals.

Figure 7: Natural Gas Pipeline Vegetation Communities (reproduced from the Proponent's Environmental Assessment)

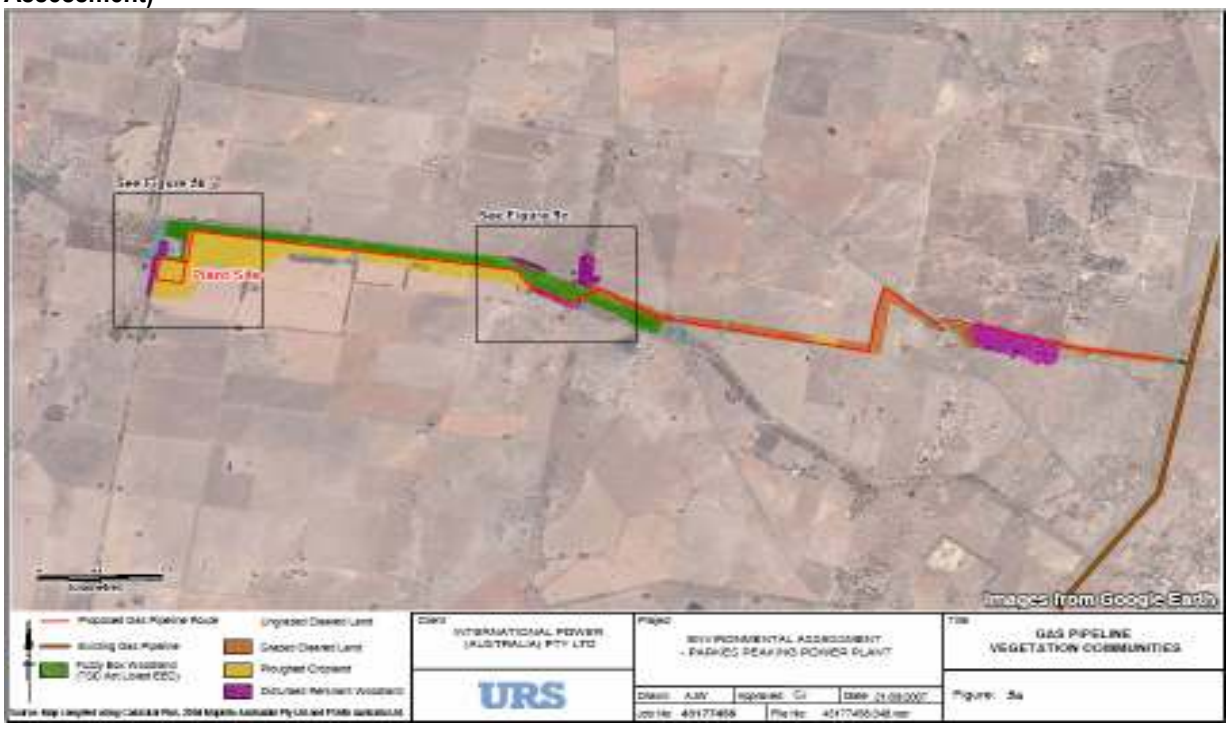


Figure 8: Magnified Portion from Figure 7 – Road Reserve Vegetation Communities (reproduced from the Proponent's Environmental Assessment)

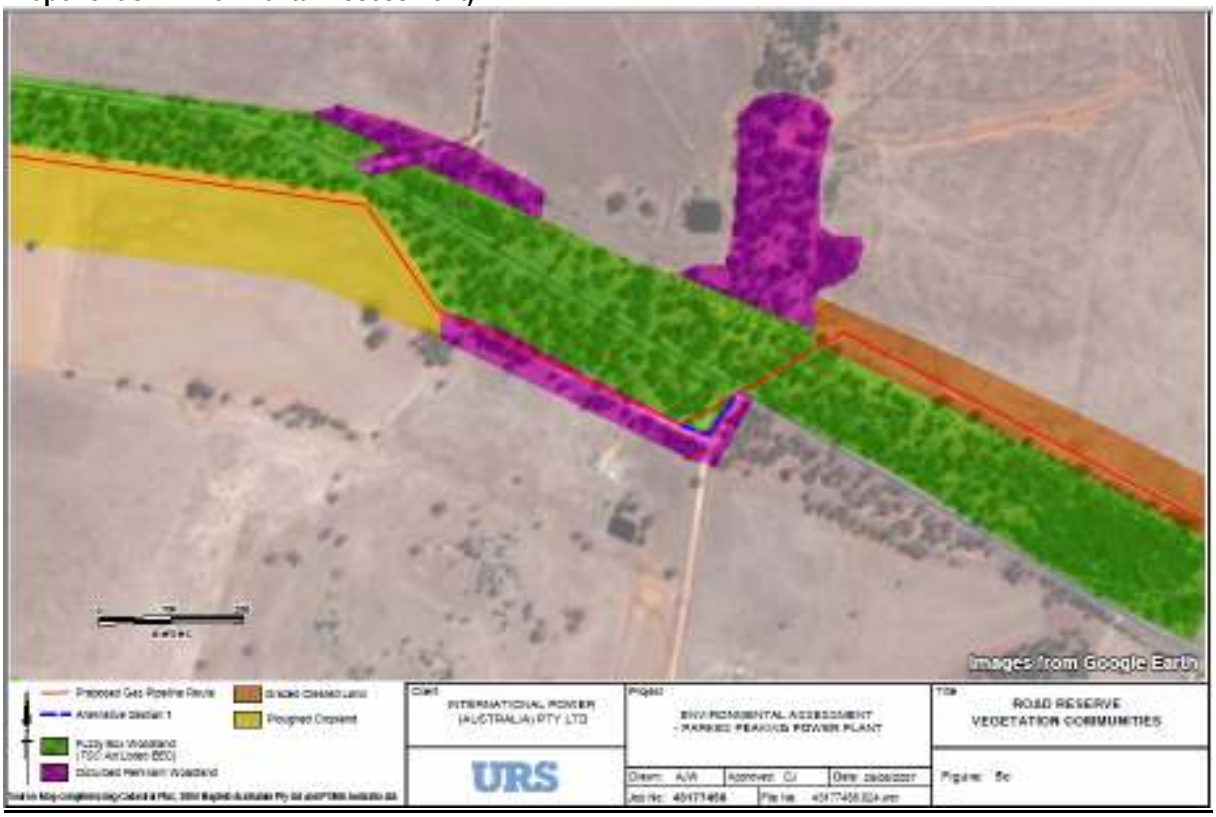


Figure 9: Power Station Site Vegetation Communities (reproduced from the Proponent's Environmental Assessment)

Consideration

Although the Department finds the evaluation method of ecological impacts to be adequate, the assessment was conducted during a period of drought, making it difficult to confirm the low ecological impact. Further the DECC has noted the assessment is reliant on existing species and database records and no nocturnal surveys were conducted to assess if the road remnant vegetation provide habitat for threatened species, such as owls and arboreal mammals.

The Department however does believe that the potential ecological impacts of the project can be managed through adequate conditions of approval. The Department recommends that the Construction Environmental Management Plan (CEMP) detail the measures described in the Environmental Assessment to minimise the impacts to the local ecology of the area during the construction of the proposal. For the construction of the natural gas pipeline, the Proponent has committed to implement a seven metre wide construction footprint in all areas of woodland, including the Fuzzy Box Woodland and the disturbed woodland (refer to Figure 8). The trench route for the natural gas pipeline would be selected to utilise natural gaps between trees. In all other areas, construction of the natural gas pipeline would not disturb an area in width greater than 25 meters. This will ensure that low impact construction techniques are implemented for the construction of the natural gas pipeline, thereby minimising the local ecological impacts.

The Department has also recommended that the Proponent revegetate the eastern, western and southern boundaries of the project site, with species that are representative of the Fuzzy Box Woodland community and locally indigenous woodland species. The Department also recommends a requirement for the Proponent to avoid, in all areas of the Fuzzy Box Woodland and the Disturbed Remnant Woodland, which is located immediately south of the Fuzzy Box Woodland (refer to Figure 8), the disturbance to all canopy trees during the construction of the natural gas pipeline. The revegetated areas along the natural gas pipeline would be monitored for weed infestation and any infestations will be actively managed by the Proponent.

The Proponent has committed to consult with an ecologist during the detailed design phase of the project to ensure that the final placement of the entrance road impacts upon as few mature trees as practicable. As detailed above, all mature trees would be avoided in all areas of the Fuzzy Box Woodland and the Disturbed Remnant Woodland. As part of the CEMP, the Department recommends that the Proponent provide details of the total number of trees to be removed and a description of all other relevant construction activities. The retention of mature, hollow bearing trees is important, as these are limited and a declining resource in agricultural landscapes. As such, where the removal of mature trees cannot be avoided, the Proponent has committed to provide nest boxes for impacted fauna. Furthermore, and any felled trees (logs) will be placed in the remaining woodland or in the revegetated areas. This process will ensure the provision of alternative shelter for fauna impacted by any tree removal.

The Department believes that provided the Proponent implements all the nominated environmental commitments and the Department's recommended management measures in the conditions of approval, the ecological impacts can be minimised and adequately managed.

6. CONCLUSIONS AND RECOMMENDATIONS

The Department has assessed the Environmental Assessment, Statement of Commitments, submissions received and the Submissions Report, and is satisfied that the impacts of the project can be mitigated and/ or managed to ensure an acceptable level of environmental performance.

The Proponent will address concerns regarding the traffic and road impacts during construction and operation of the project and the measures employed for better water management during the detailed design phase of the project. The further information required and the mitigation and management measures for these issues will be provided in the Construction Environmental Management Plan (CEMP). The Director-General, in order for construction to commence, must approve this Environmental Management Plan. The Proponent must submit appropriate plans as part of the CEMP to ensure the requirements of the Department are satisfied. The Proponent is also required to manage air and noise impacts during construction and operation of the project as detailed in the recommended conditions of approval.

Development for the power station is mainly restricted to cleared agricultural land with low ecological values. Construction of the entrance road would require the clearing of less than five mature trees and a small area of disturbed natural vegetation. Fauna and flora within this area are generally widespread and common species. The Greater Long-eared Bat, the Grey-crowned Babbler and the Fuzzy Box Woodland community, all listed under the TSC Act, may occur in the surrounding area. If the Proponent complies with recommended conditions of approval and its Statement of Commitments, the construction and operation of the power station is unlikely to have a significant impact to the ecological value of the area. Construction along the proposed natural gas pipeline route will require the clearing of an area of the Fuzzy Box Woodland. A maximum seven metre wide construction footprint would be implemented in all areas of this woodland. The proponent would revegetate the eastern, western and southern boundaries of the project site with species that are representative of the Fuzzy Box Woodland community and locally indigenous woodland species. This revegetation will provide a corridor link between the north-eastern and south-western corners of the project site. Disturbance to all canopy trees during the construction of the natural gas pipeline would be avoided and the revegetated areas along the natural gas pipeline would be monitored for weed infestation.

The Department believes the Aboriginal heritage items located during site surveys can be appropriately managed, provided the Proponent carry out the specific requirements detailed in the recommended conditions of approval. Both the DECC and RTA found the Proponent's Submissions Report as satisfactory and provided key issues for the Department to address in its recommended conditions of approval.

The Department recommends that the Minister for Planning consider the findings and recommendations of this report and approve the project, subject to the conditions of approval.

APPENDIX A – RECOMMENDED CONDITIONS OF APPROVAL

APPENDIX B – STATEMENT OF COMMITMENTS

APPENDIX C – SUBMISSIONS REPORT

APPENDIX D – ENVIRONMENTAL ASSESSMENT