



International Power



## CHAPTER 16

### Land Use

**URS**

## Land Use and Planning – Summary of Key Outcomes

The Parkes Peaking Power Plant site is 10km west of the township of Parkes. A TransGrid 132kV substation abuts the northern boundary of the site. Other developments immediately surrounding the site are rural enterprises on medium size holdings and smaller rural home sites.

The proposal would result in changes to the land use of the site itself as it is currently used for wheat cultivation. However, the site is located in an area that is zoned for 1(a) (Rural “A” Zoning) and development for the purposes of 'generating works' is permissible with development consent.

The natural gas pipeline route follows road corridors and transects private property. Being underground it does not impact current land use.

Mitigation measures detailed in this Environmental Assessment relating to the control of noise levels, air and water quality, traffic and transportation, visual amenity and other environmental matters, would be implemented to ensure that the proposal is managed in an effective and efficient manner, with minimal impact on existing zoned adjacent land uses during construction or operation.

Potential development areas identified by Parkes Shire Council are not in the vicinity of the power plant site.

On the basis of these assessments, it is considered that the Parkes Peaking Power Plant Project would not have a significant impact on existing land use surrounding the power plant site or the natural gas pipeline.

## 16.1 Introduction

This chapter describes the land use patterns present in the areas surrounding the proposed Parkes Peaking Power Plant Project and assesses the expected impacts of the construction and operation of the proposal on adjoining land uses. One of the main focuses of this section of the Environmental Assessment is to discuss the land use implications of the project.

## 16.2 Existing Land Use – Proposed Peaking Power Plant Site

The Parkes Peaking Power Plant Project is located in the Parkes Local Government Area (LGA). The proposed peaking power plant site is 10 km west of Parkes as shown in **Figure 1-2**.

The proposed power plant site is to be located within a 4.7ha site immediately south of the existing TransGrid substation on the Condobolin Road. According to the current concept design, the power plant is likely to occupy the majority of the 4.7ha to be acquired by IPRA.

The proposed power plant site is zoned 1 (a) (Rural “A” zone) under the *Parkes Local Environment Plan 1990* and is also subject to the *Parkes Shire Council Rural Development – Development Control Plan 1998*. The majority of the land immediately adjacent to the proposed power plant site is zoned 1(a) (Rural “A” zone).

## 16.3 Existing Land Use – Natural Gas Pipeline Route

The proposed natural gas pipeline runs approximately 10km east from Parkes (where Gold Rush Road intersects with the Central West Pipeline) and ends where the gas pipeline enters the proposed peaking power plant site.

The gas pipeline route will be located either within road reserves or within a dedicated gas pipeline easement on private property. Alignment of the proposed gas pipeline is depicted in **Figure 1-2**. The gas pipeline will run along the road reserve of Gold Rush Road, cross Back Trundle Road, following it north west, after which it will cut south and west across private property, before crossing the Parkes to Narromine rail line, then west through private property before crossing Condobolin Road and continuing through more private property to the proposed Parkes Peaking Power Plant site.

On the northern side of Gold Rush Road there is an approved subdivision that has commenced construction. The subdivision is providing for rural-residential development on the outskirts of the Parkes Township.

## 16.4 Existing Land Use – Surrounding Areas

Developments immediately surrounding the power plant site and the natural gas pipeline route are predominantly rural enterprises on medium size holdings with a number of rural home sites of between 2 and 10 hectares adjacent to the eastern end of the gas pipeline. The proposed peaking power plant site is located on private property (Lot 1 in DP 602329) owned by Greens Contracting Pty Ltd. To the immediate north is the TransGrid owned substation. To the immediate west is a public road easement, and beyond that private rural property.

## 16.5 Potential Existing Land Use Conflicts

### 16.5.1 Construction Phase Impacts and Mitigation Measures

The main potential for environmental impacts of construction activities for both the peaking power plant and the natural gas pipeline on surrounding land uses include:

- air quality
- soil erosion;
- traffic flow effects;
- noise impacts; and
- flora and fauna.

The potential impacts of the construction phase of the proposed peaking power plant on surrounding land uses are discussed in relevant chapters of the EIS, including **Chapter 7** (air quality), **Chapter 8** (soils and geology), **Chapter 10** (traffic), **Chapter 11** (noise) and **Chapter 12** (flora and fauna). The potential effects of the proposed construction activities on surrounding land uses are briefly summarised below.

The natural gas pipeline will be located within an easement generally varying between 15 - 25 metres in width. The easement is intended to ensure that the construction works and related impacts are confined within a dedicated area, which will be subject to remediation post-construction.

#### ***Air Quality***

A range of dust suppression measures and soil and erosion controls would be implemented during the construction phase of the proposed peaking power plant and natural gas pipeline. These controls would be incorporated in a construction soil and water management plan to be developed as part of a Construction Environmental Management Plan (CEMP) for each element of the work.

#### ***Soils and Geology***

The soil and water management plans would include procedures and controls to ensure that water runoff from construction activities is minimised, contained and (if required) disposed of appropriately, and to prevent spillages or leaks from construction equipment from entering water channels.

The natural gas pipeline trench will be backfilled progressively as the piping is laid to minimise the risk of erosion from soil stockpiles.

#### ***Traffic and Transport***

##### *Peaking Power Plant Site*

The analysis of the performance of Condobolin Road with the construction traffic volumes indicates that the change in midblock traffic volume is relatively small (approximately 10%) and that the operation volume remains less than 2,400 vehicles per day and level of service remains at **LoS 'A'**. – a good level of service.

## Chapter 16

## Land Use

Based on anticipated construction traffic movements it is expected that the access road intersection with Condobolin Road would continue to operate with a good level of service even with the addition of construction generated traffic (i.e. it will operate at a high LoS) - refer **Chapter 10**.

### *Natural Gas Pipeline*

The natural gas pipeline will cross under Back Trundle Road, Condobolin Road, the Parkes to Narromine rail line and the Travelling Stock Route (TSR). Thrust bore or directional drill techniques can be used for construction of the natural gas pipeline beneath the, Back Trundle, Condobolin Roads and, Parkes-Narromine Railway to avoid disruption to traffic or train movements as a result of the construction works.

A Construction Management Plan would be developed and implemented to minimise the impact of the construction of the gas pipeline, and will include consideration of the timing of construction, in particular with reference to the stock movement patterns.

### **Noise**

The construction of the proposed peaking power plant and natural gas pipeline is not expected to have significant impacts upon local residents. During the construction phase some minor localised and temporary impacts may occur. An assessment of noise (refer **Appendix D**) during the construction phase shows only a minor exceedence at one of the existing residential receivers. A Construction Noise Management Plan would be developed to ensure a suitable program and appropriate mitigation methods are adopted.

### **Flora and Fauna**

Development for the proposed Parkes Peaking Power Plant is mainly restricted to cleared agricultural land with low ecological values. Construction along the proposed natural gas pipeline will require the clearing of an area of the TSC Act listed Endangered Ecological Community Fuzzy Box Woodland. Impacts were assessed on the basis of a low impact construction approach being adopted through this area, which would minimise the amount of clearing required and as such the potential impact is unlikely to place the local occurrence of this community at risk of extinction due to the area of extant Fuzzy Box Woodland in the local area and the temporary nature of the impact. The remainder of the natural gas pipeline route passes through ploughed cropland and cleared grazed land with low ecological values. There are unlikely to be significant impacts on flora and fauna associated with construction through these areas.

A Weed and Pest Management Plan developed as part of the CEMP for the site would minimise the impacts of the development during construction. Implementation of these mitigation measures would ensure that the project would not have any impact on surrounding land use from a flora and fauna perspectives.

## 16.5.2 Operation Phase Impacts and Mitigation Measures

The main potential for environmental impacts associated with the operation of the proposed peaking power plant and natural gas pipeline on surrounding land uses include:

- air quality;
- noise impacts;
- visual impacts;
- traffic flow effects;
- water management; and
- operational hazard.

The potential impacts of the operational phase of the proposed peaking power plant on surrounding land uses are discussed in relevant chapters of the EIS, including **Chapter 7** (air quality), **Chapter 9** (visual), **Chapter 10** (traffic), **Chapter 11** (noise), **Chapter 14** (water management) and **Chapter 18** (preliminary hazard analysis). The potential effects of the proposed operational activities on surrounding land uses are briefly summarised below.

The proposal would result in considerable changes to the land use of the proposed site itself as it is currently used primarily for cropping and/or grazing. The proposed site is located in an area that is zoned Rural A and development for the purposes of power generating projects is permissible with development consent in the Rural A Zone under Parkes Local Environmental Plan (PLEP) 1990.

Operation is not likely to have a significant impact on surrounding land uses due to the limited operating hours of the power plant (up to 10% of the time in any one year) and the large buffer between the proposed peaking power plant and surrounding residences. It is unlikely that the properties surrounding the proposed site would be impacted in terms of the current land uses.

### ***Air Quality***

An assessment of the potential impacts on air quality was undertaken as part of this Environmental Assessment (refer **Appendix C**). The assessment adopted a largely conservative approach, in accordance with the DECC (2005) *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW*. The conservative approach assumed that the peaking power plant would be running all three gas turbines for every hour of the year and assessed both natural gas and distillate fuels scenarios. In order to calculate the cumulative impact of the peaking power plant emissions on the local air quality, worst case background concentrations of the primary pollutants were obtained from the closest DECC monitoring stations.

The results of the "All Units Operating All hours" dispersion modelling showed that the predicted peak impacts in ground level concentrations of NO<sub>x</sub>, PM<sub>10</sub>, VOC's, CO and SO<sub>2</sub>, when added to peak background concentrations, were within the DECC regulatory criteria.

Given the infrequent operating time of the peaking power plant and the conservative nature of the air quality assessment, it is considered that the potential for adverse air quality impacts of the proposed Parkes Peaking Power Plant on surrounding land uses will be negligible.

## Chapter 16

## Land Use

### **Noise**

An assessment of noise (refer **Appendix D**) during the operation phase shows no exceedances at the existing residential receivers. In addition, it was concluded that the potential risk of associated activities that may disturb the sleep of nearby residences would be negligible. Consequently, potential noise impacts associated with the operation of the proposed peaking power plant would have minimal impact on existing surrounding land uses.

### **Water, Soils and Geology**

Mitigation measures would be employed to minimise soil erosion impacts during the operation phase of the proposed peaking power plant.

Priority will be given to recycle stormwater as much as possible - excess volume will be directed into the evaporation ponds to ensure no off-site discharge of potential contaminants. Landscaping measures will minimise the potential for soil erosion.

Appropriately bunded areas or facilities would be included for storage of fuels, oils and chemicals. Areas within the operational plant area would be appropriately drained so that surface runoff would be prevented from infiltrating directly into the ground and from reaching the groundwater. Implementation of these measures would avoid adverse impacts on surrounding land uses.

Wastewater volumes have been estimated and management strategies developed to maintain zero discharge from the site except for natural surface flows and ensure minimal impact on surrounding land uses.

### **Landscape and Visual**

While the overall potential visual impact of the Parkes Peaking Power Plant has been assessed as low the following mitigation measures would potentially reduce the level of visual impact.

The mitigation measures involve a combination of screening of views (tree planting) and reducing the visual contrast between the visible portions of structure and the surrounding landscape. The colour and texture of structures in the Parkes Peaking Power Plant would be selected to blend with the surrounding landscape and utilise non-reflective materials.

Tree and shrub planting within the boundary of the site, utilising woodland species indigenous to the area, would provide additional screening to views from the south and west of the proposed peaking power plant site. Lighting associated with the Parkes Peaking Power Plant would be designed to minimise direct line of sight from homesteads in the vicinity of the site.

### **Traffic and Transport**

The traffic and transport assessment found that Condobolin Road can satisfactorily and safely accept the additional traffic generated by the development during the construction, operational and maintenance phases. IPRA propose to upgrade the access road to comply with applicable standards for the purposes of constructing and operating the Parkes Peaking Power Plant.

### ***Operational Hazard***

The hazard assessment concluded that the risk associated with the proposed peaking power plant and natural gas pipeline is well below all current criteria for a new development and is contained well within boundaries of the proposed power plant site and the natural gas pipeline easement. The risk of injury at the nearest residential area is well below the criterion for new installations.

The risk of propagation of an incident at the proposed peaking power plant does not encroach into any other industrial areas. The risk of fatality does not extend anywhere close to any residential area and is well within the criteria for business / industrial areas. It is therefore considered that the proposed Parkes Peaking Power Plant Project does not have a significant impact on societal risk. Despite the conservatism built into the risk assessment, the results show that the risk associated with this development is very low. The most stringent risk criteria, as required by the DECC are adhered to and therefore the project does not pose issues for the surrounding land uses.

The private lands which the natural gas pipeline easement crosses are used for rural purposes and as such the burying of the natural gas pipeline will allow for the continuation of the existing agricultural uses of the lands after construction has been completed.

## **16.6 Potential Future Development**

### **16.6.1 Current Landuse Zoning**

The site identified for the proposed peaking power plant is currently zoned as Rural A. Development for the purposes of power generating development, such as the Parkes Peaking Power Plant Project, is permissible in the Rural A Zone. The majority of the areas surrounding the proposed peaking power plant site are currently zoned as Rural. The current zoning of these surrounding areas permits activities such as agriculture, rural housing and open space.

### **16.6.2 Potential Future Land Use Conflicts**

There are no known potential land use conflicts as a result of the Parkes Peaking Power Plant Project.

### ***Residential Development***

The potential for future Residential Development on land surrounding the proposed peaking power plant site is restricted as sub-division restrictions of between 40 hectare and 200 hectare minimum allotment size apply to proposed residential development on land surrounding the proposed peaking power plant site.

There are currently no applications lodged with Parkes Shire Council for the land surrounding the site to be rezoned. There is however an approved subdivision that has commenced construction on the northern side of Goldrush Road, near the proposed natural gas pipeline alignment.

It is considered that the proposed natural gas pipeline will not impact the subdivision as it is to be constructed a minimum of 700mm underground within the Goldrush Road reserve and not across the proposed subdivision lots. There may be some temporary impacts during the construction period, such as dust emissions, however these will be mitigated through the implementation of a CEMP for the gas pipeline construction.

## Chapter 16

## Land Use

There are no existing plans identified by Council or any regional or State authority for the area surrounding the proposed peaking power plant site for any changes in current land uses.

### 16.7 Implications for Future Land Value

The implications for the surrounding areas both currently and in the future from the proposed Parkes Peaking Power Plant Project are important issues to the local community. There are two main issues that need to be considered in this discussion:

- the effect on the current value of the surrounding lands; and
- opportunity cost of land over the next 10 to 30 years.

The existing value of land surrounding the proposed peaking power plant site is based on its current use, which as shown is currently zoned as Rural A. However, it has been suggested that part of the current value of the land surrounding the proposed project is based on a belief that within the future this land will be zoned residential, and can hence be developed for housing purposes. This is referred to as a speculative premium. Given the likely timeframes for potential re-zoning and development to occur the speculative premium will be limited at present.

The likely impacts to land values in the short term are forecast to be limited on the basis of existing planning and zoning restrictions and due to:

- the limited operational impacts (and operational times); and
- the limited supporting infrastructure requirements.

### 16.8 Mitigation Measures

The proposal would result in changes to the land use of the site itself as the site is currently used primarily for cropping and/or grazing. However, the proposed site is located in an area that is zoned for rural purposes and development for the purposes of power generation facilities is permissible with development consent. Mitigation measures detailed in this Environmental Assessment relating to the control of noise levels, air and water quality, traffic and transportation, visual amenity and other environmental matters, as detailed in **Chapter 7** through **Chapter 19**, would be implemented to ensure that the proposal is managed in an effective and efficient manner, with minimal impact on existing or possible future surrounding land uses.