



International Power



CHAPTER 9

Visual

URS

Visual Assessment – Summary of Key Outcomes

A total of 17 view locations were selected and assessed. The main components of the proposed Parkes Peaking Power Plant site that may be visible from surrounding areas include exhaust stacks up to 20m, turbine enclosures and air inlet ducts up to 10m, fuel and water storage tanks and workshop and auxiliary structures.

Electricity generated by the proposed Parkes Peaking Power Plant would be connected to the grid network via the existing TransGrid 132kV substation adjacent to the site.

The exhaust stacks, which are the highest structures, have assumed as 20m high for the purposes of this assessment. Subject to final design parameters and air emission considerations the final height may be somewhat less than 20m.

An assessment of the visibility rating for each view location indicated that:

- 12 of the 17 view locations have been determined to have a **NIL** visibility rating;
- 5 of the 17 view locations have been determined to have a **LOW** visibility rating;

Only one of the view locations from residences included in this visual assessment was determined to have a direct line of sight toward the Parkes Peaking Power Plant.

The visual assessment concluded that the proposed Parkes Peaking Power Plant would have a low visual impact on people in areas surrounding the site due to a combination of the following factors:

- Existing trees and natural landforms generally screen the majority of views to the site and would, in most instances, screen the exhaust stacks from surrounding areas.
- Distant and partial views to the upper portions of the exhaust stacks may occur from a limited number of surrounding properties or road corridors, although views would generally be restricted to areas of unoccupied agricultural land surrounding residences.
- The exhaust stacks, which are the highest structures, would only be directly visible from a limited number of surrounding properties, and views to the exhaust stacks would generally be restricted to partial views only.
- The use of colours that blend into the surroundings and non-reflective materials would minimise the visual contrast between the power plant structures and tree canopy background to the north of the site from potential surrounding views.
- In the long term, tree planting around the boundary of the site would provide additional visual screening to potential views from surrounding areas.
- Lighting design would generally avoid direct line of sight from residences that are located to the west of the site.
- Emissions discharged from the gas turbine exhaust stacks will generally not be visible.
- The visibility of machinery and excavations for the construction and installation of a natural gas supply pipeline would be temporary during the installation of the pipeline. Disturbed surface areas will be returned to existing ground conditions. The preferred route for the natural gas supply pipeline would require minimal disturbance to existing trees along the pipeline alignment.

Chapter 9

Landscape and Visual

9.1 Introduction and Methodology

The visual assessment carried out for the Parkes Peaking Power Plant project involved a comprehensive evaluation of the visual character of the landscape surrounding the site and an assessment of the potential visual impacts that could result from the construction and operation of the Parkes Peaking Power Plant.

A primary objective of this assessment was to determine the likely visual impacts of the power plant on people living and working in, or travelling through surrounding areas.

A desktop study was undertaken to identify the potential view catchment of the power plant. This was carried out by reference to 1:25,000 scale topographic maps as well as aerial photographs of the site and surrounding area. The topographic maps and aerial photographs were also used to identify potential view locations that could be verified during the fieldwork component of the visual assessment.

A site visit and ground inspection was carried out to check the extent of the view catchment and verify view locations/category of viewers surrounding the site.

9.2 Parkes Gas Fired Peaking Power Plant Project

Details of the various components of the Parkes Peaking Power Plant development are described in detail in **Chapter 4** of this Environmental Assessment. A summary of the key visual aspects of the site is presented below.

The proposed power plant site will occupy an area of approximately 4.7ha on a plot of 200 metres by 235 metres. The Parkes Peaking Power Plant Project comprises the following key components:

- Three gas turbine enclosures (incorporating air inlet, gas turbine, generator) generally up to 10m high depending upon final plant selection and three associated exhaust stacks (up to 20m high);
- Fuel and water storage tanks generally up to 8m high;
- Three step-up transformers and electrical equipment;
- A natural gas supply pipeline (below ground);
- An above-ground natural gas metering and regulating station. and
- Control room incorporating offices and ablutions, switchroom, workshop and auxiliary system structures

The main components of the site that may be visible from surrounding areas are:

- The gas turbine plant, in particular the three exhaust stacks;
- Fuel and water storage tanks; and
- Control room, switchroom, workshop and auxiliary system structures

Electricity generated by the Parkes Peaking Power Plant would be connected to the high voltage grid network through the existing TransGrid 132/66kV substation adjacent to the proposed power plant site.

9.3 Visual Character of the Surrounding Landscape

9.3.1 Site Context

The location of the proposed Parkes Peaking Power Plant site, approximately 10km west of Parkes, is illustrated on **Figure 9-1**.

The site is proposed to be accessed via an upgraded section of gazetted road reserve, from an existing road intersection with the Condobolin Road.

The overall landscape pattern is generally defined by medium to large scale rectangular cultivated field systems delineated by fences and tree planting. Arable production with some pasture for livestock and cropping make up a significant component of the surrounding land use. At a larger scale, the landscape is divided by roads and tracks that generally follow the rectangular field patterns. Railway lines for passenger and goods transportation run to the south and east of the Parkes Peaking Power Plant site.

Mature tree cover in the vicinity of the site is generally restricted to main road and unsealed track corridors, driveways to private residences and surrounding small clumps of natural or individual tree planting on private properties.

The northern boundary of the proposed Parkes Peaking Power Plant site adjoins the existing TransGrid substation. The substation is predominantly screened by mature tree planting along the majority of its boundary, including dense tree planting alongside the Condobolin Road.

The Condobolin Road corridor runs generally east-west to the north of the site, and follows a straight alignment approaching the site access road from the east, before dipping slightly to cross the Ridgely Creek line. The road climbs gently west of the creek line, and curves away from the site passing between two low knolls.

Land to the east and south of the site is largely agricultural land with occasional tree planting and individual trees along field boundaries. The open agricultural land extends approximately 2.5 to 3km to the east of the site and around 4km to the south.

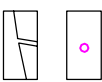
The western edge of the site is bounded by dirt road running approximately north south. The dirt road is accessed via a gate from the end of the bitumen road leading to the TransGrid substation site, and extends approximately 4km to the south.

The landscape surrounding the proposed Parkes Peaking Power Plant site contains a number of constructed elements that contribute to the local visual character, and includes:

- A large existing TransGrid electrical substation facility, including transformers, transmission lines, poles and auxiliary equipment.
- transmission line corridors;
- The Parkes to Narromine, and Orange to Broken Hill railway lines;
- local sealed and unsealed roads; and
- residential dwellings and agricultural structures (sheds, dams and fences).



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NOTE:
Roads, boundaries and buildings have not been surveyed. All base information obtained from aerial photography and is not survey accurate.

Client	Project		Title	
	INTERNATIONAL POWER (AUSTRALIA) PTY LTD	PRELIMINARY ENVIRONMENTAL ASSESSMENT - PARKES PEAKING POWER STATION	SITE AND PHOTO LOCATION PLAN	
URS	Drawn: AH	Approved: CD	Date: 21/03/07	Figure: 9-1
	Job No: 43177456	File No: 43177456.001		

A small number of residences are located in the rural landscape around the site. Most of the residences are not visually prominent due to surrounding landform or the presence of trees around them. Visibility from residential properties was assessed from the combination of desk top study, site analysis and fieldwork carried out as part of the visual assessment process.

Key aspects of the visual character of the area are illustrated on **Figure 9-2**, and in the photographs taken from a number of selected viewpoints. The photographs are presented **Section 9.3.4** of this report.

9.3.2 Landform and Elevation

Landform is a key influence on the extent to which the Parkes Peaking Power Plant may be visible from surrounding areas. The major aspects of landform and elevation are summarised below:

- The Parkes Peaking Power Plant would be constructed on generally level ground immediately to the east of the Ridgely Creek drainage line.
- The site is expected to be constructed at around RL271m.
- The exhaust stacks, as the tallest proposed element of the Parkes Peaking Power Plant, would extend to a height between 15m to 20m high above ground level at RL291m
- The landform to the east of the Parkes Peaking Power Plant site rises gently from the Ridgely Creek drainage line. A small hill 'Millers Lookout' is located on privately owned land approximately 3km to the east of the site, with the top of the hill around RL345m.
- The landform to the west and north west of the Parkes Peaking Power Plant site rises gently with the Condobolin Road passing between two low knolls at around RL305m.
- The Ridgely Creek corridor flows north south to the west of the site with low lying land extending to the north and south of the site and gently rising to the east and west.

9.3.3 Visibility Catchment of the Peaking Power Plant

The visual assessment carried out by LANDstudio involved:

- A detailed field inspection to determine the potential extent of visibility of the site; and
- Determination of the various situations from which the Parkes Peaking Power Plant site could potentially be visible from surrounding areas.

The results of the visibility assessment and potential view catchment are illustrated on **Figure 9-3** and key aspects are summarised by the following points:

- The primary visual catchment of the Parkes Peaking Power Plant is generally restricted to localised views within the immediate vicinity of the site.
- Views from areas of land north of the Parkes Peaking Power Plant site are generally screened by existing tree vegetation along the Condobolin Road corridor.
- Views from the Condobolin Road corridor are generally screened by existing tree vegetation adjacent to the road and within private property adjoining the Parkes Peaking Power Plant site.

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Landscape and Visual

- Views toward the Parkes Peaking Power Plant site from the substation access road are generally screened by tree planting around the TransGrid substation and built structures and buildings within the facility.
- A combination of trees and undulating landform generally block potential views to the Parkes Peaking Power Plant site from the majority of view locations in the surrounding area. Views to the upper portions of the exhaust stacks may occur from a limited number of surrounding view locations, although the majority of these would occur from rural land surrounding properties.
- There were no dedicated public lookouts identified in the immediate area that would have views to the Parkes Peaking Power Plant site.

The following photographs represent views from a number of locations surrounding the Parkes Peaking Power Plant. The photo locations are illustrated in **Figure 9-1**.



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- VISUAL SIMULATION VIEWPOINT LOCATION: V1
- POTENTIAL VIEW LOCATION: L1-L18
- INDICATIVE CADASTRAL BOUNDARIES
- PARKES PEAKING POWER PLANT FOOTPRINT
- PROPOSED GAS LINE EASEMENT (ALTERNATIVE SECTION LIGHT BLUE)
- RIDGELINES
- RAILWAY LINE
- CREEK LINE
- TRACK / ACCESS ROAD
- LOCAL ROAD
- DISTANCE MARKER

NOTE:
Roads, boundaries and buildings have not been surveyed. All base information obtained from aerial photography and is not survey accurate.



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URS	Drawn: AH	Approved: CD	Date: 21/03/07	POTENTIAL VIEW LOCATIONS
	Job No: 43177456	File No: 43177456.002	Figure: 9-2	