

Chapter 9

Visual

9.4 Visual Assessment

9.4.1 Introduction

The potential visual impact of the proposed Buronga Peaking Power Plant could result primarily from the combination of two factors:

- the level of visibility or extent to which the plant structures would be visible from surrounding areas; and
- the degree of visual contrast between the plant structures and the landscape surrounding the site that would form a background from surrounding view locations.

The potential visual impact from particular view situations is strongly dependent on the level of visibility from that location, which in turn is dependent on a number of criteria that are defined in **Table 9-1**.

9.4.2 Visibility

Visibility is a measure of the extent to which particular structures of the proposed Buronga Peaking Power Plant would be visible from surrounding areas, the relative number of viewers, the period of the view, view distance and context of the view.

The underlying rationale for this component of the visual assessment is that, if a part of the proposed plant is not visible from a particular area then the potential visual impact will be nil. Similarly, if the number of people who would potentially see the proposed facility is low, then the visual impact would be low compared to a situation in which a large number of people have the same view. Distance is a strong influence on potential visual impact as the proportion of the total view occupied by the structure decreases with distance and atmospheric effects reduce the visual contrast between the structure and the surrounding landscape.

9.4.3 Visual Contrast

Visual contrast between the proposed Buronga Peaking Power Plant and the background against which it is viewed determines the capacity of the existing landscape setting to visually absorb the new structures without creating a significant change in visual character or producing a reduction in visual quality of the landscape. The capacity to absorb new development is dependent on existing structures, vegetation cover and landform.

At a distance, atmospheric effects could reduce the level of visual contrast between the proposed facility and landscape setting in which it is viewed. The reduced visual contrast can result in a lower level of visual impact. If the proposed gas turbine exhaust stacks were dark in tone and non-reflective then the visual contrast would be further reduced.

9.4.4 Visual Assessment Criteria

The potential visual impact of the Buronga Peaking Power Plant structures from a number of view situations has been assessed against the criteria described in **Table 9-1**.

Table 9-1 View Situation Assessment Criteria

Criteria	Definition
<i>Number of Viewers</i> High Moderate Low Very Low	>500 people per day 200-500 people per day 100-200 people per day <100 people per day
<i>View Distance</i> Long Medium Short Very short	>2km 1km-2km 500-1km <500m
<i>Period of View</i> Long term Moderate term Short term	>120 minutes 1-120 minutes <1minute

The levels of visibility resulting from various combinations of the above criteria are listed in **Table 9-2**.

Table 9-2 Visibility Criteria Matrix

	Long Distance			Medium Distance			Short Distance			Very Short Distance		
Period of View	L	M	S	L	M	S	L	M	S	L	M	S
High No. of Viewers	M	L	L	H	M	M	H	H	M	H	H	H
Medium No. of Viewers	L	L	L	M	M	L	H	M	M	H	H	M
Low No. of Viewers	L	L	L	M	L	L	M	M	L	H	M	L
Very Low No. of Viewers	L	L	L	L	L	L	L	L	L	M	L	L

- **Period of View** L=long, M=medium, S=short
- **Levels of visibility** L=low, M=medium and H=high

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9.5 Visibility Matrix

Table 9-3 presents the results of the visibility assessment from the various potential view situations identified during the field inspection as shown in **Figure 9-9**.

Table 9-3 Visibility Matrix

VIEW LOCATION	APPROXIMATE DISTANCE TO SITE	CATEGORY OF VIEWER	APPROX. PERIOD OF VIEW	RELATIVE NO. OF VIEWERS	LEVEL OF VISIBILITY	VISIBILITY RATING
View Location 1 Rural residences around Mourquong	Long (around 7.5km)	Residents or workers in citrus orchards	Moderate to Long term	Very Low	Long distance views toward proposed development site are blocked by a combination of landform and vegetation.	Nil
View Location 2 Rural residences, Gol Gol North	Long (around 5km)	Residents or workers in citrus orchards	Moderate to Long term	Very Low	Long distance views toward proposed development site are blocked by a combination of landform and vegetation.	Nil
View Location 3 Rural residence	Long (around 6km)	Resident	Moderate to Long term	Very Low	View from residence north east toward proposed development site blocked by a combination of vegetation and landform.	Nil
View Location 4 Rodeo ground	Long (around 3km)	Visitor	Varies, moderate to long term	Very Low to Low	View east to north east from rodeo ground toward proposed development site generally blocked by vegetation.	Nil
View Location 5 Rural residence	Long (around 3km)	Resident	Moderate to Long term	Very Low	View from residence north east toward proposed development site blocked by a combination of vegetation and landform.	Nil
View Location 6 Arumpo Road (south west)	Short (around 0.5 - 1km)	Motorist	Short term	Very Low	View north toward proposed development site from road generally blocked by a combination of vegetation and the existing switching station site.	Low
View Location 7 Arumpo Road	Very Short (less than 500m)	Motorist	Short term	Very Low	Indirect and short term view toward proposed development site from road corridor.	Low
View Location 8 TransGrid switching station site	Very Short (less than 500m)	Maintenance crew	Moderate to Long term	Very Low	View from north portions of the existing TransGrid switching station site toward proposed development site, but generally views are within industrial context of the electrical facility.	Low
View Location 9 Arumpo Road (north west)	Short (around 1km)	Motorist	Short term	Very Low	Indirect view from road corridor toward proposed development site, with some partial screening provided by existing trees alongside road corridor.	Low
View Location 10 Arumpo Road (north west)	Short (around 0.5 - 1km)	Motorist	Short term	Very Low	View from road corridor toward proposed development site, is generally screened by existing trees alongside road corridor.	Low

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9.5.1 Summary of Visibility Assessment

A total of 10 view locations were identified as part of the visual assessment process, and included views from:

- residences;
- vacant/rural land; and
- public road corridors (motorists).

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

- 5 of the 10 view locations have been determined to have a **NIL** visibility rating; and
- 5 of the 10 view locations has been determined to have a **LOW** visibility rating.

9.6 Mitigation Measures

While the overall potential visual impact of the Buronga Peaking Power Plant has been assessed as low the following mitigation measures would potentially minimise 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 the proposed plant structures and the surrounding landscape.

9.6.1 Structures

The colour and texture of built structures within the proposed Buronga Peaking Power Plant should be selected to blend with the surrounding landscape and utilise non-reflective materials. This would potentially minimise the visual contrast between the built structures and existing tree cover to the north and west of the site.

9.6.2 Screen Planting

Tree and shrub planting within the boundary of the proposed site, utilising woodland species indigenous to the area, would provide additional screening to views from the Arumpo Road corridor.

9.6.3 Lighting

Lighting associated with the Buronga Peaking Power Plant would be designed to minimise direct lines of sight from light sources to the Arumpo Road.

The tops of the gas turbine exhaust stacks would not have permanent lighting.

Large floodlights would generally not be used, although it is likely that some lights may be required for emergency lighting to allow emergency maintenance.

Security lighting would be designed and installed to minimise light spill from the proposed facility.

9.6.4 Summary of Mitigating Measures

A summary of the visual mitigation measures is presented in **Table 9-4**.

Table 9-4 Summary of visual Mitigation Measures

Mitigation Measure	Implementation		
	Planning & Design	Construction	Operation
Colour and texture of structures in the Buronga Peaking Power Plant should be selected to blend with the surrounding landscape and utilise non-reflective materials	✓	✓	
Tree and shrub planting should be carried out around the proposed facility to provide additional screening to views from surrounding areas.			✓
Lighting should minimise direct lines of sight from the proposed facility to the Arumpo Road.	✓		✓
Tops of the exhaust stacks should not normally have lighting attached to them.	✓		✓
Large floodlights should not be used other than for emergency lighting.	✓		✓
Security lighting spill from the plant should be minimised.	✓		✓

9.7 Conclusion

Overall, this visual assessment concludes that the proposed Buronga Peaking Power Plant would have a low visual impact on people in areas surrounding the proposed facility due to a combination of the following factors:

- existing trees and natural landforms generally screen views to the site and would, in most instances, screen the gas turbine exhaust stacks from surrounding areas;
- distant and partial views to the upper portions of the gas turbine exhaust stacks may occur from limited portions of the Arumpo Road corridor, although the majority of view locations would generally be restricted to areas of unoccupied agricultural land and pasture in the landscape surrounding the proposed facility;
- the use of colours selected to blend with the surroundings and non-reflective materials would minimise the visual contrast between the proposed plant structures and the surrounding background landscape;
- in the long term, tree planting around the boundary of the plant would provide additional visual screening to potential views from surrounding areas;
- lighting associated with the proposed plant would be designed to minimise light spill; and
- no visible emissions are expected to be discharged from the gas turbine exhaust stacks.