Socio-economic Assessment – Summary of Key Outcomes

An economic impact assessment has been undertaken to determine the potential socio-economic impacts of the proposed Buronga Peaking Power Plant.

The economic impact assessment highlights that the total direct and indirect value added or GDP effects for the construction period are $17.6 million, while the total operational value added or GDP effects are $1.5 million per annum. Employment effects range from 250 Full Time Employment (FTE) positions (including direct and flow on effects on employment) during the construction period, to 16 FTE positions per year of operations when both direct and indirect effects are considered. The effect of this increase in employment on household incomes is $25 million during the construction stage and $1 million per annum during the operational period.

The analysis shows positive economic and social benefits at the national level in terms of contribution to GDP, household income and employment resulting from the peaking power plant construction and operation.

Chapter 17 Socio Economic

17.1 Introduction

This Chapter aims to analyse the direct and indirect social and economic impacts of the International Power (Australia) Pty Ltd (IPRA) proposals to develop the Buronga Peaking Power Plant located in the Wentworth Shire Council area, which is situated in the South West region of New South Wales. In this report, analysis has been undertaken of the construction and ongoing operation of the peaking power plant development.

The Buronga Peaking Power Project comprises the development of a distillate fired gas turbine facility and associated infrastructure approximately 10km north east of the NSW town of Buronga. The facility would generate up to 150MW of electricity.

The main features of the plant include:

- Three distillate-fired gas turbines, each of nominal capacity up to 50MW subject to final plant selection, operating in open cycle mode;
- Three electricity step-up transformers and associated equipment for connection to the existing high voltage transmission system at the TransGrid Switching Station;
- Distillate fuel and water storage facilities;
- Auxiliary system structures;
- Control room incorporating offices and ablutions, a switch room and workshop; and
- Site access and internal site roads.

The plant is proposed to operate as a “peaking plant” in that its role is to generate electricity at times of peak electricity demand in the National Electricity Market and, in part, to relieve transmission network problems under certain load demand scenarios. Based on this operating regime, under normal circumstances it is estimated that the plant will only be operational for up to 10% of any year.

Given the project location, the regions listed below are the likely areas to be impacted by the project and were the focus of socio-economic analysis. It should be noted that the proposed site location is close to the border with Victoria, therefore the analysis includes consideration of regional areas within both NSW and Victoria.

- Wentworth Statistical Local Area (SLA);
- Mildura Statistical Sub Division (SSD);
- Murray-Darling Statistical Sub Division (SSD);
- Murray Statistical Division (SD);
- New South Wales; and
- Australia.

Economic impact analysis has been used to assess the effect of the project at the Australian economy level, which encompasses all local, state and national impacts. Economic impact analysis measures the total economic contribution of a project, infrastructure facility, business operation or industry on an economy. The total economic impact of the proposed peaking power plant development has been assessed at the construction and ongoing operations stages of development.

The need to address both the current and post-development economic environment after the project forms the basis for the remainder of the assessment.

17.2 Assessment of Existing Social and Economic Environment

The existing social and economic environment of the project areas is examined in the following section. An understanding of the current situation provides a comparative basis for project impacts as it forms the basis for a 'without' proposed development scenario, which will be supplemented by a 'with' development scenario to be addressed in later sections.

17.2.1 Demography

Population

Local, state and national population counts and projections for the area in which the plant is proposed to be located are shown in **Table 17-1** below. Between 2011 and 2026, Wentworth is forecast to undergo a population increase. The population projection for Wentworth indicates a compound annual growth rate (CAGR) of 0.1% from 2011 to 2026, while the population in the region shows a different trend in the forecasts as presented below. The Murray CAGR is 0.3% between 2011 and 2026. The cumulative annual growth rates projected for NSW and Australia over this period are 0.8% and 1.3% respectively.

The population projections for the different areas in the table below indicate compound annual growth rates (CAGR)[1] ranging from 0.1% to 1.3% for the period 2001 to 2026.

Table 17-1 – Population (Census and Projections)

Area	2001	2006	2011	2016	2021	2026	
	Actual	Forecast	Forecast	Forecast	Forecast	Forecast	CAGR
Wentworth	7,210	7,240	7,250	7,280	7,340	7,390	0.1%
Murray	113,400	115,100	116,700	118,700	121,100	123,700	0.3%
New South Wales	6,575,220	6,843,860	7,145,170	7,437,260	7,725,220	8,002,500	0.8%
Australia	18,972,350	20,352,013	21,710,086	23,118,693	24,581,902	26,068,251	1.3%

Source: DIPNR NSW SLA Population Projections; ABS 2001

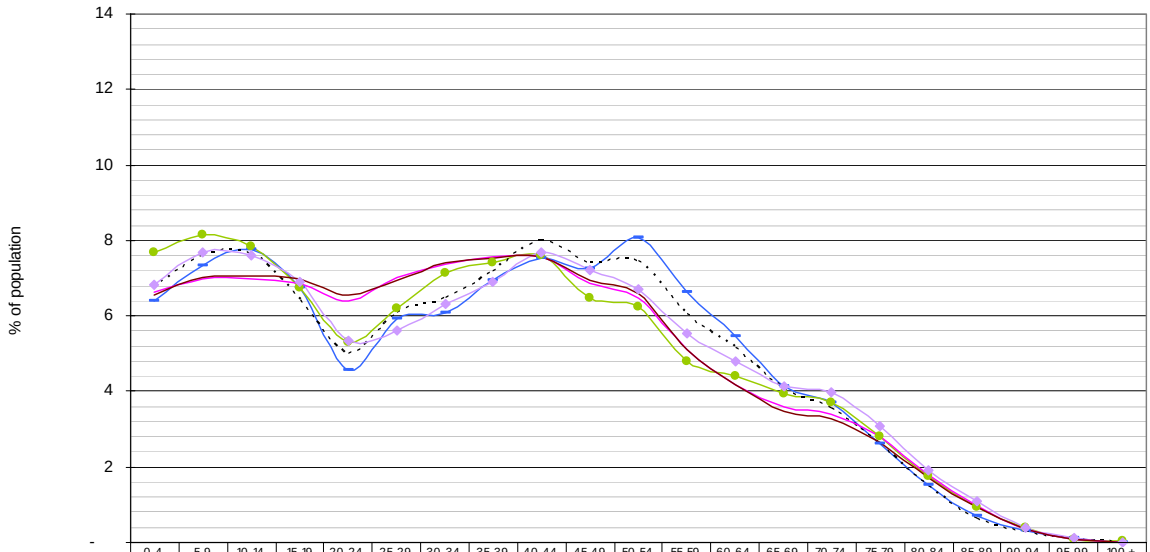
[1] Note: CAGR is the annual growth rate compounded over a time period. It describes the rate that a variable would have grown if it grew at a steady rate.

Chapter 17 Socio Economic

Age Structure

Figure 17-1 is based on the 2001 Australian Bureau of Statistics (ABS) Census and shows the age structure of each of the areas considered within this assessment. For all of the regions assessed, the largest proportion of the population is "working age" between 15-64 years, ranging from 62% to 66% of the total population. The Wentworth SLA region (65.2%) has a larger proportion of working age residents than Murray (63%) the Statistical Division that encompasses it, but is lower when compared to NSW and Australia, which in 2001 had 65.4% and 65.8% respectively of the population in the working age category. The proportion or working age residents in the Murray region and the areas within it have age distributions that are similar to other statistical regions in the state, but differ greatly from that of the NSW and national distributions between the ages of 20 and 40. This may represent a movement away from more regional areas for education or work purposes for the people in these age brackets. This kind of pattern is seen in many regional areas around Australia.

Figure 17-1 Age Structure



	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-99	100 +
Wentworth SLA	6.4	7.3	7.8	6.8	4.6	5.9	6.1	7.0	7.5	7.3	8.1	6.6	5.5	4.2	3.7	2.6	15	0.7	0.3	0.1	0.0
Mildura SSD	7.7	8.1	7.8	6.7	5.3	6.2	7.2	7.4	7.6	6.5	6.2	4.8	4.4	3.9	3.7	2.8	18	0.9	0.4	0.1	0.0
Murray Darling SSD	6.7	7.6	7.6	6.4	5.0	6.1	6.5	7.2	8.0	7.4	7.4	6.0	5.1	4.0	3.5	2.6	15	0.6	0.3	0.1	0.0
Murray SD	6.8	7.7	7.6	6.9	5.3	5.6	6.3	6.9	7.7	7.2	6.7	5.5	4.8	4.1	4.0	3.1	19	11	0.4	0.1	0.0
New South Wales	6.6	7.0	7.0	6.9	6.4	7.0	7.4	7.6	7.6	6.9	6.5	5.1	4.2	3.6	3.4	2.8	18	10	0.4	0.1	0.0
Australia	6.6	7.0	7.0	7.0	6.5	7.0	7.4	7.5	7.6	7.0	6.6	5.1	4.2	3.5	3.3	2.7	17	0.9	0.3	0.1	0.0

Source: ABS Basic Community Profile 2001

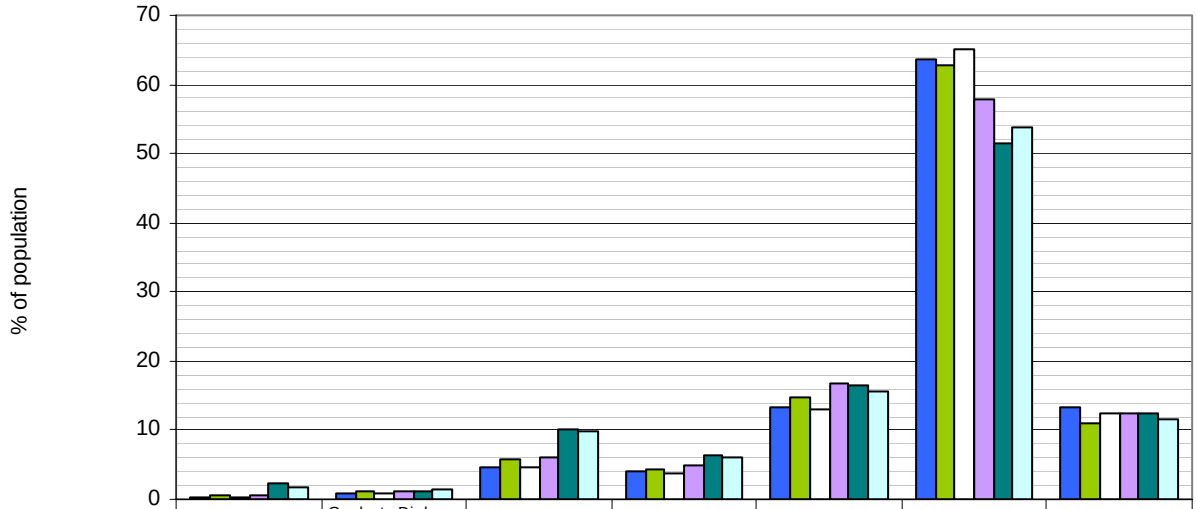
Education

Education levels in the Murray region are generally lower than NSW as a whole, with 63.6% of the Wentworth SLA working age population (15 years and above) possessing no formal qualifications. This compares to 51.5% of 15+ year-olds with no qualifications in NSW and 53.8% in the whole of Australia.

In comparison, NSW is slightly higher than the national proportion in terms of bachelor, postgraduate and advanced diploma qualifications. Bachelor, diploma and post graduate education levels are proportionately lower in the Murray SD, as shown in **Figure 17-2** below.

The proportion of people holding certificates is higher in Murray SD (16.9%) than in NSW (16.4%) or Australia (15.8%). The higher proportion of certificate qualifications in the greater region may indicate a suitable workforce for the plant.

Figure 17-2 Education Levels - Proportion of Population Aged 15 Years +



	Postgraduate Degree	Graduate Diploma and Graduate Certificate	Bachelor Degree	Advanced Diploma and Diploma	Certificate	No Qualification	Not stated
Wentworth SLA	0.3	0.9	4.6	4.0	13.4	63.6	13.3
Mildura SSD	0.5	1.1	5.8	4.3	14.7	62.8	10.9
Murray Darling SSD	0.4	0.9	4.5	3.8	13.0	65.1	12.3
Murray SD	0.7	1.1	6.1	4.8	16.9	57.9	12.5
New South Wales	2.2	1.2	10.1	6.2	16.4	51.5	12.3
Australia	1.8	1.4	9.7	6.0	15.8	53.8	11.5

Source: ABS Basic Community Profile 2001

Chapter 17 Socio Economic

17.2.2 Labour Force

In addition to the age structure discussed above, further analysis of the existing labour force situation is detailed in the following section.

Labour Force Status

The proposed peaking power plant location is within the Murray SD, which, as indicated in **Table 17-2**, has a labour force of 50,762, or approximately 1.7% of the NSW total labour force.

In the 2001 Australian Bureau of Statistics Census, the unemployment rate for Wentworth SLA was 5.3%, which was well below both the state and national averages, of 7.2% and 7.4% respectively. In the same year the unemployment level for Murray-Darling SSD was 5.8%, which was also lower than the state and national levels.

Table 17-2 – Labour Force Status

Area	Employed	Unemployed	Total Labour Force
Wentworth (SLA)	3,047 (94.7%)	170 (5.3%)	3,217
Mildura (SSD)	18,535 (92.99%)	1,397 (7.01%)	19,932
Murray-Darling (SSD)	4,316 (94.2%)	222 (5.8%)	4,583
Murray (SD)	47,620 93.8%	3,142 (6.2%)	50,762
NSW	2,748,396 (92.8%)	213,196 (7.2%)	2,961,592
Australia	8,298,606 (92.6%)	660,709 (7.4%)	8,959,315

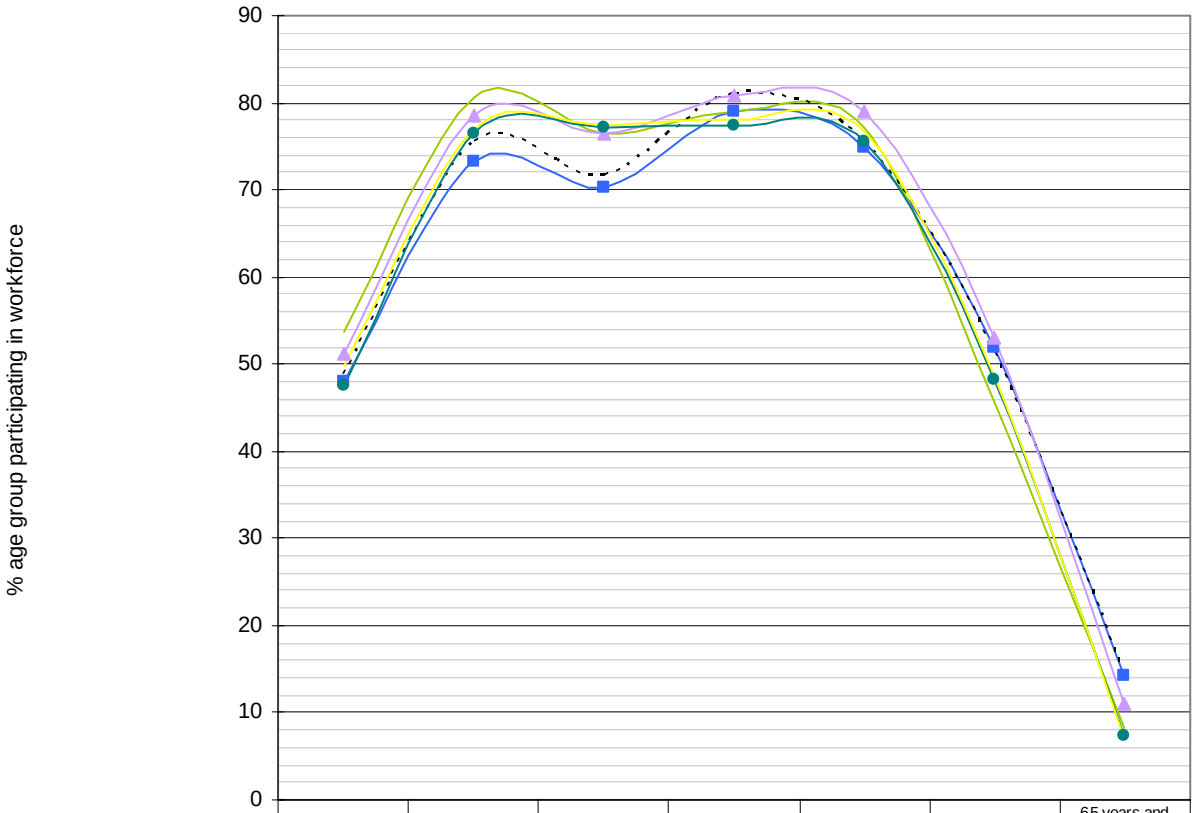
Source: ABS Basic Community Profile 2001, URS Analysis

More recently released ABS employment data indicates that the current unemployment rate for the combined areas of Murray and Murrumbidgee is 5%, with the rates for NSW and Australia being 4.5% and 4.1% respectively[2]. The reduction in the levels of unemployment represents a general improvement within the Australian labour market over the last 5 years, but indicates that the Murray/Murrumbidgee area is now experiencing higher unemployment rates than the NSW and Australian averages.

[2] Source: Department of Employment and Workplace Relations, Australian Regional Labour Markets – September Quarterly 2007

Figure 17-3 below shows the proportion of workforce participation based on the age of residents in the working population in each of the study regions. This diagrammatic representation indicates that on a local, state and national basis, the project area follows similar trends, although a difference can be seen in the 25 to 34 year bracket, with the state and national participation rates being higher than the local project area.

Figure 17-3 Proportion of Workforce Participation by Age



	15-19 years	20-24 years	25-34 years	35-44 years	45-54 years	55-64 years	65 years and over
Wentworth SLA	47.9	73.2	70.3	78.9	74.9	51.8	14.3
Mildura SSD	53.7	80.6	76.5	79.1	77.1	45.7	8.2
Murray Darling SSD	49.0	75.6	71.5	81.1	75.6	51.3	14.2
Murray SD	51.2	78.4	76.5	80.7	79.1	53.0	10.9
New South Wales	47.6	76.4	77.2	77.3	75.5	48.2	7.3
Australia	49.8	77.0	77.4	78.1	76.6	48.8	7.1

Source: ABS Basic Community Profile 2001

Chapter 17 Socio Economic

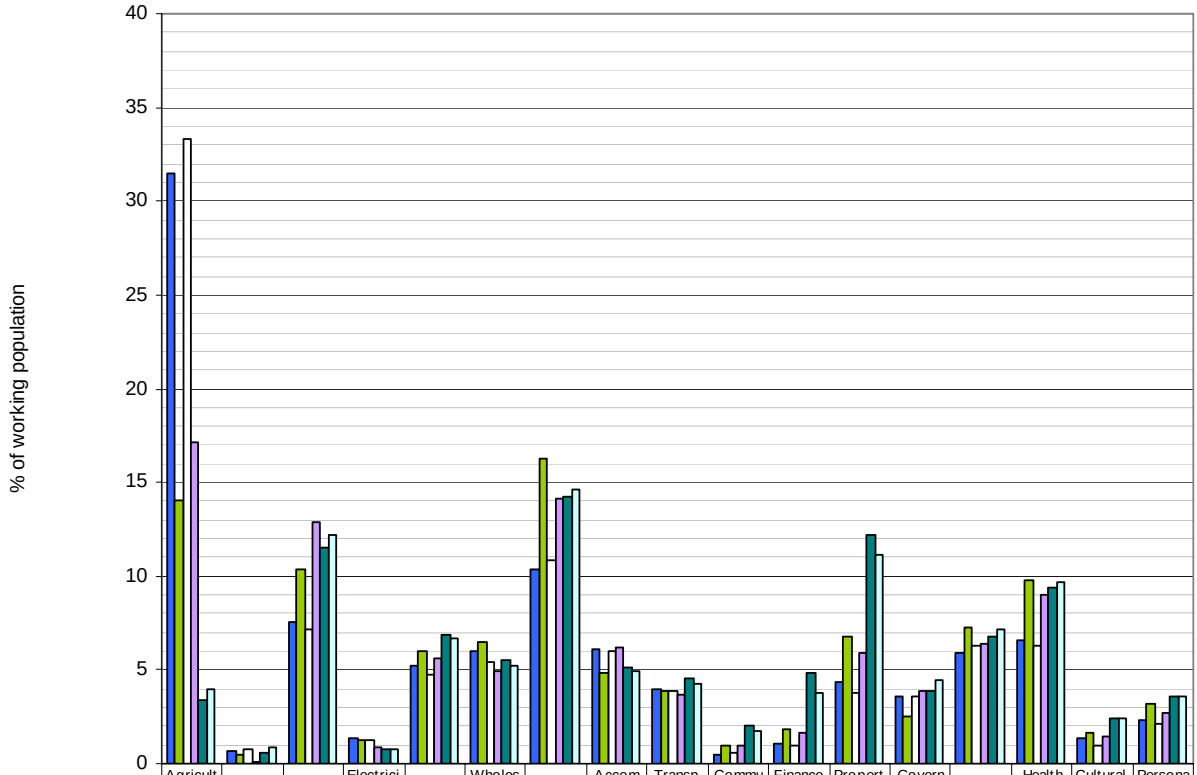
Industry Employment

The major industries (in terms of the proportion of the working population employed in different industries) are shown in **Figure 17-4** for Wentworth SLA, Mildura SSD, Murray Darling SSD, Murray SD, NSW and Australia.

The major industries in Wentworth SLA are agriculture, forestry and fishing with 31.5% of the working population, followed by retail trade (10.4%), manufacturing (7.6%) and health & community services (6.6%), which is similar to trends in the Murray SD.

The local project areas, where labour is likely to be sourced from, Wentworth SLA, Murray Darling SSD and Mildura SSD show a comparable advantage in the electricity, gas & water supply industry, as they have a higher comparable proportion of workers in this industry than is shown on a state or national level. This industry is relevant to the proposed plant development.

Figure 17-4 Industry of Employment

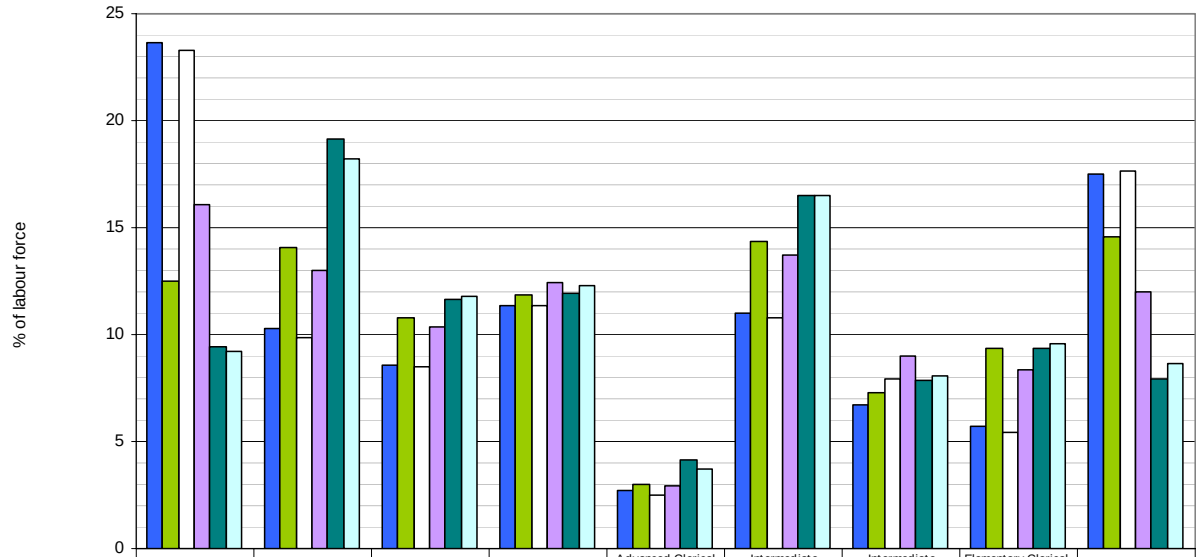


	Agriculture, Forestr	Mining	Manufacturing	Electricity, Gas and	Construction	Wholesale Trade	Retail Trade	Accommodation,	Transport and Storage	Communication Service	Finance and Insuranc	Property and Busines	Government Adminis	Education	Health and Commu	Cultural and Recreat	Personal and Other
Wentworth SLA	31.5	0.7	7.6	1.3	5.2	6.0	10.4	6.1	4.0	0.5	1.0	4.4	3.5	5.9	6.6	1.3	2.3
Mildura SSD	14.1	0.5	10.4	1.2	6.0	6.5	16.3	4.8	3.8	0.9	1.9	6.8	2.5	7.3	9.8	1.6	3.2
Murray Darling SSD	33.3	0.7	7.1	1.2	4.7	5.4	10.8	6.0	3.8	0.6	1.0	3.8	3.6	6.3	6.3	1.0	2.1
Murray SD	17.2	0.1	12.9	0.9	5.6	4.9	14.1	6.2	3.7	1.0	1.7	5.9	3.9	6.4	9.0	1.5	2.8
New South Wales	3.4	0.5	11.5	0.7	6.9	5.6	14.2	5.2	4.6	2.0	4.8	12.2	3.8	6.8	9.4	2.5	3.6
Australia	4.0	0.9	12.2	0.7	6.7	5.3	14.6	4.9	4.3	1.8	3.8	11.1	4.5	7.2	9.7	2.4	3.6

Source: ABS Basic Community Profile 2001

Further examination of the current labour force in the project area is shown in **Figure 17-5** below, which presents the proportion of the working population in a range of occupation categories. This figure indicates that in Wentworth SLA, the largest proportion of labour force participants are managers and administrators and labourers. In Wentworth SLA, the immediate local area for the proposed peaking power plant site, the number of Intermediate Production & Transport workers are proportionately lower than the other regions measured in the figure below, indicating that workers will need to be recruited from both the local and surrounding areas.

Figure 17-5 Occupation of Labour Force Participation



	Managers and Administrators	Professionals	Associate Professionals	Tradespersons and Related Workers	Advanced Clerical and Service Workers	Intermediate Clerical, Sales and Service Workers	Intermediate Production and Transport Workers	Elementary Clerical, Sales and Service Workers	Labourers and Related Workers
Wentworth SLA	23.7	10.3	8.6	11.3	2.7	11.0	6.7	5.7	17.5
Mildura SSD	12.5	14.1	10.8	11.8	3.0	14.4	7.3	9.4	14.5
Murray Darling SSD	23.3	9.8	8.5	11.4	2.5	10.8	8.0	5.4	17.6
Murray SD	16.1	13.0	10.4	12.4	3.0	13.7	9.0	8.4	12.0
New South Wales	9.4	19.1	11.6	11.9	4.2	16.5	7.9	9.3	8.0
Australia	9.2	18.2	11.8	12.3	3.7	16.5	8.1	9.5	8.6

Source: ABS Basic Community Profile 2001

17.2.3 Local and Regional Economic Activities

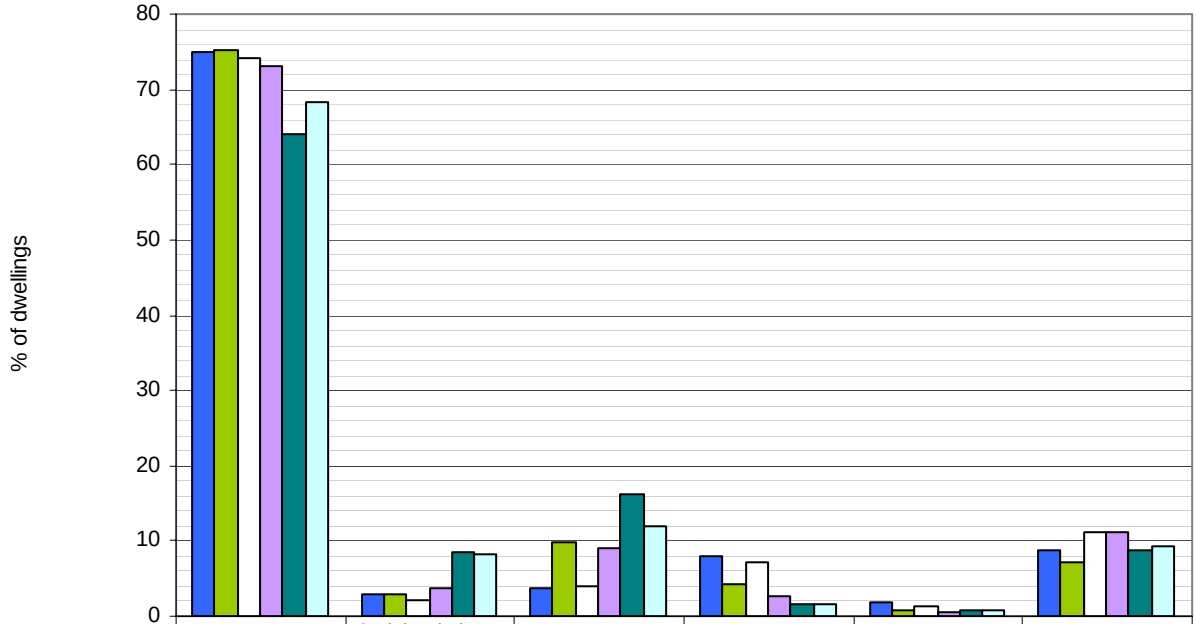
Housing

The level of employment directly created by the peaking power plant is reasonably low in comparison to the total workforce and population within the local areas, as will be discussed in the economic impact sub-section to follow. This indicates that housing availability should not be a significant issue associated with this project. In addition, the close vicinity of the peaking power plant to the town of Mildura indicates that housing would not be a major issue. **Figure 17-6** shows housing data for Wentworth SLA, Mildura SSD, Murray Darling SSD, the Murray SD, NSW and Australia by comparing the proportion of dwelling types in each area.

Chapter 17 Socio Economic

The figure shows that separate houses are the most common form of dwelling type across all study areas. In terms of unoccupied dwellings in 2001, **Figure 17-6** indicates that Murray Darling SSD and the Murray SD have a higher rate of unoccupied dwellings than the NSW and Australian averages, which may be representative of a diminishing younger population in both areas, and a subsequent oversupply of housing within the region.

Figure 17-6 Dwelling Type



	Separate house	Semi-detached, row or terrace house, townhouse	Flat, unit or apartment	Other dwelling	Not stated	Unoccupied private dwellings
Wentworth SLA	74.8	2.8	3.7	8.1	2.0	8.7
Mildura SSD	75.3	2.9	9.8	4.1	0.8	7.0
Murray Darling SSD	74.1	2.1	3.9	7.3	1.4	11.3
Murray SD	73.2	3.6	9.0	2.5	0.6	11.1
New South Wales	64.1	8.5	16.3	1.5	0.8	8.9
Australia	68.4	8.1	11.9	1.7	0.7	9.2

Source: ABS Basic Community Profile 2001

17.3 Project Economic Impact Analysis – Methodology

Economic impact analysis is undertaken by project proponents as part of the assessment process to determine the effect of a project on economic activity, employment, and trade. Economic impact analysis can assist in determining the effect of a project on local populations, income levels, employment and infrastructure requirements as a result of public and/or private expenditure.

The economic impact of an activity or project is usually measured in terms of its contribution to four key economic indicators:

- output (i.e. sales);
- value added (i.e. contribution to Gross Domestic Product);
- household incomes (i.e. wages / salaries); and
- employment.

The economic impacts of the proposed Buronga Peaking Power Plant have been analysed in terms of these four economic indicators. Analysis has been undertaken from the perspective of the national economy during both the construction and operation phases of the development.

In determining the overall impacts of the proposed peaking power plant, a number of steps were undertaken including:

- data research and collection;
- the identification of direct economic impacts; and
- indirect or flow on economic modelling.

Data Collection

The first stage of any economic impact assessment is to collect the necessary data. The data requirements include information on revenue streams, operating cost items, capital expenditure, wages and salaries, employment numbers and types, and the sources of expenditure. All project-specific information used in the economic impact assessment has been developed and supplied by IPRA, URS analysis, industry analysis and benchmarking, and combined with ABS national data.

Economic Impact Analysis – Direct Impacts

Following data collection, the direct impacts of the project are measured and quantified. Measuring direct impacts requires gathering data on output, expenditure, economic value added, jobs and household income from the project. Importantly, data has been sought on the locality of the source of inputs for each activity generator (i.e. how much of IPRA's project expenditure is sourced nationally, rather than imported from overseas). Where information was not available, assumptions were made using industry sources and experience.

Chapter 17 Socio Economic

Direct economic impacts are typically a combination of construction activity and activity that is expected to occur because of the on going operation of the peaking power plant. In examining the net economic impact of the peaking power plant construction and operation, and to ensure not to overestimate the economic impact of the proposed development, the following three impacts were considered in estimating the direct economic impacts of the project:

- **displacement impacts of economic activity** – whereby economic activity is simply relocated from one area to another;
- **substitution expenditure** – simply where demand for one industry's output is switched to another, therefore providing little net stimulus to an economy; and
- **import expenditure** – whereby expenditure is undertaken on imported goods which does not produce economic stimulus to the Australian economy.

Economic Impact Analysis – Flow on/Indirect Impacts

Once the direct impacts have been identified and quantified, the next step involves the measurement of indirect or "flow on" impacts. Indirect economic impacts are those that are not directly associated with construction and operations of the proposed peaking power plant, but are the result of flow on activities. For this project, analysis has been undertaken at a national level, utilising Input-Output (IO) techniques with national IO multipliers for operation and construction sourced from the ABS.

17.4 Economic Impact of the Project – Results

IPRA's proposed Buronga Peaking Power Plant Project will have an economic impact on the Australian economy in two phases: the construction phase and the ongoing operational phase.

Three open cycle distillate-fired gas turbines with a combined capacity of 120MW to 150MW plus related infrastructure are proposed to be constructed on the Buronga site. The peaking power plant is to operate for up to 10% of the year and its main purpose is to supply electricity during "peak" use hours.

17.4.1 Construction Impacts

In order to determine the direct and indirect economic impacts of constructing the gas turbine peaking power plant, URS gathered from IPRA two key pieces of data:

- information on the total cost of construction, including breakdowns between labour and materials; and
- information of the geographic source of key labour and material inputs (i.e. from national sources or imported from overseas).

Based on this information, the economic impacts were modelled for the construction phase of the project. The construction of the peaking power plant will take place approximately over a six month period, with completion targeted to allow commercial operation by late 2011.

It is estimated that up to 120 people will be employed directly on the peaking power plant site during the construction period. The proportion of expenditure on capital inputs that are made within the Australian national economy is approximately 30%, with the remainder, which is principally the gas turbines, estimated to be imported from international sources.

The total overall capital expenditure is up to $110 million. The results of the IO modelling highlight the direct and indirect impacts of the development on the economy over the course of the construction period. It is important to note that the economic impact of the construction stages only last for as long as construction is occurring, therefore the construction economic impacts are short term.

The total economic impacts (sum of direct and indirect impacts) for the construction phase of the project include:

- output of $89 million over the construction period;
- a contribution of $17.6 million to Gross Domestic Product;
- provision of $25 million in household income; and
- employment of 250 people.

A breakdown of the direct and indirect impacts of the plant construction is set out in **Table 17-3** below.

Table 17-3 Buronga Peaking Power Plant Construction Phase Economic Impact

Economic Impact Indicator	Direct Impact	Flow-on Impact	Total Impact
Output ($ m)	30.6	58.8	89.4
Value Added ($ m)	6.1	11.5	17.6
Household Income ($ m)	8.0	17.3	25.3
Employment (FTEs)	96	153.8	249.8

Source: URS Analysis

17.4.2 Operating Impacts

IO analysis was used to calculate the operational flow on effects, via industry multipliers, of the project. The economic impacts are due to the ongoing functioning of the proposed peaking power plant, and are calculated at a national level to reflect the annual outcome for the operational stage.

The operating parameters of the facility including labour, maintenance, goods & services and utilities costs such as water required for operations were developed by IPRA in its functional design analysis. Where there were gaps in the data available, URS used industry sources to apply general rules of thumb to the outputs and effects of the power plant.

The plant is proposed to operate up to 10% of the time, as a peaking operation, with up to 150MW of generated output. The plant is planned to be fuelled by distillate, which would be supplied from the local region.

The plant is expected to have a notional operating lifespan of 30 years.

The economic impact assessment undertaken in this section of the report is calculated and shown annually.

Chapter 17 Socio Economic

The total annual economic impact for the Buronga Peaking Power Plant when fully operational includes:

- annual output effect of $3.4 million;
- contribution of $1.5 million to Gross Domestic Product per annum;
- provision of $1.0 million in household income; and
- employment of on average one (1) full time person with up to two (2) more on an intermittent basis each year.

A breakdown of the annual direct and indirect impacts for operations is set out in **Table 17-4** below.

Table 17-4 – Buronga Peaking Power Plant Operational Phase Economic Impact

Economic Impact Indicator	Direct Impact	Flow-on Impact	Total Impact
Output ($'m)	1.5	1.9	3.4
Value Added ($'m)	0.6	0.9	1.5
Household Income ($'m)	0.5	0.5	1.0
Employment (FTEs)	4.0	11.5	15.5

Source: URS Analysis

17.5 Economic Impact Conclusions

An economic impact assessment has been undertaken of the proposed Buronga Peaking Power Plant to determine the effect of the potential developments that may occur as part of the project. The assessment considers the effect of constructing and operating the plant at the national economy level using input output methodology.

The economic impact analysis of the plant has been undertaking during the following timeframes:

- Construction – which is planned to take 6 months; and
- Operational – annual calculation with a 30 year nominal operating life.

The outcomes of the economic impact summary are shown in **Table 17-5** below. The table highlights that the value added or GDP effects for the construction period are $17.6 million, while the total operational value added or GDP effects are $1.5 million per annum. Employment effects range from 250 Full Time Employment (FTE) positions (including direct and flow on effects on employment) during the construction period, to average one (1) FTE position with up to two (2) more on an intermittent basis per year of operations. The effect of this increase in employment on household incomes is $25 million during the construction stage and $1 million per annum during the operational period.

Table 17-5 Buronga Peaking Power Plant Economic Impact – Summary of Total Impacts

Economic Impact Indicator	Construction Stage	Operations Stage
Output ($'m)	89.4	3.4
Value Added ($'m)	17.6	1.5
Household Income ($'m)	25.3	1.0
Employment (FTEs)	249.8	15.5

Source: URS Analysis

The analysis shows positive economic and social benefits at a national level in terms of contribution to GDP, income and employment resulting from the plant construction and operation. It is estimated that many of these benefits will actually occur in the Wentworth and Mildura localities, with some of the construction employment benefits potentially occurring in the broader NSW, Victoria and Australian economy.

17.5.1 Implications for the Social-Economic Profile of Region

Population

Table 17.1 shows that steady population growth is expected in both Wentworth SLA and Murray SD. This population growth will have a variety of effects on the local economy. With such population growth, an increased supply of electricity and electricity producing capability can only be seen as a positive, if not a necessity, for the productivity and liveability of the local region.

The construction period of the plant will last approximately 6 months and the operation of the peaking power plant will average one full time person with up to two more on an intermittent basis. During major inspections/overhauls (around every 5 years or so) there will up to 40 personnel involved for 4-6 weeks. Therefore the effect on Buronga's long term population will be minimal.

By improving the reliability of the electricity supply in the region, particularly during peak periods, this may encourage industry to move to the area, which could improve the possibility for population shifts to the area in the long term.

Labour Force Status and Industry Employment

The employment generated in the region during construction of the peaking power plant will be predominantly construction, electrical and mechanical related jobs. Since the number of people required to fill the jobs required for construction are not readily available in Wentworth SLA, it is likely that, at the very least, a proportion of the jobs will have to be filled by workers from the Murray-Darling SSD and greater Murray SD.

The level of labour generated in the operational stage of the peaking power plant, both directly and indirectly is not estimated to be at a level likely to create difficulties for IPRA or the Wentworth region. The employment effects at an operational level are positive, but not of a particularly significant level.

Chapter 17 Socio Economic

Regional Infrastructure Requirements

A question that is often asked when evaluating projects of this nature is what are the implications for government infrastructure spending due to the effects of the project? These infrastructure requirements need to be thought of at the Local, State and National government levels and include items such as:

- roads;
- servicing – water, sewerage and electricity;
- schools and other education facilities; and
- community facilities and services.

The estimated economic impacts, both directly and indirectly, associated with the project are relatively small although they are forecast to be beneficial to the region, so it follows that it is not likely to have large impacts on the requirement for infrastructure within the local Buronga region. For example:

- there are limited vehicle movements associated with the project, which as such should not require additional road development within the Wentworth district;
- it is forecast that there will be limited changes to the population of Wentworth and the surrounding areas associated with the plant. This means that pressure on housing, servicing, roads, education and other community requirements are likely to be limited; and
- if the changes to electricity supply, for example increased consistency or reliability, were to increase the attractiveness of the region for industry development, there may be government infrastructure requirements for the region, but these would not be considered to directly related to the IPRA proposal.

Water

Currently, in most regional areas across Australia, there are water supply issues and shortages. Buronga is no different terms of the prevailing water availability. The plant is estimated to have a relatively small water requirement for processing and power generation, a nominal average 20 ML of raw water per annum during operation.

Subject to detailed design investigations, it is intended that harvested site stormwater and, where practical, treated effluent from the Buronga Sewage Treatment Plant (STP) would be recycled for use at the site as the primary source of 'raw water' for process and other water needs.

Stormwater and rainwater are the proposed principal water sources for domestic water, fire fighting water and landscaping respectively. No groundwater or municipal supplied potable water is proposed to be used during operation of the plant.

17.6 Mitigation Measures

Where possible, local contractors and supply companies would be utilised for the provision of labour and services during the construction phase and subsequent operation and maintenance of the peaking power plant.

The mitigation measures for social impacts broadly relate to the mitigation measures detailed in the overall Environmental Assessment relating to the control of noise levels, air and water quality, traffic and transportation, visual amenity and other environmental matters. These measures are detailed in **Chapter 7** through **Chapter 18**, and 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.