Introduction Chapter 1

Introduction - Summary of Key Outcomes

Growth in peak electricity demand is presently at a level where the existing generating capacity in NSW does not meet the minimum reserve levels set down by the National Electricity Market (NEM) operator and, over the next decade, rising peak demand will exceed installed capacity. Further, TransGrid the high voltage transmission system operator, has identified several regional areas of its network that will be problematic under certain load demand scenarios.

To meet rising demand and to potentially provide transmission grid support to TransGrid, International Power (Australia) Pty Ltd (IPRA) proposes to construct and operate a gas turbine peaking power plant near Buronga in the southwest of NSW. The Buronga Peaking Power Plant would generate up to 150MW of electricity and comprise three distillate-fired gas turbines, each of nominal capacity up to 50MW and, except for emergencies as allowed in its operating licence, would operate on an as-required, intermittent basis for a total maximum period of up to 10% of any year.

The plant would be located on Crown land immediately adjacent to the TransGrid 220kV switching station, approximately 10km northeast of Buronga, which would facilitate connection into the national electricity grid. IPRA has secured lease transfer arrangements with the leaseholder of this pastoral land which is controlled by the Western Lands Commissioner.

IPRA is a wholly owned subsidiary of International Power plc, a UK-based independent power generation and operation company. Since establishing in Australia in 1996, IPRA has invested in excess of A$5 billion and owns and operates power plants in Victoria, South Australia and Western Australia together with other energy-related businesses.

The National Electricity Market operator NEMMCO has also highlighted in late 2007[1] a number of limiting factors impacting on the inter-regional interconnector effectiveness between NSW and Victoria. It is anticipated that the proposed Buronga Peaking Power Plant will assist in alleviating these market concerns.

The project is also, in part, a response to a TransGrid report in March 2003 that identified high voltage constraint scenarios on its transmission system and on regional NSW interstate connectors. The Buronga Peaking Power Plant proposed by IPRA would be a cost efficient generation solution for the TransGrid constraint scenarios whilst offering considerable NEM support at a strategic grid location.

The Minister for Planning is the consent authority for the Buronga Peaking Power Plant Project as determined by the relevant legislation. Initial discussions were held with the Department of Planning (DOP) in September and October 2006, following which IPRA submitted a Project Application and attended a DOP-convened Project Focus Meeting in November 2006. Confirmation that the proposed facility would be considered a Major Project under Part 3A of the *Environmental Planning and Assessment Act 1979,* was issued on 1 August 2007. On 10 August 2007 the Department of Planning issued requirements pertaining to the preparation of this Environmental Assessment and IPRA immediately commenced relevant studies and community consultation.

[1] *Interconnector Limit Forecast for MTPASA* (NEMMCO, November 2007) and related discussion papers

Chapter 1 Introduction

The Environmental Assessment meets all legislative requirements and provides the Minister for Planning with the required information to determine the environmental impacts and benefits of the Buronga Peaking Power Plant Project.

Submissions received during the public exhibition period will be provided to IPRA who will prepare a response. The Department of Planning will prepare an assessment report for the Minister for Planning who will determine whether to grant Project Approval. Separate reports were prepared by specialists and comprise the source materials for the Environmental Assessment.

The Environmental Assessment comprises the Executive Summary, Project Background, The Project, Statutory Planning, Consultation, Environmental Assessment, Draft Statement of Commitments, Environmental Management and Monitoring, Conclusion, References and Appendices.

Introduction Chapter 1

1.1 Background

Over the next decade, New South Wales (NSW) will experience growth in peak electricity demand that will exceed existing generation capacity[2]. NSW is the largest region of the National Electricity Market (NEM) in terms of capacity and demand for energy and is also experiencing the strongest demand growth. Present reserve peaking capacity in NSW is 287MW less than the prudent[3] minimum.

To meet rising peak electricity demand and to potentially relieve transmission network constraints and electricity market efficiency problems, IPRA proposes to construct and operate a nominal 150MW gas turbine peaking power plant (known as the Buronga Peaking Power Plant) at the Development Site located approximately 10km northeast of Buronga in the southwest of NSW (refer to **Figure 1-1**).

1.2 Project Outline

The Buronga Peaking Power Plant Project would be constructed in a single stage and occupy an area of 4 hectares. It would be located on Crown land immediately adjacent to the TransGrid 220kV switching station, approximately 10km northeast of Buronga, on Arumpo Road. This location best facilitates connection into the national electricity grid.

Operating in open cycle mode, the facility would comprise three distillate-fired gas turbine generating units each of up to 50MW capacity subject to final plant selection. These units would be capable of operating individually or in conjunction, together providing a high level of reliable generation capacity embedded within the region. This multi-unit concept would result in a reliability factor in excess of 99% on an annual basis.

The generating units would be of proven technology, comprising small compact generators enclosed in soundproof enclosures. They would be of the "fast start" type and able to provide "black start" capability for re-energising TransGrid's local regional network in the event of a major system collapse. They will be "dual-fuel capable" in the event that sufficient natural gas supplies become commercially available in the future.

IPRA has commenced plant layout and sizing studies and has sought tenders for the procurement of plant ranging in nominal capacity up to 50MW per unit.

Except for emergencies as allowed in its operating licence, the facility would operate on an as-required, intermittent basis for a total maximum period of up to 10% of any year.

The operating regime for the facility in the short to mid term peaking role is anticipated to be:

- Operating hours per turbine per annum — Nominal Average: 600hrs — Maximum: 875hrs
- Total Generation per annum — Nominal Average: 75GWh — Maximum: 115GWh
- Raw water consumption per annum — Nominal Average: 20ML — Maximum: 40ML
- Distillate consumption per annum — Nominal Average: 19000t — Maximum: 29000t

[2] NEMMCO *Statement Of Opportunities 2007*
[3] NEMMCO *Statement Of Opportunities 2006*

Chapter 1 Introduction

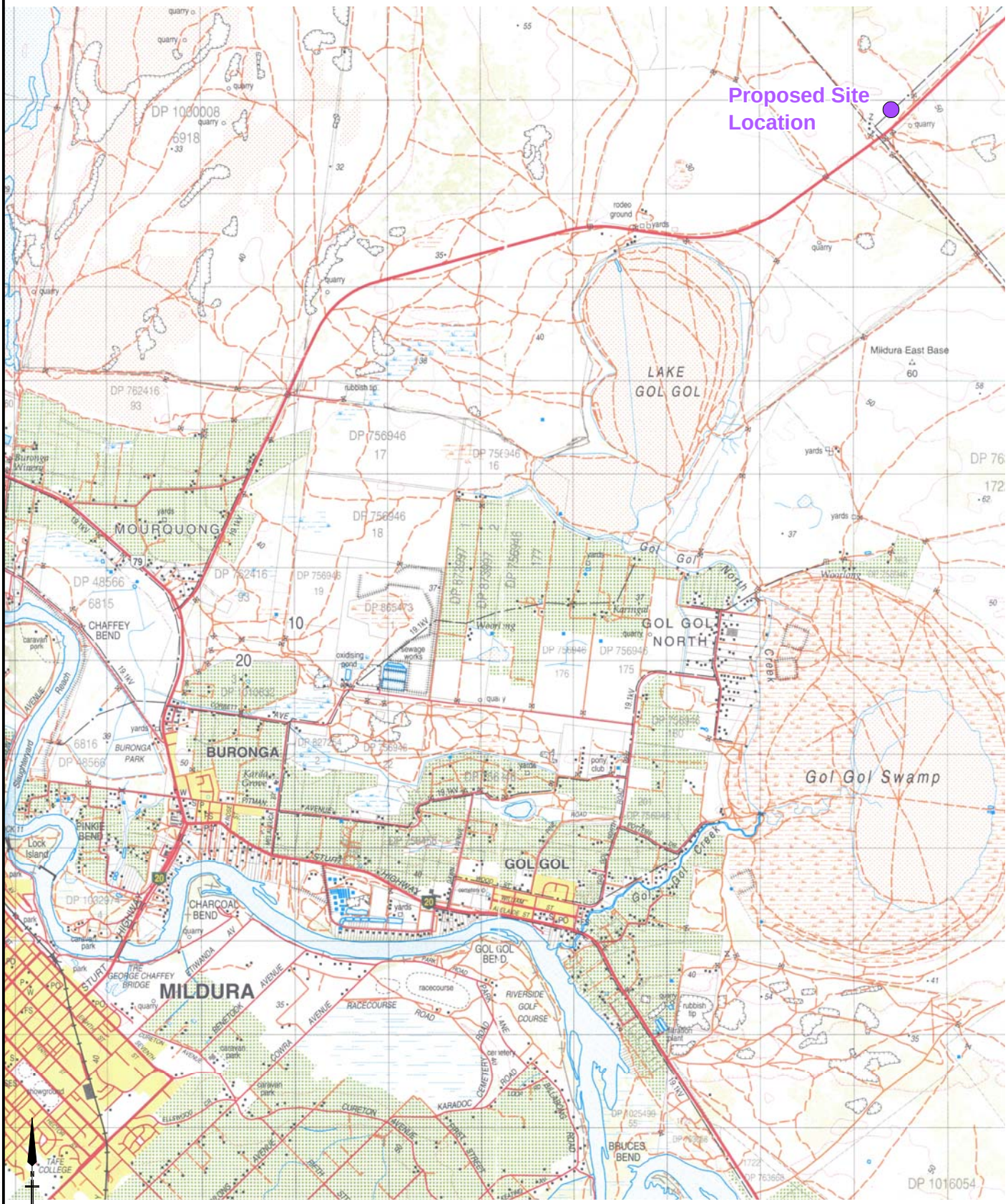
Distillate fuel will be of the low sulphur type to Australian Standard AS3570 with up to 1,500 tonnes of distillate stored at site at any one time.

The plant would be located on Crown land (controlled by the Western Lands Commissioner) immediately adjacent to the TransGrid 220kV switching station, approximately 10km northeast of Buronga.

IPRA has secured lease transfer arrangements with the current leaseholder for the portion of the Crown pastoral lease on which the plant would be sited should the development be approved.

The electricity generated by the Buronga Peaking Power Plant would feed via step up transformers into the TransGrid switching station and thence into the national grid HV system

The project would take approximately 6 months to build at an estimated cost of up to $110 million.



Source: TOPOGRAPHIC MAP - LAND AND PROPERTY INFORMATION NSW

Client: INTERNATIONAL POWER (AUSTRALIA) PTY LTD	Project: ENVIRONMENTAL ASSESSMENT BURONGA PEAKING POWER PLANT	Title: **SITE LOCATION**
URS	Drawn: BH; Approved: CJ; Date: **26/10/2007** Job No: **43177455**; File No: 43177455.007.WOR	Figure: **1-1**

Chapter 1 Introduction

1.3 Project Objectives

The key objectives of the Buronga Peaking Power Plant Project are:

1.3.1 Operational/Functional

- significantly contribute to meeting peaking regional load growth;
- contribute to inter / regional supply security through connection to the National Electricity Market;
- provide a credible solution to the TransGrid 220kV transmission system constraint scenarios;
- optimise connectability to the TransGrid transmission system;
- generating plant to be capable of conversion to natural gas firing at a later date should connection to natural gas supplies become commercially viable;
- comprise multiple generation units to ensure reliability; and
- be sized to operate in the short to mid term as peaking plant so as to:
  - provide a fast start response to National Electricity Market load transients; and
  - mitigate as far as possible the inter / regional transmission constraint scenarios.

1.3.2 Environmental and Social

- provide a reliable electricity supply using proven technologies;
- minimise (visual, air emission, noise and traffic) community impacts;
- include, wherever possible, recycling of consumables, particularly water; and
- provide electricity generation where land zoning is compatible for the peaking power plant development and adequate separation exists from residential housing.

1.4 The Proponent

The proponent[4] is International Power (Australia) Pty Ltd (IPRA), a wholly owned subsidiary of International Power plc, a UK-based independent power generation and operation company. International Power plc has interests in 40 power stations in 20 countries around the world and is listed on the London Stock Exchange and has a current market capitalisation in excess of A$11bn. Further information on International Power plc and IPRA is available on its website **www.ipplc.com**

Since establishing in Australia in 1996, IPRA has invested in excess of A$5 billion and focused on becoming a leading player in the energy industry. The company owns and operates more than 3600MW of renewable, gas-fired and brown coal-fired generating plants in Victoria, South Australia and Western Australia. Its interests also extend across energy retailing (Simply Energy) and the (SEAGas) gas pipeline between Victoria and South Australia as shown in **Table 1-1.**

Table 1-1 IPRA Australian Energy Assets

Asset	Fuel / Type	Gross Capacity MW	Net capacity MW
Hazelwood, Victoria	Coal	1,675	1,541
Loy Yang B Power Station, Victoria	Coal	1,026	718
Synergen Peaking Units, South Australia	Natural Gas/Distillate	371	371
Pelican Point Power Station, South Australia	Natural Gas (CCGT)	487	487
Canunda Wind Farm, South Australia	Wind/renewable	46	46
Kwinana Power Station, Western Australia	Natural Gas (CCGT)	118	58
SEA Gas underground pipeline	n/a	n/a	n/a
Simply Energy	n/a	n/a	n/a
	Total	**3,723**	**3,221**

IPRA employs around 750 personnel across its national business and is an innovative and proactive company, highly regarded in the industry as a project developer and as an asset manager.

[4] IPRA or a special purpose related body corporate

Chapter 1 Introduction

1.5 Environmental Assessment Process

1.5.1 Major Projects

In NSW the Environmental Planning and Assessment Act 1979 (EP&A Act), and its supporting legislation the Environmental Planning and Assessment Regulation 2000 (EP&A Regulation), provide the framework for development and environmental assessment.

The Buronga Peaking Power Plant Project is considered to be a Major Project pursuant to clause 24(a) of Schedule 1 of SEPP Major Projects as it is development for the purposes of electricity generation that has a capital investment value of more than $30 million, and is therefore subject to the development and assessment processes and requirements of Part 3A of the EP&A Act. Refer to **Chapter 5** for further detail.

Initial discussions were held with the Department of Planning (DOP) in September and October 2006, following which IPRA submitted a Project Application in November 2006. The DOP convened a Project Focus Meeting in November 2006. Confirmation that that the proposed facility would be considered a Major Project under Part 3A of the *Environmental Planning and Assessment Act 1979,* was issued on 1 August 2007. **Chapter 5** provides further details of the Act under which the Minister for Planning is the consent authority.

On 10 August 2007 the Executive Director of DOP, as delegate for the Director-General of DOP, issued Environmental Assessment Requirements (EAR's) pursuant to section 75F(2) of the EP&A Act to IPRA. The EAR's are provided within **Appendix A** of this Environmental Assessment.

On receipt of the EAR's, IPRA immediately commenced relevant studies and community consultation.

1.5.2 Planning Focus Meeting

A Planning Focus Meeting (PFM) for the Project was convened by the DOP and held in Mildura on 28th November 2006. The meeting included an on-site discussion on various aspects of the proposal including plant layout, construction arrangements, and operational phase clarifications including hours of operation and levels of staffing. The proponent made a formal presentation to the PFM and a question and answer session was held with attendees.

1.6 Environmental Assessment Preparation and Exhibition

The Environmental Assessment has been prepared in accordance with Part 3A of the EP&A Act and the Director-General's Environmental Assessment Requirements.

The objectives of the Environmental Assessment are:

- to comply with the requirements of the EP&A Act, as formalised in the Director-General's Environmental Assessment Requirements;
- to provide the Minister for Planning with sufficient information to determine the environmental impacts and benefits of the Buronga Peaking Power Plant Project; and
- to inform the community about the Buronga Peaking Power Plant Project

The EP&A Act 1979 requires that the Environmental Assessment be placed on exhibition for public review for a minimum period of 30 days.

1.6.1 Decisions and Assessments

Subsequent to exhibition of the Environmental Assessment, copies of all submissions or a report of all issues raised will be provided to IPRA and relevant Government authorities. IPRA will review the submissions and respond to issues raised.

The Director General (D-G) will prepare an assessment report on the Buronga Peaking Power Plant Project which will take into account comments from relevant Government authorities as well as other stakeholders and the community. The assessment report will be provided to the Minister for Planning who will determine whether to grant Project Approval and conditions in accordance with the EP&A Act.

1.6.2 Key Assessment Requirements

The D-G Environmental Assessment requirements identified specific issues to be addressed in the Environmental Assessment. These comprised review and assessment of:

- strategic justification;
- greenhouse gases;
- air quality impacts
- noise impacts
- flora and fauna impacts; and
- general environmental risk analysis

These key issues were addressed with specific investigations that were completed by specialists for which separate reports have been developed. These investigations were used as source materials for this Environmental Assessment and are submitted as components of this Major Project application. Where these investigations are very detailed they are presented in **Volume 2 Appendices** and summaries provided in the relevant sections of this main report. In other instances the whole assessment forms the relevant section of this main report.

1.6.3 General Environmental Risk

The D-G Environmental Assessment Requirements state that the Environmental Assessment must consider environmental risks that may lead to potential environmental impacts associated with both the construction and operation of the project. Further to the issues listed in **Section 1.6.2** above, additional issues that are considered relevant to this project included:

- water quantity and quality
- visual amenity impacts
- road and traffic impacts
- hazard and risk impacts
- socio economic impacts
- cultural heritage
- soils and groundwater
- Bushfire
- land use and property impacts

These investigations were used as source materials for this Environmental Assessment and are submitted as components of this Major Project application with an appropriately detailed impact assessment of these additional key impacts. Where these investigations are very detailed they are presented in **Volume 2 Appendices** and summaries provided in the relevant sections of this main report. In other instances the whole assessment forms the relevant chapter of this main report.

Chapter 1 Introduction

1.7 Document Structure

The Environmental Assessment document is divided into ten parts. The content of each part is outlined below:

- *Executive Summary* – provides a brief description of the key issues and findings detailed within the Environmental Assessment.
- *Project Background* – **Chapter 1** briefly outlines the environmental impact assessment process, describes the background and context to the project and provides an outline of the proposed Project.
- *The Project* – **Chapters 2** to **4** detail the needs, objectives and alternatives of the project and provides a detailed description of the proposal.
- *Statutory Planning* – **Chapter 5** reviews the relevant controlling Commonwealth and State legislation, and nominates the various licences and approvals required to enable the proposed Buronga Peaking Power Plant Project.
- *Consultation* – **Chapter 6** summarises the issues raised during consultation with statutory and other relevant authorities, and the local community. The relevant section of the Environmental Statement which responds to issues raised is identified.
- *Environmental Assessment* –**Chapters 7-18** provide an overview of the existing environment, an assessment of the likely impacts of the proposal and the identification of appropriate mitigation measures to safeguard the environment. The cumulative impacts of the proposed Buronga Peaking Power Plant Project are also addressed.
- *Draft Statement of Commitments* – **Chapter 19** outlines IPRA's commitment to proposed environmental management measures to safeguard against any potential impacts.
- *Conclusion* – **Chapter 20** summarises the main findings of the Environmental Assessment and addresses the principles of Ecologically Sustainable Development (ESD).
- *References* – **Chapter 21** provides a list of materials referenced during preparation of the Environmental Assessment.
- *Appendices* – contains the correspondence received and the detailed assessments conducted for the Environmental Assessment.