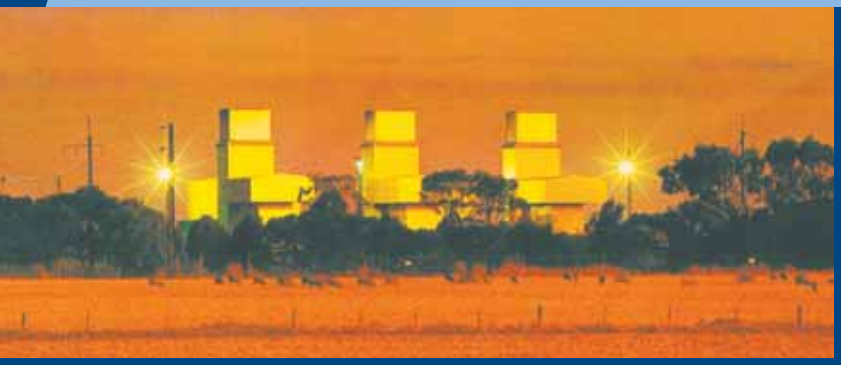
International Power



CHAPTER 4

Project Description

URS

Project Description – Summary of Key Outcomes

IPRA proposes to build a gas-fired Peaking Power Plant of between 120MW and 150MW nominal capacity comprising three gas turbines operating in open cycle mode. The Peaking Power Plant would be fuelled by natural gas - from the Central West Pipeline (CWP) approximately 10km to the east of the site on the outskirts of Parkes - and use low sulphur distillate as a back up fuel during periods of limited or curtailed natural gas supply. The electricity generated by the facility would feed into the 132kV high voltage transmission network via the TransGrid substation immediately adjacent to the proposed power plant site.

IPRA is seeking a licence to operate for up to 10% of a year except where extraordinary market or transmission system circumstances prevail as identified by the Minister in granting the Approval and stipulated in the associated environmental licence conditions.

A natural gas valve station would be required at the connection to the CWP pipeline in Goldrush Road Parkes to ensure flow control, pressure control and isolation. A natural gas receiving station (valves, heating and metering) will be located at the Parkes Peaking Power Plant site.

Project construction will take from 6 - 8 months and involve a peak construction work force of around 140 personnel.

Each gas turbine unit comprises an air inlet filter housing, turbine module, generator, exhaust stack and air cooled high voltage transformer. Ancillary station facilities include offices, switch room, control room, workshop and water treatment plant plus storage tanks for water and distillate.

Small amounts of chemicals and oil would be stored on site and all storage and handling will comply with statutory requirements.

Water would be stored on site in storage tanks of various sizes for process, domestic and fire fighting uses. It is proposed that the significant quantities of process water required (refer **Chapter 14**) would be sourced from the Parkes Sewerage Treatment Plant and treated before use. Process water recovered from evaporative cooling would be recycled to the maximum extent possible before being discharged into an evaporation pond. In the absence of mains water connection, rainwater would be captured and used on site wherever practicable.

Sewage would be directed to an on-site proprietary treatment system or to a septic system for pump out and off site disposal.

A drainage collection and bund system including an oil and grit interceptor and appropriate traps would ensure the surrounding environment of the site remains free of spills risk.

The peaking power plant would be operated remotely with on-site staff working mainly during day shifts and on call at other times. During normal operation, staff levels are expected to average one full time person with up to two more on an intermittent basis. During relatively short duration major plant inspections and overhauls this number will increase to up to 40 personnel.

Parkes Peaking Power Plant would be subject to Protection of the Environment Operations Act licence requirements. The site operations will be in accordance with its environmental management program and environmental management system ISO 14001: 2004 standard, OH&S ISO 18801 OHSAS and OH&S AS/NZS 4801 standards.

Chapter 4 Project Description

4.1 Overview

4.1.1 General

IPRA proposes to build a natural gas-fired power plant (known as the Parkes Peaking Power Plant Project) at a site near Parkes NSW. The peaking power plant would comprise three gas turbines each of between 40MW and 50MW output each to produce a total nominal generating power capacity of between 120 MW and 150MW. The three gas turbines would operate in open cycle mode with the electricity generated fed into the 132kV transmission network via an existing switchyard in the adjacent TransGrid substation. The power plant would use natural gas supplied by a new underground pipeline connected to the Central West Pipeline (CWP) in Parkes and use distillate as a back up fuel in the event of disruption to natural gas supplies.

The Parkes Peaking Power Plant Project would be constructed in one stage. An isolation and control facility would be required at the connection with the CWP natural gas pipeline whilst a gas metering and control facility is required at the power plant site.

4.1.2 Proposed Power Plant Site

The proposed peaking power plant site would be located on part of Lot 1 in title DP 602329.

The Natural Gas Pipeline route, as shown on **Figure 1-2**, would include the following titles (listed in the direction of gas flow from the existing Central West Pipeline):

1. Travel west in Goldrush Road reserve - Pipeline follows entire length of Goldrush Road Reserve;
2. Small deviation to left, crossing Back Trundle Road to enter Clark property Lot 1 DP 1015719 and travel NW;
3. Travel NW across Fewings property Lot 173 DP 750152;
4. Travel NW across McMaster property Lot 760 DP 750152;
5. Travel S across McMaster property Lot 760 DP 750152;
6. Travel W across Payne property Lots 759, 758 DP 750152;
7. Travel W across Ross property Lots 765, 764, 763, 762, 500 DP 750152;
8. Cross Parkes Narromine Railway and continue on balance of Lot 500 DP 750152;
9. Travel NW across Sheridan property Lot 2 DP 808701;
10. Deviate SW to cross Condobolin Road;
11. Travel NW in Condobolin Road adjacent property boundary (Lot 2 DP 877903) and enter Greens property Lot 1 DP 877903;
12. Travel W across Greens property Lot 1 DP 877903;
13. Travel W across Greens property Lot 409 DP 750152; and
14. Travel S across Greens property Lot 409 DP 750152 to Peaking Power Plant.

The isolation and control facility at the connection of the new pipeline with the Central West Pipeline (junction of Goldrush Road and Stock Road) is located on DP 1059946 PT 7044.

The proposed peaking power plant site is located close to the Condobolin Road, approximately 10 km west of Parkes. Developments immediately surrounding the proposed peaking power plant site are predominantly rural enterprises on medium size holdings, primarily related to wheat cultivation (refer to **Figure 1-1**). An existing TransGrid 132kV substation adjoins the northern boundary of the proposed peaking power plant site and an unsealed road adjoins the western boundary. Wheat cultivation adjoins the eastern and southern boundaries of the proposed peaking power plant site.

The proposed peaking power plant site currently is part of an existing wheat farm. The entire proposed site is cleared and used for wheat cultivation. There are no improvements on the site other than boundary fencing to the northern and western boundaries.

The existing unsealed road to the west of the site on the western boundary of the proposed peaking power plant site will be upgraded to provide access to the proposed peaking power plant site off Condobolin Road. The site access road from the intersection with Condobolin Road to the TransGrid substation will not require any upgrading but the remainder of the track to the site will be upgraded. IPRA will seek an access easement over the approximate 400m of Crown land from Condobolin Road (to overlay the TransGrid access easement) to the site.

4.1.3 Proposed layout and key components

The proposed power plant site would occupy an area of approximately 4.7 ha on a plot of 200 metres by 235 metres. The Parkes Peaking Power Plant Project comprises a number of key features (shown in **Figure 4-1)** and generally include the following:

- power plant comprising three gas turbines, generators and ancillary plant;
- step up transformers and connection to the existing TransGrid high voltage switchyard;
- control room, administration, amenities, car parking and workshop facility;
- connecting natural gas pipeline, natural gas receiving station;
- fire water storage tank;
- process water storage tank;
- domestic/rainwater tank(s);
- domestic wastewater treatment and disposal system;
- sedimentation pond and associated earth bund and diversion drain;
- evaporation pond to accommodate waste water discharges from the water treatment plant;
- landscaping and tree planting to provide visual screening of the facility;
- internal roads; and
- security fencing.

For the proposed development, it is considered that a general fill 0.5m above the existing surface would be sufficient to mitigate the potential for flooding, giving a general level some 1.5m above the highest known flood level (refer **Chapter 14**). Later detailed design may allow for variations in that fill profile, allowing for sensitive landscaping and drainage design to allow for the management of runoff from the site as well as from the adjoining land. No additional freeboard would be necessary for the screening areas or water collection ponds.

Chapter 4 Project Description

4.2 Staging and Process Description

Construction of the Parkes Peaking Power Plant Project would be undertaken as a single stage program.

The suppliers for the gas turbine units will be determined through a tendering process which has commenced. The tendered proprietary gas turbine units will be assessed on the basis of proven levels of efficiency, reliability and operability. Precise outputs associated with the preferred plant will only be known once the tendering process is completed. An approximate output of between 40MW and 50MW for each unit has been assumed for the purposes of this Environmental Assessment.

4.2.1 Gas Turbines

A gas turbine unit comprises air inlet filter housing, compressor-turbine module, exhaust stack including silencer, generator and air cooled high voltage step up transformer.

Typically, gas turbines of the size and type tendered operate in the following way:

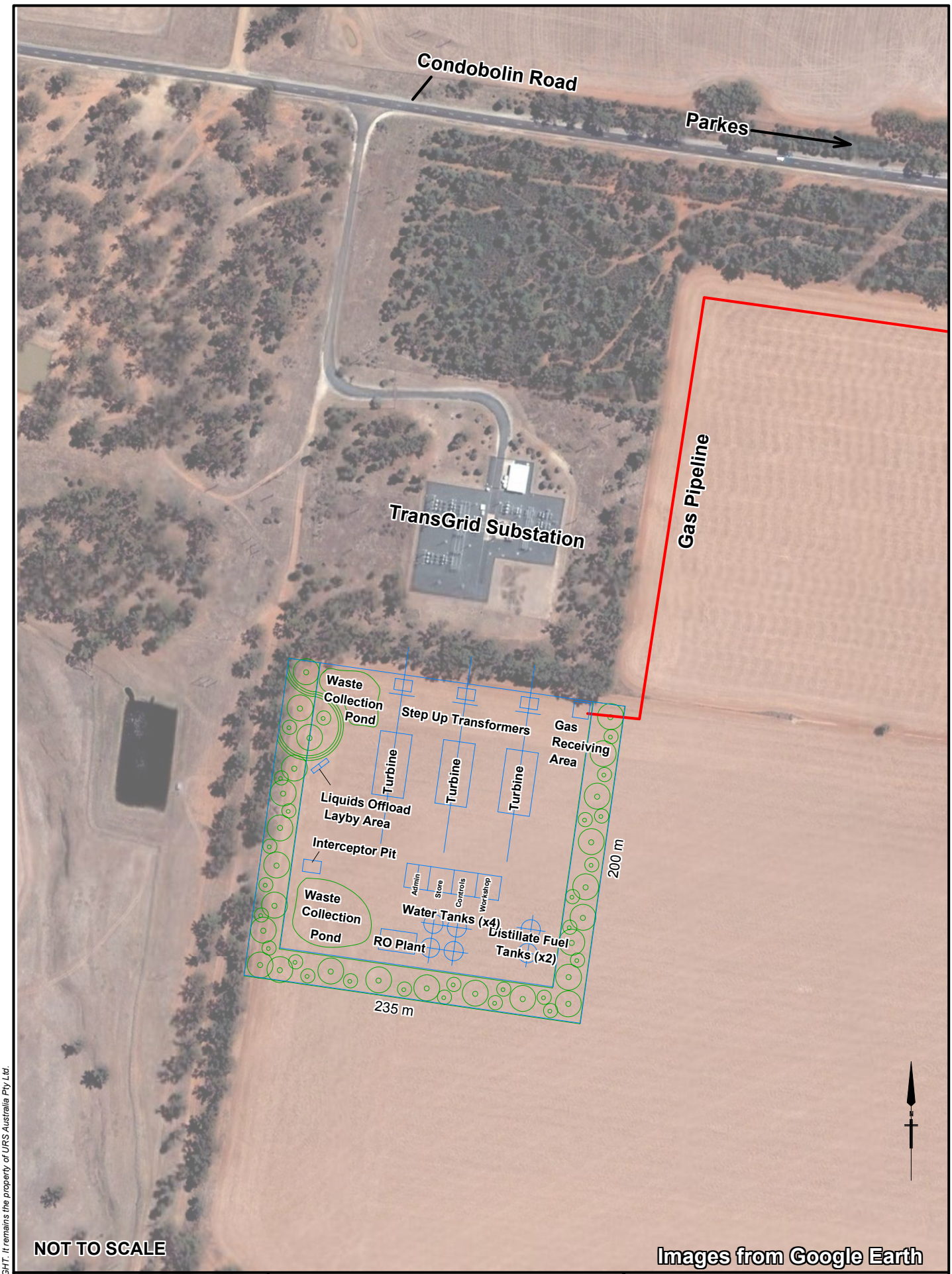
- Air is drawn in through the air inlet ducts and filter housing to remove any particulate matter, then flows into the compressor section.
- In the compressor, multiple rows of rotating blades raise the temperature and pressure of the air. Following compression to pressures of 15 - 30 atmospheres, the air flows into the combustion chamber where natural gas is injected and burnt, increasing the temperature to approximately 1100 – 1200^{o}C;
- The combustion products from the combustion chamber enter the power turbine where it flows thro rows of blades gradually reducing to atmospheric pressure, and reducing in temperature to around 550^{o}C. The power turbine in turn rotates the compressor and electrical generator;
- From the power-turbine the combustion products are discharged directly to the exhaust stack which contains a silencer section.

The general type of gas turbine proposed is started either electrically or by a diesel engine up to approximately one third of running speed, main fuel is then admitted to the combustion chamber and ignition is initiated. The gas turbine ramps up to operating speed and the start motor disengages and is shutdown.

The height of the exhaust stacks would be up to 20m subject to compliance with noise and air emission limits.

Ancillary plant and buildings would be located immediately adjacent to the gas turbine enclosures and be of a consistent style.

Air emissions from the site would be controlled to ensure compliance with the NSW Clean Air Act and POEO and the specific licence conditions applicable to the site.



Client: INTERNATIONAL POWER (AUSTRALIA) PTY LTD	Project: ENVIRONMENTAL ASSESSMENT - PARKES PEAKING POWER PLANT	Title: **INDICATIVE SITE LAYOUT**
URS	Drawn: AJW; Approved: CJ; Date: 18/12/2006	Figure: **4-1**
	Job No: **43177456**; File No: 43177456.026.wor	

4.2.2 Fuel

The fuel for the gas turbines would be natural gas drawn from an off-take on the Central West Pipeline (CWP) (design maximum pressure rating of 10.2 MPa) through a new underground pipeline of approximately 10 kilometres in length. Subject to final plant design requirements and existing CWP gas delivery capability the pipe diameter will nominally be between 300mm and 500mm.

For the reasons explained in **Chapter 3**, distillate would be used as back up to ensure a continuous generation capability to the network, under natural gas supply limitations. Distillate would be stored on site in two tanks, with tanker deliveries used to replenish stock used for electricity production. The storage would be managed in accordance with the requirements of the *Occupational Health and Safety Act 2000* and the *Occupational Health and Safety Regulation 2001*. Distillate is a class C1 combustible liquid and not listed in the Australian Dangerous Goods Code. The distillate tanks would be installed in accordance with relevant WorkCover requirements and Australian Standard *AS1940:2004 Storage and Handling of Flammable and Combustible Liquids*. Normally, distillate quantities stored on site would be around 1,200 tonnes.

Although distillate is not classified as a hazardous material, it is combustible. The distillate tanks, associated pipelines and fittings would be constructed in accordance with relevant Australian Standards with regular inspection and/or testing conducted.

Natural Gas System

The natural gas system at the site would comprise a natural gas receiving station at the termination of the new underground gas pipeline lateral, header pipework delivering gas to a fuel conditioning skid associated with each gas turbine unit.

Gas Receiving Station

The separately fenced gas receiving station controls the natural gas entering the power plant facility and would generally contain the following equipment:

- pipeline inspection (“pig”) receiving station;
- natural gas supply isolation, safety shut offs, emergency venting and blow-down systems ,
- flow control, metering and custody transfer point;
- pressure regulation, filtration, conditioning, (including gas heaters if required) emergency venting and blow-down systems; and
- associated process control and communications equipment;

Safety features at the gas receiving station include pressure, temperature, flow, automatic shutdown valve to isolate the lateral from the natural gas receiving station due to pressure transients, high flow or other potential risk conditions.

Methods to prevent and monitor pipeline leaks include:

- appropriate corrosion resistant design incorporating coating of internal and external surfaces;
- monitoring of gas pressures to detect inexplicable pressure reductions;
- regular patrolling of the pipeline;
- cathodic protection for external corrosion; and
- installing gas leak detectors at the gas receiving station.

The header pipeline connects the natural gas receiving station to the inlet gas manifold at the gas turbines. The length and diameter of the header pipe would be determined in the detailed design phase and would be designed to comply with the requirements of Australian Standard *AS4041 Pressure Piping*.

Safety features would be installed to provide overpressure protection. In the event of a plant trip signal and the sudden reduction in gas demand, pressure protection mechanisms would be in place to protect pipe work from overpressure between the pressure regulation station and the gas turbine facility.

There would be over pressure protection using pressure relief safety valves and a manual shut off isolating valve as a back up arrangement. The delivery facility would also incorporate equipment to vent natural gas from the connecting pipeline if required for maintenance or in an emergency situation.

4.2.3 Electrical Generators

Attached to each gas turbine is an electrical generator that produces electricity when rotated by the turbine. The generators are large items of plant, assembled off site and usually delivered in one piece.

4.2.4 Step-Up Transformers and High Voltage Switchyard

The main electrical transformers would be located adjacent to each gas turbine and are required to increase (or "step up") the 11kV voltage as produced at the gas turbine generator to 132kV for connection into TransGrid's high voltage switchyard and thence to the national grid.

The step up transformer connections to the substation would have appropriate switchgear in a power station switchyard to ensure safe and reliable connection to the electricity network. The final switchyard design requirements will be determined during the Connection Application process.

IPRA has submitted a Connection Inquiry and a Connection Application to TransGrid, the network service provider, to determine their broad requirements for connection to the existing TransGrid substation.

4.2.5 Water demand

All aspects of water demand are addressed in **Chapter 14.**

The main process water requirement is for inlet air cooling and NOx emission control purposes. Comparatively smaller quantities are used for other process purposes, eg compressor blade washing.

Actual water consumption would vary with ambient and operating conditions. It is expected that some extent of evaporative cooling water will be required during most summer months when there is a high ambient temperature. Evaporative cooling may not be required at all during winter months.

The average volume of process water required for combined emission control and inlet air cooling purposes is expected to be 15ML/annum up to a maximum of 30ML/annum. While some evaporative cooling water is recoverable for re-use, in excess of 90% would be evaporated into the atmosphere.

Process water demand is addressed in detail in**, Section 14.3.1**.

4.2.6 Hazardous Goods Management

Due to the small size and nature of the plant proposed by IPRA, only minor quantities of chemicals and goods defined as hazardous or dangerous would be stored at the facility.

A representative list of the type and quantities of chemicals to be used and stored at the proposed peaking power plant is presented in **Table 4-1**.

Table 4-1 – Chemical List

Plant Area / Use	Chemical/Product	Anticipated Storage Qty
Natural Gas supply	Natural gas	Approximately 10,000 m long, up to 500mm diameter, 10.2 MPa pressure, atmospheric temperature.
Backup fuel	Low Sulphur Distillate	2 x 600,000 L in fixed tanks
Turbines	Turbine oils (combustible oil)	3 x 7,000 L in containment integral to each turbine
Transformers, pumps, air compressor, lubrication, fire pump	Insulating oil (non PCB)	1,000 L in one bulk container or drums
Water treatment plant (including an RO capability)	Caustic soda (50%)	1,000L in one bulk container
	Hydrochloric acid (36%)	1,000L in one bulk container
	Antiscalant	1,000L in one bulk container
	Citric acid	1,000L in one bulk container
	Sodium hypochlorite	Minor quantities in lockable chemical cabinet
Chemicals for maintenance / repair work and clean-up	Carbon dioxide	As required for fuel line purging, in cylinders
	Nitrogen	As required for natural gas line purging, in cylinders

Chemicals would be stored on site in designated chemicals storage facilities that would be constructed in compliance with relevant Australian Standards, including but not limited to:

- Australian Standard AS 1940 (2004) The Storage and Handling of Flammable and Combustible Liquids;
- Australian Standard AS 4452 (1997) The Storage and Handling of Toxic Substances;
- Australian Standard AS 3780 (1994) The Storage and Handling of Corrosive Substances;
- Australian Standard AS 4332 (2004) The Storage and Handling of Gases in Cylinders and
- Occupational Health and Safety Act 2000 and Occupational Health and Safety Regulation 2001

Suitable spill control measures would be provided around the gas turbine generators. Gas turbine generator controls and alarms would indicate a lubricating oil leak including the low oil pressure alarm, low oil pressure trip and low oil level alarm.

Packaged chemicals would be stored within an appropriate bunded area in a storage room, a chemicals cabinet or the workshop. Separate spillage control would be provided for each of these products, for example by the use of pallet bunds.

4.2.7 Waste Management

Solid Waste

The normal operation of the facility would not be expected to generate significant quantities of solid waste. Most solid waste would be classified as "inert waste" and would be generated from office rubbish, construction and maintenance activities including:

- spent filters - air, fuel and oil filters;
- scrap materials - metals, packaging waste and plastic cabling;
- general maintenance - wood and cloth; and
- salts formed as a result of the evaporation process.

These wastes will be disposed of through an appropriate EPA licensed contractor for recycling or disposal.

Liquid Waste

Liquid waste generated at the site would include:

- contaminated oily water;
- waste oils; and
- solvents and other liquid chemicals in small quantities.

All liquid wastes would be contained on site and dispatched for recycling. All waste would be classified and disposed of by a licensed contractor in accordance with the *EPA's Environmental Guidelines: Assessment, Classification & Management of Liquid and Non-Liquid Wastes* (1999).

4.2.8 Power

During construction and site preparation phases it would be necessary to have power to the site. This would be either supplied from the existing distribution system by connecting to the low voltage network or through small diesel generators.

4.2.9 Emergency Systems

Comprehensive fire and gas detection and protection systems would be installed throughout the plant.

Alarms will be monitored at local and remote control rooms.

An Emergency Response Plan would be prepared for the facility for the construction and operational phases of the proposed development. Procedures training and exercises would ensure operational preparedness for emergency response by the staff.

4.2.10 Landscaping

The finished plant site the gas pipeline route would be landscaped and re/vegetated as described in **Chapter 9**.

Chapter 4 Project Description

4.2.11 Buildings, Amenities and Security

Buildings would be constructed on site to provide for office area, amenities, control room, workshop and stores facilities (refer to **Figure 4-1**). The plant footprint would be surrounded by a chain mesh fence. Lighting would be included for safe working and security purposes and would be designed such that light is contained within the proposed power plant site.

4.3 Operating Hours and Staffing

The Parkes Peaking Power Plant Project would be available to operate 24 hours a day, 7 days a week and could be operated remotely by IPRA staff. In practice the plant would only run during periods of high electrical demand or transmission line limitations. IPRA's experience with its similar peaking power plants in South Australia suggests that the Parkes Peaking Power Plant Project is likely to operate between 5 to 10% of the year to a maximum of 10% of any one year.

The actual operating times of the power plant would be largely dependent on supply and demand conditions in the transmission network and electricity market. Operation of the plant is expected to occur mainly during morning and afternoon peak periods in summer and winter when demand rises due to weather conditions. However the power plant is required to be available to operate at any time should it be required to respond to market conditions, system emergency or security situations.

During the operational phases staff levels are expected to average around five equivalent personnel with one person based locally to supervise the site from Mondays to Fridays and attend to out of hours requirements.

Post construction maintenance or minor bi/annual plant inspections will involve up to 5 additional personnel. Major overhauls would occur once every three to five years and involve 20 to 40 personnel for a four to six week period.

Traffic implications are address in detail in **Chapter 10**.

4.4 Project Staging and Construction

IPRA cannot commit to commercial arrangements for plant, gas grid connection or power purchase until it has secured Project Approval and an environmental licence to build and operate the proposed plant.

Given the predicted shortfall in peak power supply in NSW by 2008/09, IPRA will seek to enter into firm commercial arrangements with suppliers and existing/prospective market participants as soon as possible after it is confirmed that Project Approval has been granted.

The commencement of construction would revolve around the finalising of these various commercial arrangements.

Construction Equipment

Construction would require heavy loads of plant and equipment to be delivered to the site using special haulage vehicles known as Class 1 Restricted Access Vehicles. These vehicles require special permits and escorts, temporarily disrupting normal traffic flows.

The major plant components requiring special haulage conditions are listed in **Table 4-2**.

Table 4-2 – Gas Turbine equipment transport

Plant item	Number of items	Approximate weight (tonnes)	Maximum width (metres)	Maximum length (metres)	Maximum height (metres)
Turbine	3	343	5.4	11.2	5.2
Generator	3	230	3.8	10.7	4.2
Transformer	3	127	3.4	7.7	4.2

The remaining plant and equipment would be erected on the site. The proposed site is sufficiently large to permit laydown areas and parking within the site.

Major construction equipment types, estimated numbers and purpose are summarised in **Table 4-3.**

Table 4-3 – Indicative Construction Equipment and Purpose

Equipment Type	Activity	Estimated Number
Bulldozers	Removal of topsoil, development of internal roads and drainage swales	1
Scrapers	Removal of topsoil, development of internal roads and drainage swales and basins	1
Graders	Site levelling	1
Excavators	Excavation of soil, grading and levelling the site	2
Hydraulic Hammer	Rock excavation (if necessary)	2
Backhoe, Excavators	Trenching	2
Compactor, Rollers	Earth, road base, foundation and pad compaction	2
Cranes	Assembling fabricated building items and positioning plant equipment	1 (25 tonne) 1 (150 tonne) 1 (40 tonne) 3 (20 tonne)
Water Trucks	Moisture and dust control	1
Trucks	Haulage of excavated material, gravel, steel, and reinforcement, etc	4
Concrete Trucks	Delivery and pouring of concrete	4
Fuel and maintenance	Delivery	1
Over dimensional vehicle	Transformer, gas turbine & generators (possible convoy of one multi-wheel transport unit with up to 3 tow vehicles & under private escort and police control)	4 convoys

4.4.1 Peaking Power Plant Construction

Construction Timing and Features

The plant would be built over a 6-8 month duration in one continuous phase with the following main aspects:

- typical average workforce 27 persons with a peak workforce 140 persons (duration up to two - three months);
- between 50 and 180 (typical times to peak times respectively) truck deliveries of construction equipment and materials (eg backhoes, cranes, materials, etc) per week. Construction equipment would be sourced locally (where available) and once delivered, would stay on site for the duration of construction;
- 12 over-dimensional and/or over-mass escorted heavy transport convoys of pre-assembled gas turbine, generator and transformer units;
- between 5 to 10 truck deliveries per day;

The power plant contractor, prior to commencement on the site, would prepare detailed construction programs and methods. These would be dependent on the detailed design and would need to demonstrate compliance with conditions of the Project Approval and environmental licence and other statutory requirements.

Construction activities would include the following phases:

- mobilisation - establishing the site with equipment and facilities necessary to execute the construction phase;
- bulk earthworks – Topsoil removed would be stockpiled and, where possible, reused during landscaping operations once construction was complete. Dust suppression and water containment would be employed during the bulk earthworks program as necessary to ensure that the effects on surrounding properties are minimised.
- establishing and preparing foundations – it is envisaged that foundations for major plant items and buildings would be established on large raft footings founded in the clay or on weathered rock, depending on the depth to rock and the configuration of the turbine supports;
- construction of buildings and plant – where possible, to minimise the construction time, prefabricated components would be imported to the site and erected during construction. Mobile cranes would be used to erect and complete the construction of heavy plant items; and
- demobilisation – removing all construction equipment and facilities and rehabilitating the proposed power plant site where impacted by construction activities.

Wherever possible the workforce would be sourced from Parkes and the surrounding region;

All plant, equipment, buildings and services would be supplied, erected, operated and maintained in accordance with the relevant Australian Standards and the Building Code of Australia. Where an appropriate Australian Standard may not exist, the most suitable ISO, British, American or approved alternative standard would be used.

4.4.2 Natural Gas Pipeline

Description

The natural gas pipeline would be underground extending 10 km from the existing Central West Pipeline at Parkes. The majority of the natural gas pipeline route would be located beneath existing agricultural land, apart from relatively short sections that occur beneath road and rail lines

A fenced valve station would be installed at the Central West Pipeline off-take point. Subject to design requirements, this station will likely include a small controls enclosure and below and above ground shut-off valves together with pipeline inspection and maintenance "pigging" pipework.

Construction

The natural gas pipeline would be constructed in accordance with the requirements of AS 2885 and the APIA *Code of Environmental Practice*.

Construction activities will be typical of modern pipeline projects and will involve the following key steps:

- clearing of vegetation and grading of the right-of-way to prepare a safe construction area and to protect and preserve top soil;
- creation of a trench in which to lay the pipeline. This will be undertaken by a trenching machine or excavator, but may involve rock hammers or blasting in isolated areas if necessary;
- crossing watercourses by open cut, boring or horizontal directional drilling methods;
- crossing of railway and major roads by open cut, boring or horizontal directional drilling methods appropriate to the requirements of the respective asset owners;
- installation of cathodic protection systems;
- cleaning up and restoring the construction right-of-way and all disturbed work areas; and
- installation of appropriate signage.

Figure 4-2 depicts the layout of a typical pipeline construction right of way.

Figure 4-2
Layout of a typical gas pipeline construction right-of-way