Preliminary Environmental Assessment

Dalton Energy Project

MARCH 2010

Prepared for

AGL Energy

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43177661

URS

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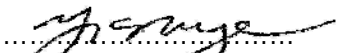

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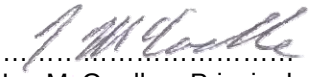

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Table of Contents

Appendices

Executive Summary

Over the next decade, it is predicted that rising electricity demand from the whole of NSW along with a change in the mix of generation sources as a result of the expansion of Renewable Energy Targets (RET) will substantially increase the need for rapid response “peaking” power generation within NSW. To meet this rapidly changing electricity supply landscape, AGL proposes to construct and operate an initially 250 megawatt to 780 megawatt (and ultimately up to 1500 megawatt gas turbine power station on rural land approximately 3km north of the town of Dalton, south western NSW. The Dalton Power Project will act a peaking power station to supply electricity to Sydney during times of peak demand.

The Dalton Power Station Project will be constructed in stages. The first stage would include the installation of gas turbine generators with a maximum generating capacity of 780 megawatts. These turbines would either consist of between two to four “E” class turbines, with capacity between 125 megawatts run in open cycle mode, or two to three “F” class machines with a generation capacity of between 240 megawatts and 300 megawatts.

The Dalton Power Station Project will be constructed and operated on an area of less than 15ha within 500ha of land that comprises the site, thereby providing significant capacity for buffer zones. The project cost is estimated to be between $250 million to $800 million for Stage 1, and the total project cost is expected to be approximately $1.5 billion.

The development footprint has a capacity for the installation of up to six gas turbine generators, rated between 125 megawatts and 250 megawatts each, run in open cycle mode. The power station would feature dry, low NOx technology to produce very low NOx emissions. The power station will operate on low green house gas emissions fuel. When operating, this type of plant generates a third less greenhouse gas emissions than typical coal fired power stations in NSW.

The use of renewable energy technology to meet peak demand is not available in this instance as the most economic current source of renewable energy, wind, is irregular and not guaranteed to be available during peak electricity demand, and opportunities for a large scale hydro project are limited. In the last two years, AGL has committed to investment of over $2billion in renewable generation and has joined the Chicago Climate Exchange. AGL is committed to investing in low emissions (including gas) and renewable generation technology.

The Dalton Power Project will typically operate during times of peak electricity demand. AGL’s peaking power stations in Victoria and South Australia operate on average between 2% and 5% of the year, often during periods of low wind power generation. Part 3A of the *Environmental Planning and Assessment Act 1979* (EP&A Act) applies to the Dalton Power Station Project.

The following key environmental issues have been identified for the Project:

- Air quality and greenhouse gas emissions;
- Land use;
- Operating hours;
- Noise and vibration;
- Visual and landscape amenity;
- Water quality;
- Heritage;
- Traffic and access;
- Cultural and historic heritage; and
- Flora and fauna

It is proposed that these issues will be addressed in the environmental assessment of the Dalton Power Station Project by AGL. AGL will prepare a draft Statement of Commitments to describe how these issues will be managed through the implementation of the proposal.

1

Introduction

1.1 Background

During the next decade, NSW will experience growth in electricity demand that will exceed existing generation capacity. The expansion of Renewable Energy Targets will also result in substantial new generation sources such a wind generation being introduced into the NSW electricity grid. Wind is inherently variable in its generation profile and needs to be complemented by other controllable generation sources. Open cycle gas fired “peaking” generation is the most viable and environmentally sensitive controllable generation source for this purpose.

NSW is the largest region of the National Energy Market (NEM) in terms of capacity and demand for energy and is also experiencing the strongest demand growth. To meet rising demand and mitigate the risk associated with supplying its retail customers AGL is proposing to initially construct a minimum 250MW to nominally 780MW gas turbine power station consisting of between two and four gas turbines and at a later stage (after the transmission network allows) further open cycle gas turbines to a maximum number of 6 turbines with a maximum capacity of 1500MW on a rural site in Dalton, south west NSW. The power station will initially consist of between two to four “E” class turbines, with capacity between 125MW and 200MW each run in open cycle mode, or two to three “F” class machines with a generation capacity of between 240MW and 300MW each. In order to construct additional gas turbines taking the total number of gas turbines to six with a maximum installed capacity of 1500MW the TransGrid 330kV transmission line from the proposed Bannaby substation to Yass would need to be upgraded. It is envisaged that the power station will typically operate in open cycle mode during times of peak electricity demand, typically for less than 15% of the year. AGL’s peaking power stations in Victoria and South Australia operate on average for between 2 and 5% of the year, often during periods of low wind power generation.

1.2 Proponent

AGL has been a major participant in the Australian energy industry since 1837. It began as a privately owned gas utility in NSW and since then has built an extensive energy business across Australia. Today, AGL is a major retailer of gas and electricity to approximately four million customers. AGL has an extensive portfolio of wholly and partly owned investments in energy infrastructure and other energy companies.

AGLs business involves:

- Buying and selling gas and electricity from gas producers and electricity generators;
- Owning and investing in power generation plants and natural gas resources; and
- Providing customers with a wide range of energy products and services.
- As part of AGL’s commitment to sustainability, AGL will:

1. At a minimum, meet all statutory requirements relating to reducing greenhouse gas emissions;
2. Quantify and publish the greenhouse gas impacts of their investments, operations and supply chain;
3. Seek to reduce the greenhouse gas intensity of energy across the supply chain by:

    — Expanding investment in low emission and renewable energy generation, and through the development and commercialisation of technologies that assist in reducing greenhouse gas emissions.
    — Helping customers to reduce GHG emissions by providing practical and accurate information on energy use and offering and promoting green energy.

— Improve the greenhouse gas efficiency of their operations, and those in which they have an influence.
— Work with customers, shareholders, governments and the community to progress policy options and initiatives to reduce greenhouse gas emissions.

1.3 Project Need

Each year, the Australian Energy Market Operator (AEMO) releases its Electricity Statement of Opportunities (ESOO) which, in part, analyses the supply and demand scenarios for each region of the AEMO. The ESOO includes a supply-demand balance for each of the five interconnected states that form the National Electricity Market (NEM) – indicating the point, known as the Low Reserve Condition (LRC), when additional capacity may be needed to maintain the established level of electricity supply reliability.

If no capacity in addition to that already committed is made available to the market, this point in time is reached for NSW somewhere around 2015 and 2016. After a prolonged period without substantial investment in power generation capacity in NSW, there is a requirement for new generation capacity investment that will be sustained over a period of 5 or more years.

Other factors that determine the project need and timing include the retail position of AGL. This is influenced by AGL's ability to hedge market exposure through contracting. As the time approaches where demand equals supply, the wholesale price of electricity to AGL rises, sometimes dramatically, while sales to consumers remain at a fixed, regulated price. This affects the contact market and increases the cost of electricity for AGL that it supplies to consumers at a fixed price. The Dalton Power Project is fundamental to allowing AGL to continue to supply electricity to consumers at a competitive and regulated price.

In order to reduce its exposure to electricity price volatility, AGL seeks to construct and operate a gas fired peaking power station to mitigate against potential substantial losses during times of high price. The operating cost of gas peaking generation plant is higher than the other technologies such as coal fuelled power stations meaning that it will be less economic to run at times when prices are not high for this reason, more cost efficient power plants will be constructed to meet intermediate and bas load electricity demand.

The expansion of the Federal Governments RET will result in increased penetration of renewable energy sources such as wind and solar generation. Most of these renewable sources rely on a variable and uncontrollable natural resource (i.e. wind and solar energy) and are not assured to be available at times of high electricity demand or price. Complementary and controllable generation sources are needed to support the renewable energy generation sources. Gas fuelled turbines operating in open cycle arrangement are the most efficient and environmentally friendly method of complementing uncontrollable renewable generation sources.

Open cycle gas turbines are able to be quickly started and stopped (typically less than 30 minutes from off to full output) meaning they are not required to operate constantly like thermal power stations, which typically take up to 8 hours to start from cold and as a result are rarely turned completely off.

AGL has demonstrated that is it prepared to invest in low emissions and renewable energy technology through its previous generation activities involving:

- The acquisition of hydro assets from Southern Hydro in Victoria;

- Acquisition of the 1280MW natural gas fired Torrens Island Power Station;
- Construction of the 95MW Hallett wind farm in South Australia;
- Construction of the 71.4MW Hallett II wind farm in South Australia;
- Construction of the 63MW Oaklands Hill windfarm in Victoria; and
- Construction of the 130 MW Bogong Hydro Project in Victoria.

1.4 Site Selection

The detailed review of sites considered for the Dalton Power Project in NSW was based on an assessment of key selection parameters including environment, infrastructure connections and land use.

1.4.1 Gas Network Connection

Gas fired power generation is a substantial gas consumer. A peaking plant could account for approximately 5% of the maximum daily flow through the Moomba to Sydney Pipeline (MSP), its instantaneous consumption could be a substantial amount of the capacity. AGL has a considerable portfolio of fuel supply and gas haulage arrangements in place and would manage the fuel supply to the proposal form that portfolio without risking the supply of fuel to other users.

Gas Peaking power stations with their high instantaneous gas flow requirements are only suitable for installation on, or close to, main transmission lines where their impact on system pressure is mitigated by the line pack. Line pack is the amount of gas in the pipeline system between the supply and delivery points such that gas can be withdrawn for short periods of time at quantities greater than normal hourly through puts. In contrast, locations at the end of a gas distribution network are not suitable because pipe sizes are smaller and line pack is negligible.

In assessing sites, the costs of a gas system connection and the ability to service demand have both been analysed. In general, sites in the immediate vicinity of a high pressure pipeline were selected to minimise connection costs and access / easement issues. There are also cost advantages as use can be made of AGL's existing contractual commitments. Instead of purchasing gas and pipeline capacity at short notice for limited periods (which can be expensive), gas and pipeline capacity already purchased under long term contracts is used, reducing cost.

The Dalton Power Project site is ideally located to allow suitable connections to gas resources.

1.4.2 Electrical Network Connection

The NSW electricity transmission system was originally planned to deliver power from the Snowy Region, Hunter Valley and Central Coast power stations to the greater Sydney area. Subsequently, interconnectors were established to Queensland and South Australia (via Victoria), which are relatively small in capacity.

The result of this arrangement is that electrical connection in the Newcastle / Sydney / Wollongong region is generally readily achievable, but anywhere outside of this area can be constrained by the limited availability of high capacity transmission lines. In addition, constraints around the Snowy Region produce further issues.

TransGrid, the NSW Transmission system owner, has a planned upgrade of the Transmission system in the vicinity of Dalton (a new 500kV substation at Bannaby and connection 500kV connection to Sydney), which makes the site a suitable location for a new generation plant.

In assessing sites, the costs of electrical system connection and the ability to service demand have both been assessed. In general, sites are preferred that are in the immediate vicinity (approximately 1km) of a 330kV high voltage transmission line so as to minimise connection costs and access / easement issues. The selected site at Dalton has a 330kV transmission line on site, completely removing the need to burden neighbouring landowners with transmission line easements.

Another risk is the distance of a site from the region containing the main Newcastle / Sydney / Wollongong load centre. While there is a single National Electricity Market, prices are set regionally and large discrepancies in prices between regions can occur when the transmission system is constrained as generation from one part of the state may not be able to supply another part. Having a peaking power station that cannot supply electricity at the required time is not an acceptable outcome. The Dalton site is suitably located within close proximity to enable effective electricity network connection.

1.4.3 Availability of land

Based on known impacts of gas turbines and previous installations in Australia, land based factors which need to be considered include:

- The existence of adequate undeveloped land available for a power station site;
- Land zoning compatible with the proposed development; and
- Adequate separation from sensitive neighbours such as existing residential housing.

These issues are generally satisfied by sites that:

- Contain areas greater than 10ha that are reasonably flat and level;
- Zoned general industry or rural (as most NSW zoning plans allow power generation in rural areas with consent); and
- Ideally more than 1km from existing housing.

The Dalton site satisfies AGLs criteria relating to land availability and is owned by the proponent.

1.4.4 Availability of water

Relatively small quantities of water are required for cooling air before it enters the gas turbines. Ideally the infrastructure for water supply would be located near a suitable site. Potential water sources include potable water, raw water and treated effluent. Sufficient water sources are available for the Dalton site.

1.4.5 Potential environmental effects

The main concerns in relation to gas turbine power plants relate to potential impacts on air quality, noise, visual, water quality, traffic, flora and fauna and geotechnical conditions.

1 Introduction

In conducting a site selection search process, AGL takes into account a number of issues that may differentiate one area from another. For example, existing air quality and previous modelling may be considered, while for noise related impacts, the distance to sensitive receptors and site selection criteria for setbacks generally address this issue.

Surrounding topography and location of sensitive receptors influences visual impact while the condition and status of local roads is reviewed for traffic issues for access during construction. The potential for flora and fauna issues based on adjoining vegetation is also reviewed.

Further discussion in relation to potential environmental effects is outlined in section 4 of this report.

2

Project Description

2.1 Study Location and Existing Land Uses

The site is located approximately 3km north of the small town of Dalton, which is in turn located approximately 11km north west of the town of Gunning, Southern NSW. Land uses immediately surrounding the Site are predominantly rural enterprises. The Lachlan River forms the northern boundary of the Site.

The Site currently operates as a rural landholding with sheep and cattle grazing. The majority of the Site is cleared with some areas of woodland. Main improvements include farming sheds and fences only.

2.2 Site Description

The site includes the following titles:

Lot identifier	Owner	Comment	Proposed Use
Lot 115, 249, 252, 253, 305, 307 in DP754111	AGL	Formerly "The Elms"	Part infrastructure (gas transmission connection, access road) Part Facility footprint
Lot 1 & 2 DP126122; Lot 14, 183, 184, 187, 200, 283, 306 in DP 754111	AGL		Traversed by access road
Lot 116, 321, 322, 162, 317, 318 DP754111	AGL	Formerly "Riverview"	No change
Lot 1 DP 126119, Lot 21,186,251 DP 754111 Lot 24,25 and 26 DP754111 Loop Road, unnamed roads, Walshes Road, Starrs Lane	Various (incl. G Starr and the Crown)		Permanent access road Temporary construction road, construction and operation of gas lateral connection to power station.

A site location plan is attached at Appendix 1. Roads and pipeline indicated in Appendix 3.

2.3 General Layout of the Power Station

Less than 15 ha of the 500ha of the Site is required for the Dalton Power Project, and an indicative site layout plan is attached as Appendix 2.

The Dalton Power Project comprises the following key components:

- Facility:
  - power plant comprising up to four gas turbines, generators and ancillary plant;
  - high voltage switchyard comprising high voltage transformers and switchgear;
  - transmission line connection to the 330 kV network;
  - control room, administration, amenities, car parking and workshop facility;
  - connecting gas pipelines, gas receiving station and gas conditioning station;
  - fire protection tank;
  - process water 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 evaporative air inlet cooler;

  - air compressor plant;
  - switch room;
  - emergency generator and transformers;
  - landscaping and tree planting to provide visual screening of the facility;
- Infrastructure with Site:
  - internal roads;
  - portion of lateral gas pipeline;
  - transmission connection to existing transmission lines within the Site
  - access road for the Facility from Walshes Road (x2);
  - security and general fencing and gatehouse; and
  - upgrade works on Walshes Road at the intersection with the access road.
- Infrastructure beyond Site:
  - portion of lateral gas pipeline from the Site to the Moomba to Sydney Gas Pipeline;
  - gas offtake at the connection with the Moomba to Sydney Gas Pipeline.

2.4 Technology Selection Criteria

The type of generation technology selected for the Dalton Power Project is determined by its function, which is to meet peak demand only. Accordingly, technology that is reliable, can handle intermittent operation, and a high number of starts and stops is required. Renewable energy technology is not available in this instance as wind power is intermittent and hydro power is not available, other technologies are not currently economically viable for utility scale projects.

The development will comprise between two and six industrial gas turbines in two stages with electricity generated and fed into the 330kV transmission via a new switchyard on the site. The gas turbines will operate using only natural gas as a fuel and are considered to be low emissions generation technology. When operating, this type of plant has a third less greenhouse gas emissions than the typical power stations in NSW.

2.5 Gas turbines

The gas turbines will already be largely assembled when they are transported to the site. Each gas turbine generator unit consists mainly of three heavy lift items, namely the gas turbine, generator and high voltage transformer. In each gas turbine generator, air is drawn in through filters to remove particulate matter and is compressed. Following compression the air flows into the combustion chambers where natural gas is injected and burnt, increasing the temperature to up to 1,400 degrees Celsius.

As the plant will only run during high peak times, it is essential that multiple gas turbines are installed to increase reliability. E and F class turbines are best suited to this type of duty. The combustors feature Dry Low NOx (DLN) technology to produce very low NOx emissions. The combustion products from the combustion chambers enter the turbine area and expand to atmospheric pressure, reducing in temperature to around 550 degrees Celsius. As the gas expands, it drives each turbine, which in turn drives the compressor and an electrical generator. From the turbine, the heated exhaust gases pass through a silencer unit and are discharged through a 35-45m high stack. Ancillary buildings will have a height of up to approximately 20m.

2.6 Ancillary Facilities

In addition to the construction of the gas turbines, stacks and other power station plant and equipment, there are a number of other ancillary facilities that will also be constructed as part of the Dalton Power Project, including:

- high voltage switchyard with transformers, switchroom and circuit breakers;
- transmission towers (if required);
- security fencing and gatehouse;
- control room, administration, amenities, car parking and workshop facilities;
- fire protection tank, rain water collection works and raw water storage tank, power station water tank and septic tank;
- water treatment plant and associated chemical storage area;
- sedimentation pond and associated earth bund and diversion drain;
- evaporation pond to accommodate wastewater discharges from the evaporative air inlet cooler;
- air compressor plant;
- emergency generator and associated fuel storage and transformers;
- landscaping and earth works;
- construction of access and internal roads and laydown areas; and
- a gas connection lateral and metering station.

2.7 Project Cost Estimate

The Dalton Power Project is anticipated to cost approximately $250 million to $800 million for Stage 1 and a total cost for all stages of up to $1.5 billion. This figure is derived from costing estimates for AGL's similar developments and information available from the supply market. AGL will conduct a procurement exercise when Project Approval is granted.

Planning Considerations

3.1 Introduction

Approval of the Dalton Power Project is subject to compliance with the provisions of both NSW and Commonwealth planning and environmental law. While a comprehensive assessment of all relevant planning provisions will be undertaken as part of the detailed Environmental Assessment for the Project, the information presented below provides a general assessment against the appropriate State and Commonwealth Acts and Environmental Planning Instruments.

3.2 Planning Framework and Statutory Requirements

3.2.1 NSW Planning Legislation

Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment Act 1979* and the Environmental Planning and Assessment Regulation 2000 provide the framework for the assessment and approval of proposed developments in NSW.

The proposed development of the subject site for the purpose of a gas fired power station falls under the provisions of Part 3A of the Act. Part 3A of the EP&A Act provides processes for the assessment of development applications which are considered to be a "Major Project" as declared under State Environmental Planning Policy 2005 (Major Projects). The SEPP identifies categories of development which are considered to be Major projects to which Part 3A of the EP&A Act applies.

The Dalton Power Project is considered to be a Major Project pursuant to clause 24 of Schedule 1 of the SEPP. Clause 24 is entitled *Electricity Generation* and lists proposals that have a capital investment value of more than $30 million. As the Dalton Power Project exceeds this amount, the project is deemed to be a Major Project.

Part 3A Major Projects

It is noted that the Minister cannot approve a development if it is prohibited under a Local Environmental Plan, Regional Plan or State Environmental Planning Policy (Section 75J(3) of the EP&A Act). The site of the proposed development is subject to the provisions of the Gunning Local Environmental Plan 1997 and is zoned as 1(a) Rural, where energy generating activities are permissible with development consent from the relevant authority. Accordingly, the Dalton Power Project would not be prohibited under the provisions of the Gunning Local Environmental Plan.

Critical Infrastructure Projects

On 26 February 2008, the Minister for Planning declared certain power generating facilities to be 'critical infrastructure projects'. Power generating projects that are deemed to be critical infrastructure include development that:

- Has capacity to generate at least 250MW; and
- Is subject of an application lodged pursuant to Section 75E or Section 75M of the Environmental Planning and Assessment Act prior to 1 January 2013.

The Dalton Power Project has the capacity to generate in excess of 250MW and, as noted above, an application has been lodged pursuant to Section 75En prior to 1 January 2013. Accordingly, the project is considered to fall within the definition of a critical infrastructure project.

3.2.2 Other Relevant Environmental Acts, Regulations and Policies

While the EP&A Act provides the framework for the planning and approvals system within NSW, there are several other Acts and regulations that must be considered as part of the project assessment. While the Integrated Development Provisions do not apply to Part 3A Major Projects, the provisions of these Acts still need to taken into consideration as part of the Project Application and accompanying Environmental Assessment. These Acts and regulations would be identified and considered as part of the detailed Environmental Assessment of the Dalton Power Project. The following Acts are likely to be of relevance to the Dalton Power Project.

Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (PoEO Act) relates to pollution and waste disposal in NSW and provides for the licensing of certain types of pollution caused by development or operation of developments. The POEO Act also establishes the environmental licensing of certain activities, which are listed in Schedule 1 of the Act. The proposed activities of the Dalton Power Project which are scheduled (and therefore trigger the need for a licence) comprise:

Electricity generating works (including associated water storage, ash and waste management facilities) that:

(1) supply or are capable of supplying more than 30 megawatts of electrical power from energy sources (including coal, gas, bio material or hydro electric stations), but not including from solar powered generators.

Consequently, and Environment Protection Licence issued by the Department of Environment, Climate Change and Water (DECCW) will be required under the provisions of the POEO Act.

As part of the consultative measures included during the Part 3A process, this Project Application would be forwarded to DECCW in order to ensure that the proposed development is designed and approved in accordance with DECCW licensing requirements.

Water Management Act 2000

The *Water Management Act 2000* (WM Act) provides for the protection of river and lakeside land in NSW, formerly held under the *River and Foreshore Improvements Act 1948* for areas covered by a Water Sharing Plan. The proposed works may involve the crossing of waterways to provide access to the easement. For approved projects under Part 3A (s75U(h)) of the EP&A Act, water use approval under section 89, water management work approval under section 90 or an activity approval under section 91 of the WM Act is not required.

Threatened Species Conservation Act 1995

Under the EP&A Act, impacts on threatened species listed under the *Threatened Species Conservation Act 1995* (TSC Act) are required to be assessed. The TSC Act provides legal status for biota of conservation significance in NSW. The Act aims to '*conserve biological diversity and promote ecologically sustainable development*'. The environmental assessment will identify the presence of any threatened species and the strategies for management and mitigation of impacts.

Heritage Act 1977

The *Heritage Act 1977* (Heritage Act) provides for the protection of items of local, regional and State heritage significance. It contains a list of State Heritage Items and outlines the process of assessment of development which may impact items of heritage significance. Under Part 3A of the EP&A Act, an approval under Part 4 or an excavation permit under section 139 of the Heritage Act is not required, nor does Division 8 of Part 6 of the Heritage Act apply to prevent or interfere with the carrying out of an approved project.

National Parks and Wildlife Act 1974

The *National Parks and Wildlife Act 1974* (NPW Act) provides for the preservation of land and the protection of that land, as well as the protection of flora and fauna and aboriginal heritage. For approved projects under Part 3A (s75U(d)) of the EP&A Act, a permit under section 87 to excavate an aboriginal site or a consent under section 90 to destroy an aboriginal site is not required. There are no designated National Parks or Nature Reserves located within the Study Area. Several National Parks are located near the Study Area but are not expected to be impacted.

3.2.3 State Environmental Planning Policies

There are several State Environmental Planning Policies (SEPPs) whose provisions may relate to the proposed Peaking Power Plant project other than the State Environmental Planning Policy (Major Projects) discussed above.

State Environmental Planning Policy (Major Projects)

According to State Environmental Planning Policy (Major Projects) (SEPP Major Projects), developments referred to as a 'Major Project' requires assessment and approval of the Minister for Planning in accordance with Part 3A of the EP&A Act. The SEPP Major Projects defines certain types of developments as major projects.

As stated in **Section 3.2.1** the project is considered to be a 'Major Project'.

SEPP 33 Hazardous Industries

SEPP 33 applies to development for the purpose of potentially hazardous industries and potentially offensive industries. The Dalton Power Project constitutes a potentially hazardous and offensive industry as defined under Clauses 3 and 4 of the SEPP on the basis that if no measures were to be employed, the development would pose a risk to property and would emit polluting discharges. A Preliminary Hazard Analysis will be undertaken.

SEPP 44 (Koala Habitat Protection)

The Policy aims to encourage the proper conservation and management of areas of natural vegetation that provide habitat for koalas to ensure a permanent free-living population over their present range and reverse the current trend of koala population decline:

a) by requiring the preparation of plans of management before development consent can be granted in relation to areas of core koala habitat, and

b) by encouraging the identification of areas of core koala habitat, and

c) by encouraging the inclusion of areas of core koala habitat in environment protection zones.

The Upper Lachlan local government areas are listed under Schedule 1 of this Policy. As such, the Council will be consulted in relation to the presence of Koala habitat. An assessment for the presence of feed trees listed under Schedule 2, within the study area, will be undertaken as part of the environment assessment process for biodiversity.

3.2.4 Regional Environmental Plans

As part of improvements to simply the State's planning system, as of 1 July 2009, regional environmental plans (REPs) are no longer part of the hierarchy of environmental planning instruments in NSW. All existing REPs are now deemed State Environmental Planning Policies (SEPPs). Nevertheless, there are no REPs that have the potential to impact on the Dalton Power Project.

3.2.5 Local Environmental Planning Instruments

As noted above, the site of the proposed development is located within the Upper Lachlan Shire Council local government area and is subject to the Gunning Local Environmental Plan 1997. Investigations to date have not identified any other local planning controls that have the potential to effect the Dalton Power Project.

3.3 Commonwealth Legislation

Part 3 of the Commonwealth *Environment Protection and Biodiversity Conservation Act (EPBC) 1999* states that an action which has, or is likely to have, a significant impact on a matter of national environmental significance may not be undertaken without prior approval of the Commonwealth Minister for Environment and Heritage, as provided for under the provisions of Part 9 of the EPBD Act. The Act provides the following as matters of national environmental significance for which Ministerial approval is required:

- World heritage properties;
- Wetlands of international significance (including Ramsar wetlands);
- Listed threatened species and communities;;
- Listed migratory species protected under international agreements (CAMBA and JAMBA)
- Protection of the environment from nuclear actions; and
- Marine environment

A search of the Commonwealth Department of Environment and Heritage EPBC dataset indicates that there is no World Heritage, National Heritage or Wetland of International Significance within the immediate locality.

The area surrounding the proposed facility is rural and agricultural land. It is anticipated that the environment assessment of the Dalton Power Project would indicate that the project would have minimal or no impact on the local area, and hence, would not be a controlled action under the EPBC Act. It is there fore anticipated that it would not require the approval of the Commonwealth Minister for Environment and Heritage. However, further studies would confirm this.

Key Environmental and Social Issues

4.1 Introduction

This section provides a preliminary assessment of environmental impacts and matters for further consideration. The matters referred to in this section comprise a preliminary assessment identifying the likely environmental issues, in accordance with DoP guidance.

All potential environmental impacts associated with the proposed Project will be mitigated and managed through the design process and in accordance with a Site Environmental Management Plan for both the construction and operational phases.

4.2 Consultation

In order to undertake a comprehensive Environmental Assessment of the proposed Dalton Power Project, appropriate emphasis needs to be placed on those issues of greatest significance to the local environment, neighbouring landowners and the wider community. To ensure this occurs, a program of community and Government consultation will be undertaken to identify relevant environmental issues and potential impacts.

The objectives of the community consultation program are to notify and inform the community of the proponent's proposal and encourage the provision of feedback to assist in the identification of key environmental and community issues.

A range of consultative and assessment mechanisms are being implemented to engage the community, from the preliminary environmental assessment stage and throughout the preparation of the environmental assessment, as outlined below:

- letters to potentially affected lot holders updating them at each new stage of the project timeline;
- holding a Planning Focus Meeting;
- a website for information distribution; and
- one on one meetings with landholders;

4.3 Land use and Topography

The proposed project site is adjacent to Walshes Road and is located approximately 3km north of the township of Dalton. Current land use is pastoral land, and the site of the proposed works is largely level. The facility would occupy an area of approximately 15ha.

4.4 Soils and Geology

Noise The nature of the existing soils will be determined during the assessment including their suitability for the proposed structural loads, their erodibility, texture, rockiness, salinity and erosion potential. These qualities will be assessed to assist in developing the design of the proposed facility and control measures required during construction to mitigate adverse environmental impacts.

4.5 Assessment

The proposed Dalton Power Project includes the construction and operation of plant and equipment such as turbines, pumps and associated machinery. The construction and operation of the plant and equipment, as well as infrequent vehicular traffic movement to and from the site when in operation, is likely to generate relatively low levels of noise.

It is anticipated that the Dalton Power Project would operate on an as-required intermittent basis . The distance between the proposed location of the Dalton Power Plant and the closest sensitive receiver is approximately 1km. Accordingly, it is considered that there would be no adverse impact on sensitive receivers as a result of the power station operation. The nearest significant grouping of houses is approximately 3km south within the township of Dalton.

The potential noise impacts of the proposed development will be further investigated during the formal Environmental Assessment process.

4.6 Air Quality and Greenhouse Gas Emissions

When operational, the Dalton Power Project would generate air emissions, although the impacts on local and regional air quality would be mitigated through incorporating proven commercially available emissions control technology for the type and size of turbines.

All power stations emit the products of combustion through an exhaust stack. Typical power station stack emissions include oxygen, nitrogen, carbon dioxide, nitrogen oxides and trace levels of carbon monoxide and sulphur dioxide. An assessment will be carried out as part of the Environmental Assessment to model the dispersion of emissions from the power station.

There are approximately 12 groups of buildings within 2km of the site, with the nearest significant grouping of residences at Dalton, approximately 3km south of the site. Given the distance between the two areas, lack of odour emissions from the operation of the Dalton Power Project it is not anticipated to impact on the amenity of these areas. Accordingly, it is not proposed to undertake detailed modelling of potential odour emissions.

An air quality assessment will be undertaken together with an evaluation of the anticipated quality and quantity of emissions to the atmosphere as a result of the construction and operation of the proposed Dalton Power Project. The extent of this impact and potential mitigation measures will be identified during the assessment process. An assessment of greenhouse gas emissions will also be undertaken with the level of emission compared to the average emission intensity for electricity generation for NSW. However, as the operation of the plant will be on an as required intermittent basis, the amount of emissions are expected to be minor in comparison with traditional energy generation alternatives.

Additionally, a plume rise assessment will also be undertaken for the project.

4.7 Traffic and Transport

The proposed site is within close proximity to Walshes Road. During operation, the Dalton Power Project would require a very small number of traffic movements directly off Walshes Road. Accordingly, it is unlikely that there would be any significant transport impacts during the operational phase of the Project.

There would be a temporary increase in traffic movements during the construction phase of the project. These traffic movements are considered to be insignificant in terms of typical traffic movements on Walshes Road in this location.

As assessment of the potential traffic generated by the construction and operation of the development will be carried out as part of the Environmental Assessment. Once the potential impacts from the development on the local road network are understood, appropriate mitigation measures will be suggested to address these impacts.

4.8 Visual and Landscape Assessment

While the Dalton Power Project would be partially visible from adjoining properties, it is important to note that the project site is located in a remote, rural setting. The Project would only be partially visible from some local roads and there are very few visual receptors within close proximity to the project site. Additionally, the site is not located in an area of outstanding natural landscape character.

Whilst the design is yet to determine with any degree of detail, the height, bulk and scale of the buildings and structures, tree planting and other design measures, including colour schemes and choice of building materials, will reduce the visibility of the structures proposed.

The extent of this impact on the existing visual character and quality of the surrounding area together with potential mitigation measures will be addressed during the detailed Environmental Assessment phase.

4.9 Hazard and Risk Analysis

The operation of the Dalton Power Project may result in the potential for isolated risks and hazards. AGL Energy intends on carrying out hazard identification for the project and a process hazard analysis will be completed during the design stage. A quantitative risk assessment for the Dalton Power Project will be conducted in accordance with Hazardous Industry Planning Advisory Paper No.4 (Department of Urban Affairs and Planning). Specific attention will be given to mitigation of risks on the health and safety of the workforce and local community.

The risks and hazards outlined in the assessment would be generally in accordance with the provisions of *State Environmental Planning Policy 33 – Hazardous and Offensive Development*. It is anticipated that this development will assist in identifying the scope and nature of control measures including emergency and fire response plans, fore and rescue training and natural disaster contingency plans.

Additionally a preliminary hazard analysis (PHA) would be undertaken as part of the Environmental Assessment, in accordance with the provisions of SEPP 33.

4.10 Water

During the construction and operation of the phases of the development, surface water runoff from the site would have the potential to impact surrounding water bodies. To address these issues, an assessment of potential water quality and flooding issues will be carried out for the site. Consultation would be carried out with all relevant Authorities to ensure that the proposed development complies with the relevant guidelines and legislation. Mitigation measures will be recommended to address any potential impacts identified on surrounding water bodies.

The Dalton Power Project will have relatively small water process requirements for power generation as the gas turbines will be operated in open cycle mode. Water may also be required for inlet air cooling (to optimise hot weather operational efficiency) and control of air emissions (for environmental compliance).

Potential water supply solutions may include a combination of:

- Rainwater harvesting and storage on site in combination with a bore;
- Transport of water to the site;
- Augmentation of the Dalton or Gunning water supply schemes and a pipeline to the site; and

- The use of a local bore on site with appropriate water treatment.

4.11 Waste

The Dalton Power Project would not generate significant quantities of waste during operation. Small quantities of construction wastes would be recycled, wherever practicable, or disposed of at appropriate waste facilities.

4.12 Heritage

The Dalton Power Project would be constructed on land that has been previously cleared for agricultural purposes. Whilst the likelihood for items of Aboriginal and non Aboriginal heritage significance being present on the site is considered to be low, a cultural heritage study will be undertaken for the proposed site and immediate surrounds.

4.13 Flora and Fauna

The site where the Dalton Power Project would be located is in an area that has been extensively cleared for agricultural purposes. Preliminary database investigations to date have not identified any known or likely threatened animal or plant species on the proposed site, however some species are known to exist in the broader locality.

The existence of isolated but significant tracts of native bushland in the locality have the potential to provide habitat for vulnerable or endangered species as well as many other native and exotic species. The current state of the proposed Project site as pastoral land provides limited habitat value in comparison to surrounding scrubland.

Consequently, while it is anticipated that the Dalton Power Project will not result in any significant flora and fauna impacts, detailed ecological investigations will be carried out to inform the Environmental Assessment for the Project.

4.14 Social and Economic

The Project is likely to have positive impacts on the existing social and economic environment of the Upper Lachlan Shire, and, in particular, for the towns of Dalton and Gunning. The construction phase would involve the expenditure of a significant proportion of the estimated total project cost on local goods and services and generate associated employment. The operation of the power station would generate, albeit at a lower level, ongoing expenditure and employment opportunities for local communities.

The Environmental Assessment will include an analysis of the social impacts that the Project would have on local and regional industries, employment, infrastructure and demography.

Conclusion

AGL Energy Limited is proposing to construct a peaking power station with a capacity of up to 1500MW (initially up to 780MW) approximately 3km north of the town of Dalton, in South Western NSW.

The proposed development would assist in meeting critical peak demand in the regional and inter regional electricity grid. The operation of the facility will be intermittent as it is a peaking power plant.

This document acts as a formal request to the DoP to issue environmental assessment requirements for the project. The preliminary environmental assessment of the proposal outlined in this document indicates that given the remote location of the proposed facility, the key environmental issues associated with the proposal comprise potential greenhouse gas emissions, impacts on air quality, and potential ecological impacts. These issues would be assessed in detail as part of the environmental assessment of the proposal.

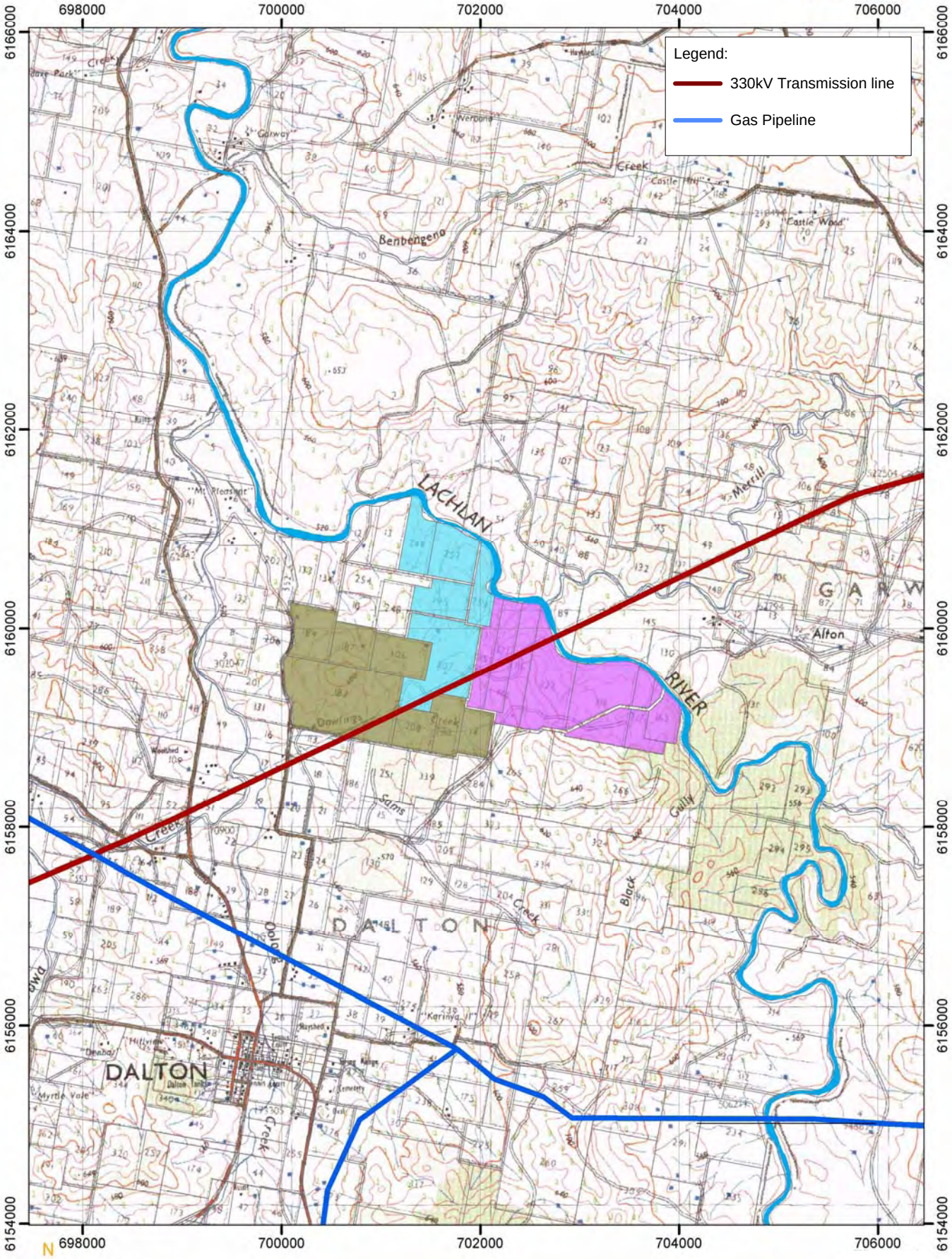
Upon receipt of the environmental assessment requirements, AGL Energy will prepare an environmental assessment and submit the assessment to the DoP in support of this Project Application to construct and operate the proposed Dalton Power Project.

A

Appendix A Site Location Plan

Connell Wagner

Dalton Project



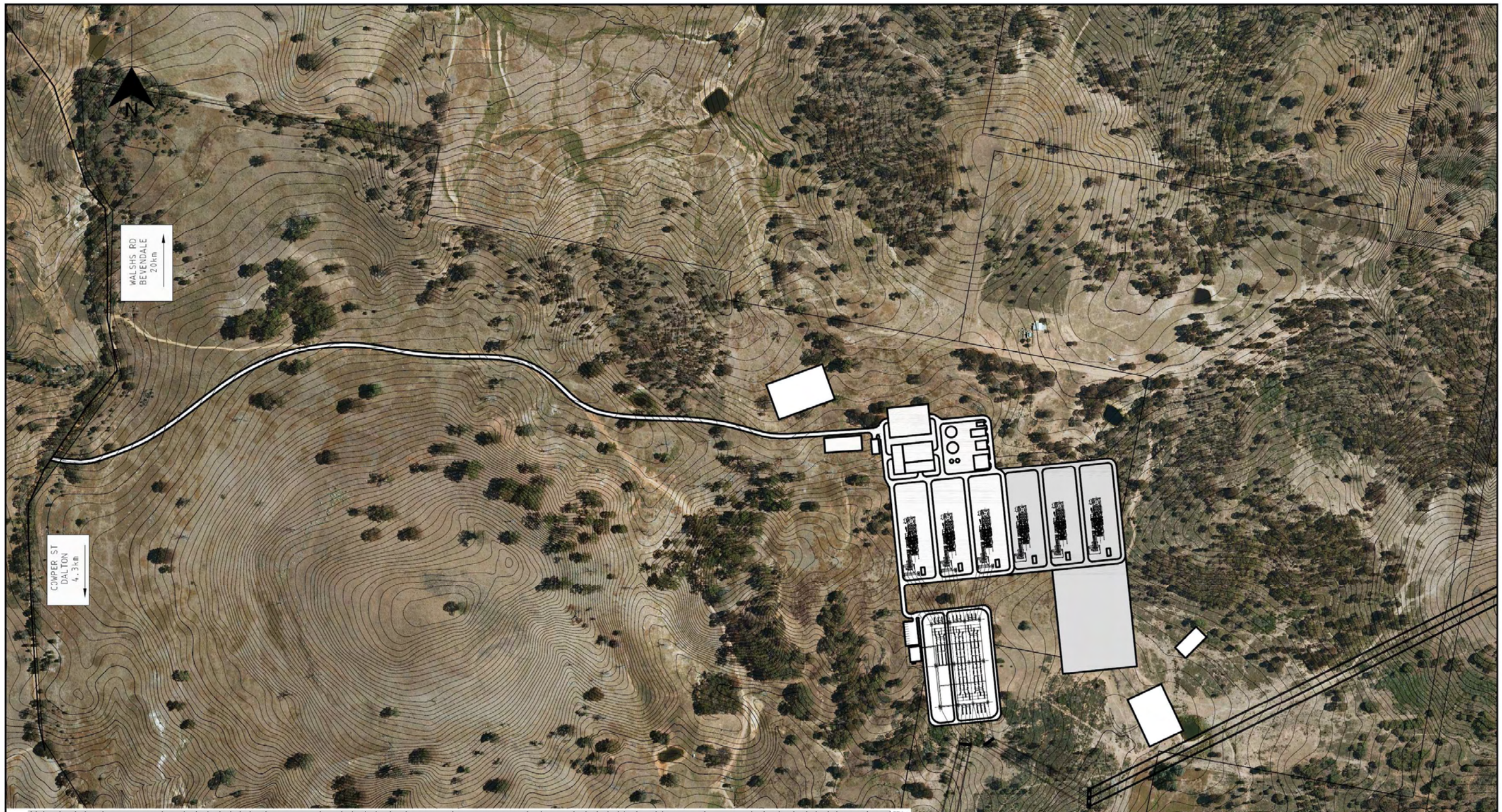
Source:

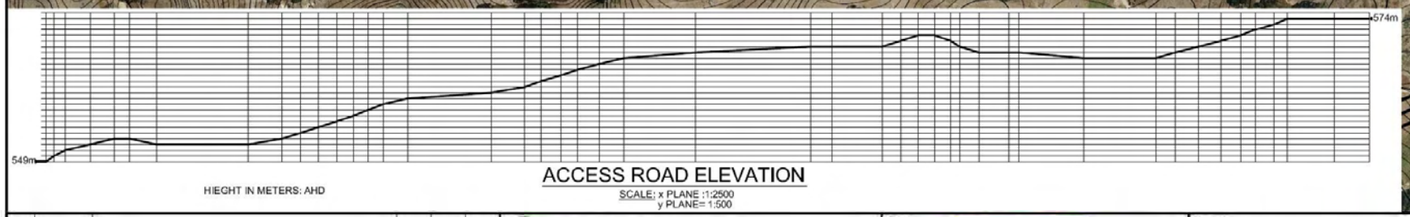
Residences and villages

DALTON\JOB No\28-01-09\MAR\REV-0

B

Appendix B Indicative Site Layout





HIEGHT IN METERS: AHD

ACCESS ROAD ELEVATION

SCALE: x PLANE :1:2500
y PLANE= 1:500

FOR REFERANCE DRAWING SEE DRAWING EM002

50 0 50 100 150 200 250m

SCALE 1:2500

PRELIMINARY
NOT FOR CONSTRUCTION

Rev.	Date	Revision Details	Drn	Ver.	App.
01					

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Client: AGL

Project: DALTON GAS TURBINE POWER STATION

Drawn: BR	Signed:	Date:
Designed: HP	Signed:	Date:
Verified: TB	Signed:	Date:
Approved: AS	Signed:	Date:

Drawing Title: DALTON GAS TURBINE POWER STATION
ROAD ELEVATION & SITING STUDY
TOPOGRAPHIC & PHOTOGRAPHIC OVERLAY
PROPOSED LAYOUT

Project No.: 40237_001	
Scale: 1:2500	Sheet Size: A1
Drawing No.: EM001	Rev.: 01

20 10 0 10 20 30 40 50 100mm

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C

Appendix C Permanent and Temporary access road and gas connection

PLAN
1:10000

LEGEND

PROPOSED PIPELINE

EXISTING GAS MAIN

PROPOSED GAS ROUTE EASEMENT

200 100 0 200 400 600 800 1000m
SCALE 1:10000

PRELIMINARY
NOT FOR CONSTRUCTION

Rev.	Date	Revision Details	Drn	Ver.	App.
01	25-09-09	INITIAL ISSUE	JN		

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Project: DALTON GAS TURBINE POWER STATION

Drawn JN	Signed	Date	
Designed HP	Signed	Date	
Verified TB	Signed	Date	
Approved AS	Signed	Date	

Drawing Title: DALTON GAS TURBINE POWER STATION
PROPOSED GAS ROUTE W/PHOTO

LAYOUT

Project No. 40237_001
Scale 1:10000
Sheet Size A1
Drawing No. EM003
Rev. 01

20 10 0 10 20 30 40 50 100mm

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