

1. INTRODUCTION

1.1. Project Summary

This document is a Preliminary Environmental Assessment Report in compliance with the provisions of Part 3A of the *Environmental Planning and Assessment Act (EP&A) 1979* in respect of the development of a combined cycle gas fired power station situated near Sutton Forest NSW ("Hanging Rock Power Station").

The applicant, Loran Energy Products Pty Ltd (LEP) has received confirmation that State Environmental Planning Policy 2005 (Major Projects) applies to this project. LEP owns the lease rights to the development site.

This report is designed to describe the project in sufficient detail to permit the NSW Department of Planning (DoP) to issue the applicant with a list of environmental assessment requirements that will be required to achieve project approval.

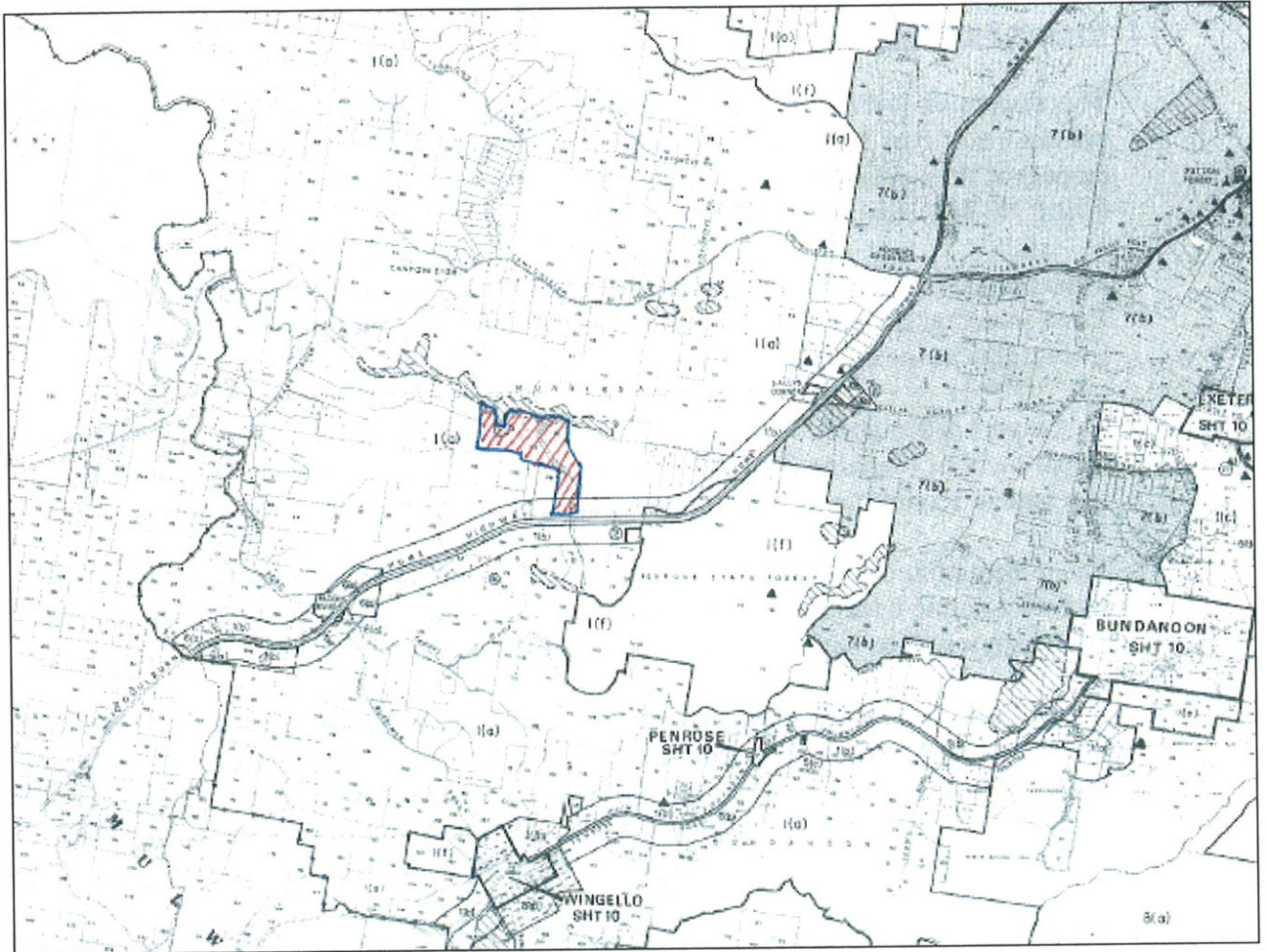
The information contained in this report provides general environmental, regional and socio-economic background to the project and the subject site. Further, more detailed information will be supplied in a formal project application.

The project involves the development of a natural gas fired combined cycle cogeneration base load power station and associated infrastructure on a property owned by Penrose Club Holdings on Hanging Rock Road Sutton Forest in the Southern Highlands of NSW. The location of the property is shown on the Site Map attached hereto. The facility will have an ultimate generating capacity of 600 MW with a first stage delivering 300 MW.

The Moomba/Sydney gas pipeline dissects the subject property and the 330 kv Transgrid transmission line runs along the property boundary. The landowner has entered into an appropriate Option to Lease the area required for the facility and is supporting this proposed development, extending in increments to 35 years past construction.

Construction and commissioning of this plant would take 24 months at a cost of approximately \$350 million.

Locality Plan – Showing PCHL Property



1.2. The Proponent

Loran Energy Products Pty Ltd (“LEP”) is a company with considerable expertise in the development of renewable power generation. Its principals have been involved in the planning, finance, construction and design of gas fired power facilities in Australia, Pakistan, China and the United States. LEP has gained financial support from a syndicate of investors with specific experience in the development of power facilities and the subsequent sale of contracted electricity into national grids. Further, LEP’s renewable energy credentials extend to waste to energy technology application.

1.3. Project Justification

The NSW Government has made it clear in recent press releases and Labor Party Conference reports that the State will require a major upgrade of base load power supply by 2014. The proposed sale of the Government’s retailing assets and the lease of its generation assets are supposed to address this impending crisis. Already, the Wingecarribee Shire is unable fully to develop its new Economic Zone between New Berrima and Moss Vale due to Integral Energy’s incapacity to supply the required electricity. This is an area of accelerating growth in both industrial and residential sectors.

Demand/Supply Outlook NSW

Power demand in NSW is expected to significantly outstrip supply ...

	NSW Summer Max 50% POE	NSW Summer Max 10% POE	NSW Projected Installed Supply
2007/2008	13,820	15,020	12,481
2008/2009	14,260	15,500	13,561
2009/2010	14,620	15,930	14,221
2010/2011	14,970	16,350	14,221
2011/2012	15,320	16,760	14,221
2012/2013	15,740	17,220	14,221
2013/2014	16,140	17,670	14,221
2014/2015	16,530	18,110	14,221

* Assumes Commissioning of Tallawarra 2008, Uranquinty 2008, Colongra 2009.

- 1.4. However, this represents only one aspect of the situation facing the power industry. Nationally, the impact of Climate Change and the introduction of a Carbon Trading Permit Scheme as foreshadowed by Professor Ross Garnaut and scheduled for 2010 make the need for “cleaner” energy most pressing. The combined cycle operation and associated use of co-generated steam will ensure that this project will deliver power with high thermal efficiency and modest “greenhouse gas” impacts.

All development on the land owned by Penrose Club Holdings Ltd ("PCHL"), including a food and beverage processing facility, will be powered by renewable technology – solar and mini-hydro. Therefore, none of the power generated by the power station will be required to service the project or the other ventures envisaged for the property. These are discussed more fully below.

1.5. Project Benefits

The commissioning of the Hanging Rock Power Station would benefit the local community and the Australian public at large. In brief it would:

- 1.5.1. Supplement the national grid with a reliable, environmentally sympathetic power source;
- 1.5.2. Provide employment in the Illawarra and Southern Tablelands regions, initially in the construction period and subsequently, at a reduced level, for the operation and maintenance of the plant;
- 1.5.3. Qualify for NSW Greenhouse Abatement Certificates;
- 1.5.4. Involve minimal environmental and social impact owing to the location and surrounding topography of the site;
- 1.5.5. Prove that agricultural industries and power generation are not mutually exclusive; and
- 1.5.6. Offer a model for intelligent use of natural resources, including water in association with mixed industry.

2. PROJECT DESCRIPTION

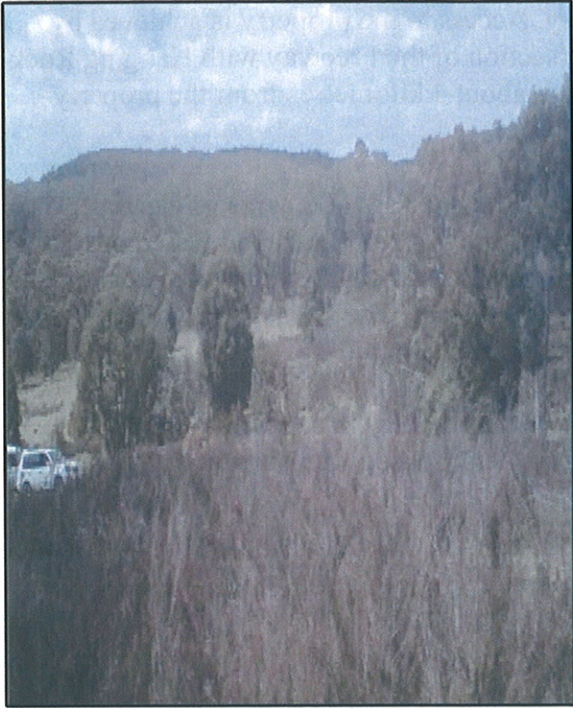
2.1. Site Location

The Hanging Rock Power Station will be situated at the property owned by PCHL on Hanging Rock Road, Sutton Forest, approximately 20 kilometres south west of Moss Vale and immediately adjacent to the Hume Freeway. Access to the property is achieved by entry from either the northern or southern intersection of the Freeway with Hanging Rock Road (or Old Hume Highway) both of which are about 4 kilometres from the property entrance.

The property is approximately 500 acres in size and comprises 300 acres of cleared, agricultural land together with 200 acres of second growth woodland and watercourses. The proposed site of 20 acres (including the buffer zone) is set about 20 to 50 metres above the nearest watercourse which is more than 250 metres distant. The site is at the south western extremity of the Wingecarribee Shire Local Government Area.

The attached Locality Map and Site Plan identify the property in relation to nearby settlements and infrastructure as well as showing the proposed site, surrounding topography and other natural features.

Site Location



3. PROJECT DESCRIPTION

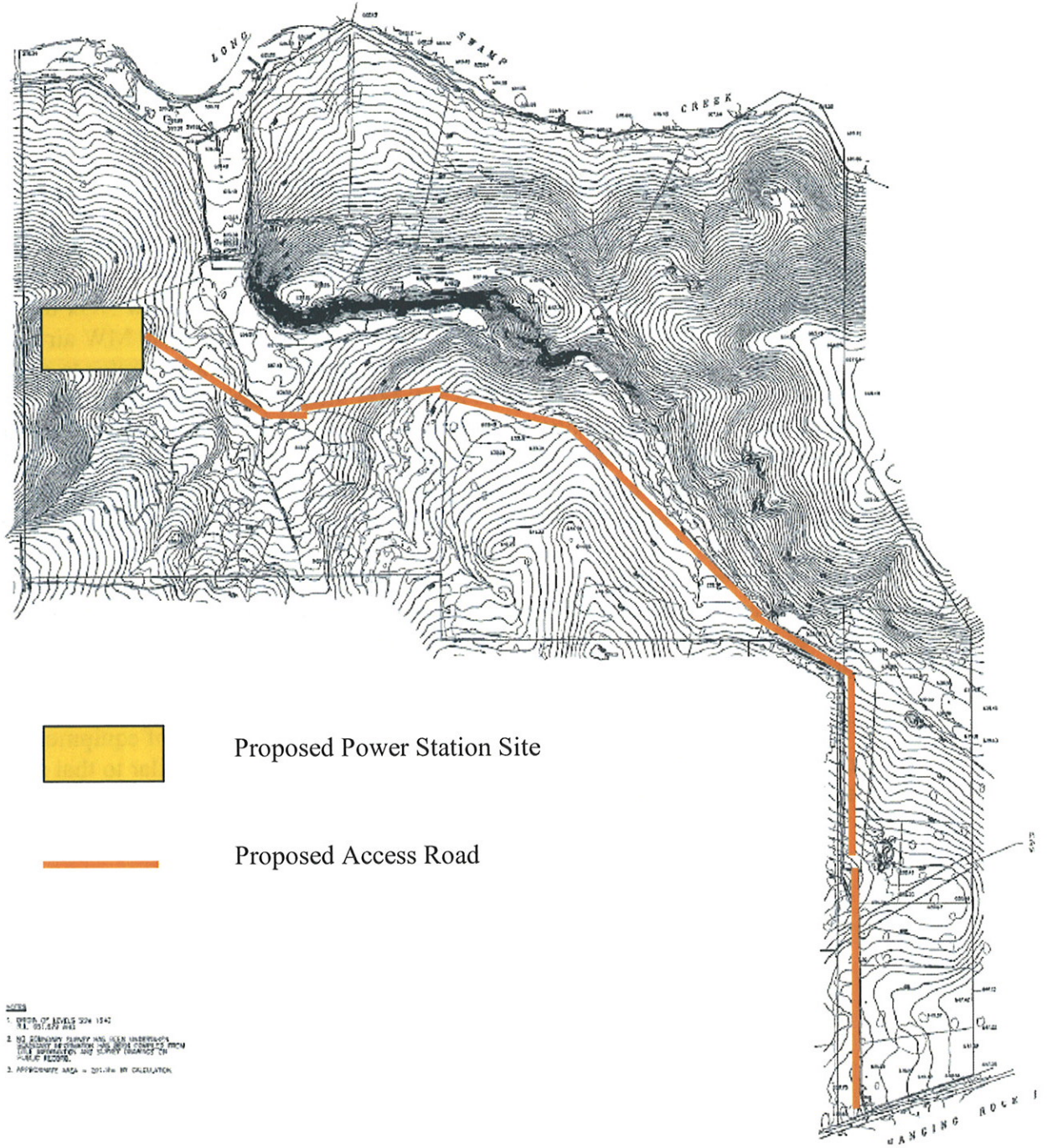
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Site Plan



3.2. Ancillary Infrastructure

In addition to the power station itself, the project includes two interconnects – one with the Moomba to Sydney Gas Pipeline and the other with Transgrid's 330 kv Power Transmission Lines. The proposed site will require the delivery of gas via an underground feeder pipeline through the subject property. The electricity generated will be carried above ground (requiring one pylon) to the overhead transmission lines. Discussions have been conducted with both Transgrid and the Pipeline Trust in respect of the inter-connects and both involve considerable fees and engineering expertise.

The Site Plan shows the preferred route for the gas supply line, the transmission line and the access road to the site. Finalisation of these three infrastructure issues will be dependent upon input from the DoP following which, easements or licences to cross will be negotiated with PCHL.

3.3. Combined Cycle, Base Load Gas Turbine Facility

LEP proposes a two stage development at the Hanging Rock site, both delivering base load power into the National Grid. The first will see the installation of two gas turbines comprising compressor, combustion and turbine stages (using a low NOx burner) and exhaust stack (35 m high). Each turbine will be connected to a 100 MW air cooled generator. Each turbine train will have a heat recovery steam generator to produce high pressure steam which will be fed to a 100 MW steam turbine generator with a water cooled condenser. Affiliated auxiliary equipment will include power transformers, water demineralization, process control and monitoring systems, cooling tower, gas storage. There will be administration, control and maintenance buildings. With the exception of the exhaust stack and the air inlet (24 m), no structure will exceed 8 metres in height.

The second stage of the project is simply a replica of the first thereby doubling the output of the facility. The decision to activate stage two will be dependent upon demand for base load power in NSW and the forward contract price achievable for both natural gas and electricity.

The precise layout of the facility will be subject to the selection of equipment under competitive tender, however, the general appearance will be similar to that shown in the accompanying image.

Typical Combined Cycle Gas Fired Power Station



3.4. Project Cost Estimate

Stages one and two are anticipated to cost approximately \$600 million, however, stage one represents more than half the total expenditure given that virtually all of the same infrastructure will be required to service the 300 MW plant. It is fortunate that LEP personnel have project managed two facilities similar to the Hanging Rock Power Station in recent years. The technology involved is tried and trusted and is being used throughout the world.

3.5. Project Employment Projections

Stage one will require more than 150 full time equivalent personnel during the construction phase (upwards of 24 months) together with external consultants provided and/or recommended by Transgrid and the Pipeline Trust. Stage two will employ a similar number but for a shorter period, say six to nine months.

The operational staff should number about 15 including security and maintenance personnel. Some of these workers will be contractors supplied by the equipment manufacturers and regular maintenance and/or upgrades may swell this number every two to three years considerably.

Other businesses on site to be conducted by PCHL will employ a further 15 to 20 individuals, largely from the surrounding district.

3.6. Project Timetable

From the date of submission of this Preliminary Environmental Assessment until

commissioning of the Hanging Rock Power Station, a period of approximately three years will elapse. This schedule is, of course, dependent upon the co-operation of all relevant authorities during the entire approval process.

4. **PLANNING CONSIDERATIONS – AN OVERVIEW**

Following the receipt of the environmental assessment requirements from the DoP LEP will prepare and submit a full environmental assessment as required by Section 75F of the EP & A Act, to achieve approval from the Minister for Planning.

Each level of government, Federal, State and Local, has a role to play in this approval process and in particular, reviewing the environmental impact of the project. The list below is not designed to be exhaustive but provides some background to the issues likely to arise during the approval process.

4.1. **Commonwealth Legislation**

The Environment Protection and Biodiversity Conservation Act (EPBC) Act 1999 (Commonwealth) provides that any action that has, will have or is likely to have a major impact on a matter of national environmental significance may not be undertaken without prior approval from the Commonwealth Minister for Environment Heritage and the Arts (Part 9 of the EPBC Act). Matters of national environmental significance are identified as:

World heritage properties;

Wetlands of international significance (including Ramsar Wetlands);

Listed threatened species and communities;

Listed migratory species protected under international agreements;

Protection of the environment from nuclear actions; and

Marine environments.

A search of the appropriate Registers published by the Commonwealth Department of the Environment and Heritage reveal that there are no World Heritage, National Heritage or Wetlands of International Significance on or near the land. However, Long Swamp Creek that forms the northern boundary of the property is mentioned on the Directory of Important Wetlands in Australia (Third Edition, Environment Australia, 2001). This wetland is situated, at its closest, some 700 metres from the proposed site.

Parts of the subject property have already been fenced off as wildlife habitat and for riparian protection and no change to these protected areas is anticipated as a result of the development. The existing agricultural land will continue to be farmed organically with the grazing of dairy cows, orchards, spring water extraction and vegetable growing being the primary usage. It is therefore obvious that the proprietors of the land, PCHL, will be insisting upon minimal environmental impact on their enterprises.

The proponent contends that the impact on the local area would be minimal or non-existent and would therefore not be a controlled action under the EPBC Act and would not require the

approval of the Federal Minister for Environment Heritage and the Arts. Confirmation of this opinion will be undertaken in further studies.

4.2. **NSW Legislation**

The EP&A Act 1979 and the EP&A Regulation 2000 provide the basis upon which developments are approved in NSW.

This proposal falls under the provisions of Part 3A of the EP & A Act owing to its capital investment of more than \$30 million.

Part 3A Major Projects provisions provide that development for the purpose of electricity generation must have a capital investment value of more than \$30 million for (inter alia) “gas fired generation”, “or co-generation”, “or hydro” and this project involves, potentially all three of the above.

As a corollary, Part 3A of the EP&A Act precludes the Minister from approving a development it is prohibited under a Local Environment Plan, Regional Environment Plan or State Environmental Planning Policy (Section 75J(3)(b) of the Act). The Hanging Rock Power Station site falls within the Wingecarribee Shire LEP and is zoned 1(a) Rural where energy generation activities are permissible with consent from the relevant authority. The proposed new Wingecarribee Shire LEP would re-zone the site as E3 (Environmental Protection) which might cause a prohibition, but this is not due for release prior to the end of 2008.

On January 31st 2008, the NSW DoP issued SEPP (Infrastructure) 2007 that was designed to facilitate developments that improved State infrastructure services. Notable by its inclusion was “electricity generating works” and it will be with reference to the Planning Circular that LEP will prepare the detailed environmental assessment.

4.3. **Other Relevant Legislation and Policies**

The Protection of the Environment Operations Act 1997 (POEO) controls pollution management and waste disposal in NSW. This Act makes special mention of electricity generating works (including associated water storage, ash and waste management facilities) that:

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

As a result, an Environmental Protection Licence issued by the EPA will be required for this development under the POEO Act. The DEC will be consulted to ensure compliance with DEC licensing requirements.

The State Environment Planning Policy (SEPP) 33 applies to Hazardous and Offensive Development. It will be considered that the Hanging Rock Power Station constitutes a potentially hazardous and offensive industry. Hence the proponent understands that the project will need to comply with the appropriate policies and guidelines relating to such industrial development.

4.4. Regional and Local Environmental Plans

As mentioned above, the Wingecarribee Shire Council (with whom preliminary discussions and site visits have been conducted) is currently preparing a new LEP for the DoP. A revised Draft LEP is to be re-exhibited in June/July of this year with further submissions to be received during that period. The proponent has submitted a suggested amendment to the Draft LEP (in respect of zoning) that will be discussed during the re-exhibition period.

Additionally, the site falls within the Hawkesbury Nepean Catchment Management Authority area and is covered by Sydney Water's Catchment. Major attention will be devoted to ensuring that water leaving the subject site will be of the highest quality – an objective absolutely necessary for PCHL's commercialisation of its spring water extraction licence. It should also be noted that PCHL has current irrigation and bore licences in respect of agricultural uses of the property. These licenses amount to some 180 megalitres per annum.

5. LANDSCAPE AND ENVIRONMENTAL ISSUES

Hereunder are a number of issues that will require detailed analysis and planning during the approval process. LEP is confident that the particular topography and privacy of the site will enable it to mitigate and manage all environmental impacts that might concern statutory authorities, Local Council and the surrounding residents.

5.1. Cultural Heritage

The Wingecarribee Shire prides itself as a scenically desirable residential and tourism destination. The majority of the Shire benefits from high rainfall and fertile soils both of which promoted its early settlement and development as prime agricultural land. Historically, dairy farming and milk processing, potato growing and beef production were the major industries.

As travel times between the district and Sydney have reduced, the area is now becoming increasingly populated by permanent and weekend hobby farmers. The townships of Mittagong, Bowral, Moss Vale, Berrima and Bundanoon are growing quickly and much of the former agricultural land has been developed for housing estates.

The region surrounding the proposed site remains largely undeveloped owing to its lower fertility and lighter rainfall. In fact, the major industry in the south western part of the Wingecarribee Shire is extractive – quarrying, State Forestry and spring/bore water extraction. The immediate vicinity of the proposed site is bisected by the Hume Freeway and the major landmark is the large Shell Service Station Complex.

The PCHL property is a relatively large holding for the area, set back from Hanging Rock Road in a battle-axe shape with only a narrow frontage. The major part of the property is over one kilometre from the road frontage and from any neighbour's residence.

Therefore visual, noise and odour impacts will be minimal. The Freeway and quarrying industries create significant impacts of these kinds and are much closer to the few residences in the area.

5.2. Water Issues

The Hanging Rock site is located near Long Swamp Creek and it is traversed by several drainage lines and small spring fed creeks, some of which are ephemeral and two of which are usually flowing. There are two dams on site, one of which is in need of repair.

During the construction phase there is potential for surface runoff to impact the surrounding watercourses. Silt fencing and other mitigation measures will need to be installed to prevent any contamination of the water bodies with mud or silt. Consultation will be conducted with Sydney Water and the Hawkesbury Nepean CMA to ensure that water quality is preserved.

It is fortunate, however, that the property is not subject to flooding due both to its undulations and to its sandy soil types – see below. It should be noted that PCHL has held this land for more than 30 years and its shareholders have considerable personal experience about the climatic and hydrological behaviour of the land.

The water used in cooling and steam production for the combined cycle plant will be largely recaptured and water loss will represent only a small proportion of that permitted under PCHL's current irrigation and extraction licences.

5.3. Air Quality

Gas fired power plants emit the products of combustion through an exhaust stack. The emissions are not considered to be of great concern when compared to the range of significant pollutants.

Carbon monoxide, volatile organic compounds (VOC) and some particulates will need to be quantified and assessed in the full environmental report. The prevailing wind directions and strengths (as described in the Australian Wind Atlas) should assist in dispersal of any pollutants thus reducing the impact upon neighbours.

The benefit of the combined cycle technology (using steam) is that it reduces the output of greenhouse gases which are in any event far less than those emitted by conventional coal fired plants.

5.4. Flora and Fauna

The Hanging Rock site contains a diverse range of dry sclerophyll woodland, cleared pasture, riparian ecosystems and rocky gorges, typical of the Canyonleigh area of Wingecarribee Shire. A number of flora studies have been carried out in the past by PCHL and HNCMA that have failed to reveal any threatened species, although the biodiversity of the property is considerable. Similarly, a fauna study was conducted in 1997 and no threatened species were identified. Nevertheless, the property does provide good habitat for native animals and many common species are present in abundance.

Updated studies will be carried out to determine the presence or absence of any vulnerable populations of native flora and fauna, but the proposed site and access road are already cleared and should have minimal impact on the more fragile ecosystems on the property.

5.5. Archaeology and Aboriginal Heritage

Several disturbed Aboriginal sites have been discovered on the property. Some flints were found on the original access road and it is certain that Aboriginals travelled through the land, hunting and using the native rushes for dilly-bags. No Aboriginal sites have been found within a kilometre of the proposed site although more detailed study will be carried out for the environmental assessment. If any evidence of Aboriginal heritage is discovered, minor adjustment to the boundaries of the proposed plant can be accommodated.

5.6. Traffic and Transportation

Hanging Rock Road is already carrying a significant amount of heavy vehicle transport, primarily for sand and water extraction. More than 10 B-doubles per day are using the road together with high volume car traffic to the Pauline Monastery at the northern end of the road. Up to 5,000 vehicles are attracted to the Monastery on the 13th day of every month for pilgrimage purposes.

Once operational, the facility will have virtually no impact on the traffic volume along Hanging Rock Road, although the construction phase will involve significant vehicle movements including the transportation of one or two extremely heavy loads. A construction traffic assessment will be supplied in the detailed environmental assessment and this will include dust abatement and safety issues.

5.7. Hazard and Risk

Consideration will be given to the hazards and risks association with the construction and operation of the facility including the inter-connects with the Moomba to Sydney pipeline and the Transgrid Transmission Lines. Particular attention will be paid to bushfire protection, asset protection zones and hazard reduction to reduce the risk of grass and forest fires.

The safety of the workforce and the local community will be paramount and a full quantitative risk assessment will be conducted in accordance with Hazardous Industry Planning Advisory Paper No 4 (Department of Urban Affairs and Planning 1993) together with full compliance with the requirements of SEPP 33 as mentioned above.

5.8. Economic Impacts

The Hanging Rock Power Station should have considerable positive outcomes for the Wingecarribee and Goulburn Mulwaree Shires as it will generate revenue for local businesses. Earnings of employees and consultants will be spent in the region, particularly during the construction phase.

The project is well positioned to access skilled workers from the Illawarra, Sydney Metropolitan and local region and will encourage permanent residence in the undeveloped south western sector of the Wingecarribee Shire.

5.9. Stakeholder Consultation

A major effort will be made by LEP to consult and communicate with the local community

as well as government agencies. There will be a natural concern among neighbours that the project could diminish the value of their holdings although such fears are likely to be unfounded owing to the extreme privacy of the site.

Issues that residents adjacent to the site are likely to raise mirror, to a large degree, those that will need to be addressed in the formal environmental assessment. The partial attitude of those enjoying a rural lifestyle in the Hanging Rock area will centre upon visual impact, noise, traffic congestion, air quality, human health risks including electromagnetic radiation, wildlife impacts, water and bushfire safety and most of these have been recognised in this preliminary report.

The proponent will ensure that there is ample opportunity for all stakeholders to inspect the site, view the dimensions of the proposed facility and make suggestions to ameliorate the impact of the development.

6. CONCLUSION

LEP with the encouragement and support of PCHL proposes to construct a 600MW gas fired, combined cycle power station at the Hanging Rock site to be developed in two stages of 300 MW each. The Owen Report commissioned by the NSW Government makes it clear that base load power supplies will need considerable augmentation by 2014 if not before.

The construction and operation of the Hanging Rock Power Station is considered to comprise a Major Project as defined by State Environment Planning Policy (Major Projects) 2005 and governed by State Environmental Planning Policy (Infrastructure) 2007.

This document invites the DoP to issue environmental assessment requirements for the proposal. The preliminary environmental assessment contained in this report indicates that, given the isolated location of the proposed facility, the major issues of concern will be air and water quality, wildlife protection, geomorphologic reports, neighbour liaison and risks and hazards. However, all issues will be addressed in the full environmental assessment to be prepared by LEP to enable approval to construct and operate the Hanging Rock Power Station.

