AECOM

Bayswater B Power Station

Environmental Assessment

September 2009

APPENDIX A - D

Prepared for Macquarie Generation
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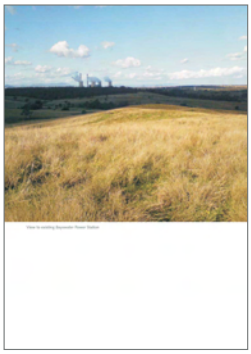


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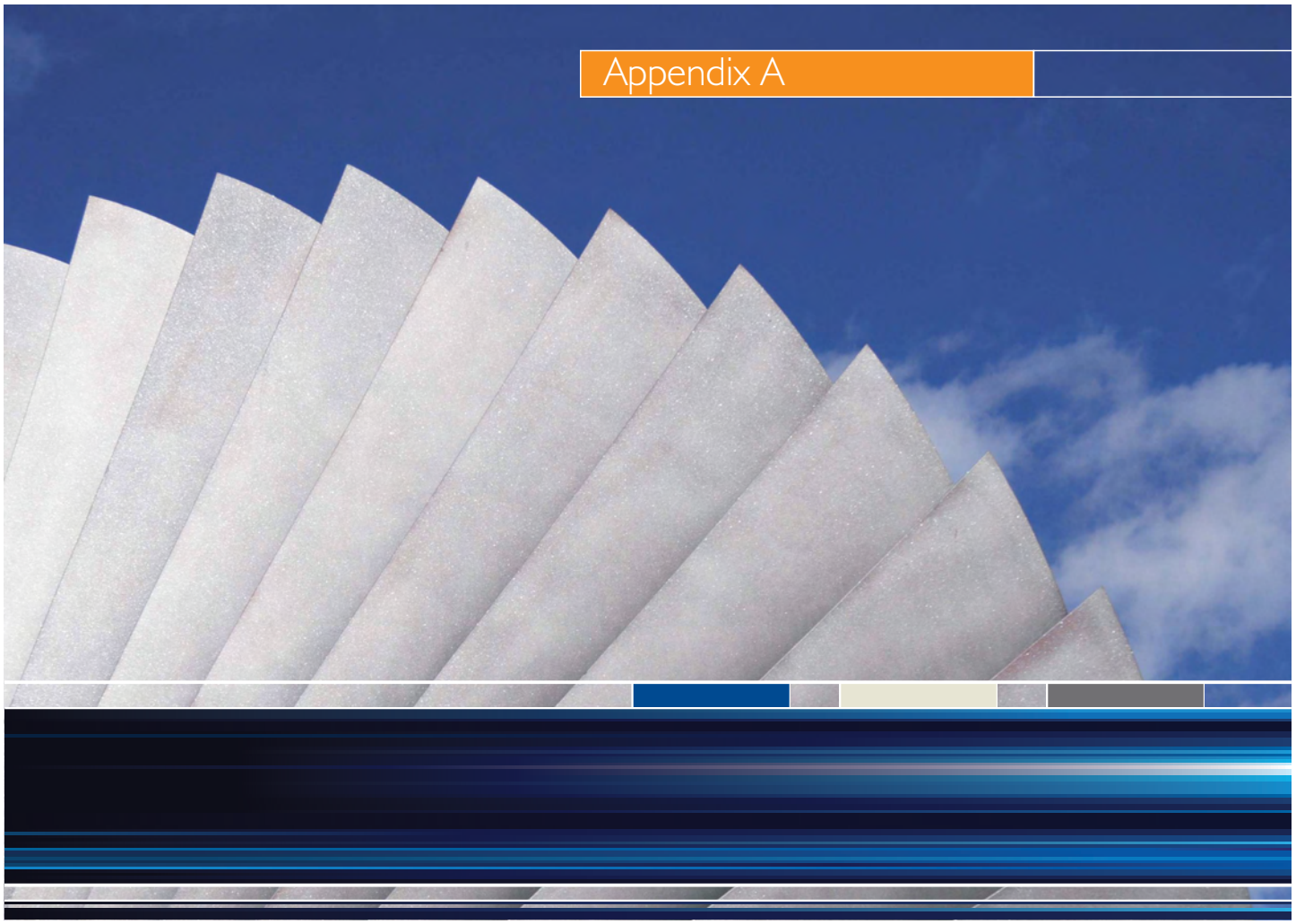


Appendix A

Record of Minister's Opinion

NSW GOVERNMENT
Department of Planning

Record of Minister's opinion for the purposes of Clause 6(1) of the State Environmental Planning Policy (Major Projects) 2005

I, the Director-General of the Department of Planning, as delegate of the Minister for Planning under delegation executed on 4 March 2009, have formed the opinion that the development described in the Schedule below, is development of a kind that is described in Schedule 1, Group 8, clause 24 of *State Environmental Planning Policy (Major Projects) 2005* namely development for the purpose of a gas or coal fired generation facility that has a capital investment value of more than $30 million. It is therefore declared to be a project to which Part 3A of the *Environmental Planning and Assessment Act 1979* applies for the purpose of section 75B of that Act.

Schedule

A proposal by Macquarie Generation for the Bayswater B Power Station, a 2000 megawatts gas or coal-fired electricity generating facility and associated infrastructure located in the Singleton and Muswellbrook local government areas, as generally described in the document titled "Preliminary Environmental Assessment Proposed Power Station Bayswater Liddell Power Generation Complex" prepared by AECOM and dated 5 June 2009.

Sheridan

Director-General
Department of Planning

Date: 19th June 2009.

NSW GOVERNMENT
Department of Planning

Record of Minister's authorisation of a Concept Plan under section 75M(1) of the Environmental Planning and Assessment Act 1979

I, the Director-General of the Department of Planning, as delegate of the Minister for Planning under delegation executed on 4 March 2009, authorise the submission of a concept plan for the development described in the Schedule below.

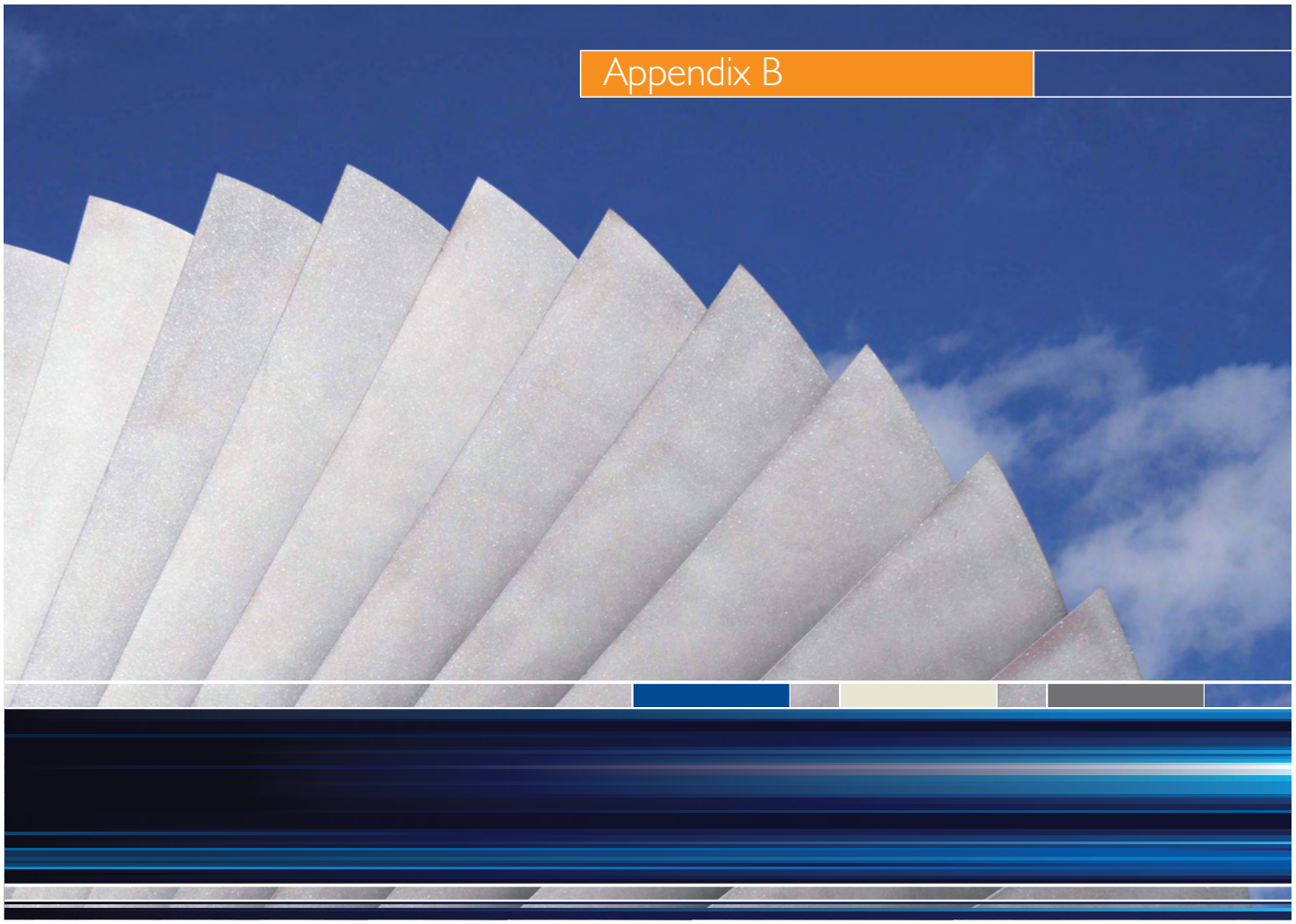
Schedule

A proposal by Macquarie Generation for the Bayswater B Power Station, a 2000 megawatts gas or coal-fired electricity generating facility and associated infrastructure located in the Singleton and Muswellbrook local government areas, as generally described in the document titled "Preliminary Environmental Assessment Proposed Power Station Bayswater Liddell Power Generation Complex" prepared by AECOM and dated 5 June 2009.

SMaddapl

Director-General
Department of Planning

Date: 19th June 2009.



Appendix B

Director General's Requirements

NSW GOVERNMENT
Department of Planning

Contact: Marek Cholinski
Phone: (02) 9228 6284
Fax: (02) 9228 6355
Email: marek.cholinski@planning.nsw.gov.au

Our ref: S09/01052
Your ref:

Mr John Marshall
Executive Engineer
Macquarie Generation
34 Griffiths Road
LAMBTON NSW 2299

Dear Mr Marshall

Bayswater B Power Station (Concept Plan Application: 09_0118) – Director-General's Requirements

I refer to your concept plan application for the proposed Bayswater B Power Station Project (MP 09_0119) which comprises the development of a new base-load power station with the generating capacity of up to 2000 megawatts adjacent to the existing Bayswater-Liddell generating complex to be powered by either coal or natural gas.

I wish to advise that on 19 June 2009 under delegation from the Minister for Planning, I:

- formed the opinion pursuant to clause 6 of the *State Environmental Planning Policy (Major Projects) 2005* (Major Project SEPP) that the project is development of a kind described in Schedule 1 of the Major Project SEPP and is therefore a project to which Part 3A of the *Environmental Planning and Assessment Act 1979* applies. Consequently, the Minister for Planning is the approval authority for the project; and
- authorised the submission of a concept plan for the project pursuant to section 75M(1) of the *Environmental Planning and Assessment Act 1979*.

A copy of the record of my opinion and of the concept plan authorisation is enclosed for your information and reference.

The project is also a 'critical infrastructure project' by virtue of a declaration made by the Minister for Planning on 26 February 2008, with respect to energy generating facilities with the capacity to generate at least 250 MW and for which an application is made prior to 1 January 2013.

I have attached a copy of my requirements as Director-General (DGRs) for the preparation of an Environmental Assessment for the project. These requirements have been prepared following the Planning Focus Meeting held on 19 June 2009 and in consultation with the relevant government agencies.

The Environmental Assessment prepared for the concept plan must give equal consideration to the coal fired and natural gas option.

It should be noted that the Director-General's requirements have been prepared based on the information provided to date. Under section 75F(3) of the Act, the Director-General may alter or supplement these requirements if necessary and in light of any additional information that may be provided prior to the Proponent seeking approval for the project.

I would appreciate it if you could contact the Department at least two weeks before you propose to submit the Environmental Assessment for the project to determine:

- the fees applicable to the application;

- relevant land owner notification requirements;
- consultation and public exhibition arrangements that will apply;
- options available in publishing the Environmental Assessment via the Internet; and
- number and format (hard-copy or CD-ROM) of the Environmental Assessment that will be required.

Prior to exhibiting the Environmental Assessment, the Department will review the document to determine if it adequately addresses the DGRs. The Department may consult with other relevant government agencies in making this decision. If I consider that the Environmental Assessment does not adequately address the DGRs, I may require the Proponent to revise the Environmental Assessment to address the matters notified to the Proponent. Following this review period the Environmental Assessment will be made publicly available for a minimum period of 30 days.

If your project includes any actions that could have a significant impact on matters of National Environmental Significance, it will require an additional approval under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). This approval would be in addition to any approvals required under NSW legislation and it is your responsibility to contact the Department of the Environment, Heritage, Water and the Arts to determine if an approval under the EPBC Act is required for your project (6274 1111 or http://www.environment.gov.au).

Please note that the Commonwealth Government has accredited the NSW environmental assessment process for assessing impacts on matters of National Environmental Significance. As a result, if it is determined that an approval is required under the EPBC Act, please contact the Department immediately as supplementary Director-General's requirements will need to be issued.

If you have any enquiries about these requirements, please contact Mr Marek Cholinski, Environmental Planning Officer, Major Infrastructure Assessments on 02 9228 6284 or via email (marek.cholinski@planning.nsw.gov.au).

Yours sincerely

SHaddad

Sam Haddad
Director-General

4/7/2009

Director-General's Requirements

Section 75F of the *Environmental Planning and Assessment Act 1979*

Project	Construction and operation of a new base load power station and associated infrastructure with a maximum generating capacity of 2000 megawatts. The power station would be powered by either coal (using ultra-supercritical generation technology) or natural gas (using combined cycle generation technology).
Site	Adjacent to the existing Bayswater Power Station site off the New England Highway, approximately 20 kilometres south of Muswellbrook.
Proponent	Macquarie Generation
Date of Issue	4 July 2009
Date of Expiration	4 July 2011
General Requirements	The Environmental Assessment must include: • an **executive summary**; • a **description of the proposal** including: ➢ details of project construction, operation, decommissioning, staging and key ancillary infrastructure (e.g. transmission line connection, ash disposal, haulage roads, fuel delivery and storage) under both coal fired and gas generation scenarios including identification of likely worst case development footprint; ➢ details of the extent to which existing infrastructure and facilities (including water sourcing and ash disposal) would be used for the project; ➢ identification of fuel source options for the project and feasibility of those options; and ➢ supporting maps/plans clearly identifying existing environmental features (e.g. watercourses, vegetation), infrastructure and landuse (including nearby residences and any approved sensitive landuse) and the siting of the project in the context of this existing environment; • consideration of any **relevant statutory provisions** including the consistency of the project with the objects of the *Environmental Planning and Assessment Act 1979;* • an **assessment of the key issues** outlined below, during construction, operation and decommissioning (as relevant). The Environmental Assessment must assess the worst case as well as representative impact for all key issues considering cumulative impacts, as applicable, from the adjacent Bayswater-Liddell generating complex and surrounding mining development (as relevant) considering both coal fired and gas generation scenarios including associated key ancillary components (as relevant); • a **draft Statement of Commitments** detailing measures for environmental mitigation, management and monitoring for the project; • a **conclusion justifying the project** taking into consideration the environmental, social and economic impacts of the project; the suitability of the site; and the public interest; and • **certification** by the author of the Environmental Assessment that the information contained in the assessment is neither false nor misleading.
Key Assessment Requirements	The Environmental Assessment must include assessment of the following key issues: • **Strategic Planning and Justification** – the Environmental Assessment must: → include a strategic assessment of the need, scale, scope and location for the project in relation to predicted electricity demand, transmission constraints and the strategic direction of the region and the State in relation to electricity supply, demand and electricity generation technologies; → include an analysis of site suitability with respect to potential land use conflicts with existing and future land uses (including existing and approved residential development and mineral reserves) taking into account local and strategic landuse objectives; and

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→ describe alternatives considered for the project in particular technology and configuration including fuel source, air emission, water use and options for waste disposal/ beneficial reuse and provide justification for the project demonstrating its benefits at a local and strategic scale in comparison to alternatives considered, including the do nothing option.

- **Greenhouse Gases** – the Environmental Assessment must include a comprehensive greenhouse gas assessment undertaken in accordance with the methodology specified in the *National Greenhouse Accounts (NGA) Factors* (Department of Climate Change, November 2008) including:
  - → quantification of emissions (in tonnes of carbon dioxide equivalent) in accordance with the *Greenhouse Gas Protocol: Corporate Standard (World Council for Sustainable Business Development & World Resources Institute)* including: direct emissions (Scope 1), indirect emissions from electricity (Scope 2) and any significant up or down stream emissions (Scope 3) considering all stages of the project (construction, operation and decommissioning);
  - → comparison of predicted emissions intensity and thermal efficiency against best achievable practice and current NSW averages for the activity, and of predicted emissions against total annual national emissions (expressed as a percentage of total national greenhouse gases production per year over the life of the project);
  - → evaluation of the availability and feasibility of measures to reduce and/ or offset the greenhouse emissions of the project including options for carbon capture and storage. Where current available mitigation technology is not technically or economically feasible, the Environmental Assessment must demonstrate that the proposal will use best available technology, including carbon capture readiness, and identify options for triggers that would require staged implementation of emerging mitigation technologies; and
  - → evaluation of the project in the light of carbon emission prices of $10, $25 and $50 per tonne under the proposed Commonwealth Carbon Pollution Reduction Scheme, both with and without proposed mitigation measures.

- **Air Quality Impacts** – the Environmental Assessment must include a comprehensive air quality impact assessment prepared in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (DECC, 2005) (Approved Methods) considering worst case operating scenarios and meteorological conditions, representative monitoring and receiver locations and cumulative impacts, as applicable, from the adjacent Bayswater-Liddell generating complex and surrounding mining operations (as relevant). The Environmental Assessment must address air quality impacts at a local, regional and interregional level, assess the potential impacts of emissions on photochemical smog formation in the Sydney basin, give consideration to cumulative fluoride emissions and the potential for contribution to acid deposition considering surrounding sensitive landuse (such as viticulture). The assessment must demonstrate that the project would meet the impact assessment criteria in Section 7 of the Approved Methods and the requirements of the *Protection of the Environment Operations (Clean Air) Regulation 2002.* The Environmental Assessment must clearly demonstrate that the project has been designed to include the application of Best Available Control Technology (BACT) in relation to air emissions. The assessment must include a framework for the mitigation, management and monitoring of air quality impacts, particularly with respect to sensitive receptors likely to be significantly impacted by cumulative air quality impacts in the local area.

- **Water Cycle Management —** the Environmental Assessment must:
  - → include a water balance for the project identifying indicative water use, wastewater generation and disposal requirements for the operation of the project;
  - → demonstrate the availability of viable water sources to sustainabley meet the water requirements of the project for the life of the project. Consideration shall be given to water reuse and recycling options (including use of treated effluent, rainwater, on site treatment and use of mine waste

water), the security of supply, current and future water demand in the region and potential impacts on other users; and

→ reflect a design philosophy of zero water discharge from the site, except for natural surface water flows and provide an assessment of the likely risks to water quality associated with the project considering key ancillary components (such as ash disposal).

- **Noise Impacts -** the Environmental Assessment must include a comprehensive operational noise impact assessment for the project, prepared in accordance with *NSW Industrial Noise Policy* (EPA, 2000) considering worst case operating scenarios and meteorological conditions, representative monitoring and receiver locations, and cumulative impacts from the adjacent Bayswater-Liddell generating complex, surrounding mining operations (as relevant) and the connection/upgrade of the Antiene coal conveyer. The assessment must consider the potential for low frequency noise generation and peak noise events with the potential to cause sleep disturbance. The Environmental Assessment must also consider the potential for:
  - → construction noise impacts consistent with the DECC's "construction noise - existing guidelines" available electronically at http://www.environment.nsw.gov.au/noise/constructnoise.htm
  - → vibration impacts during construction and operation consistent with *Assessing Vibration: A Technical Guideline* (DECC, 2006); and
  - → traffic generated noise during construction and operation consistent with *Environmental Criteria for Road Traffic Noise* (EPA, 1999).

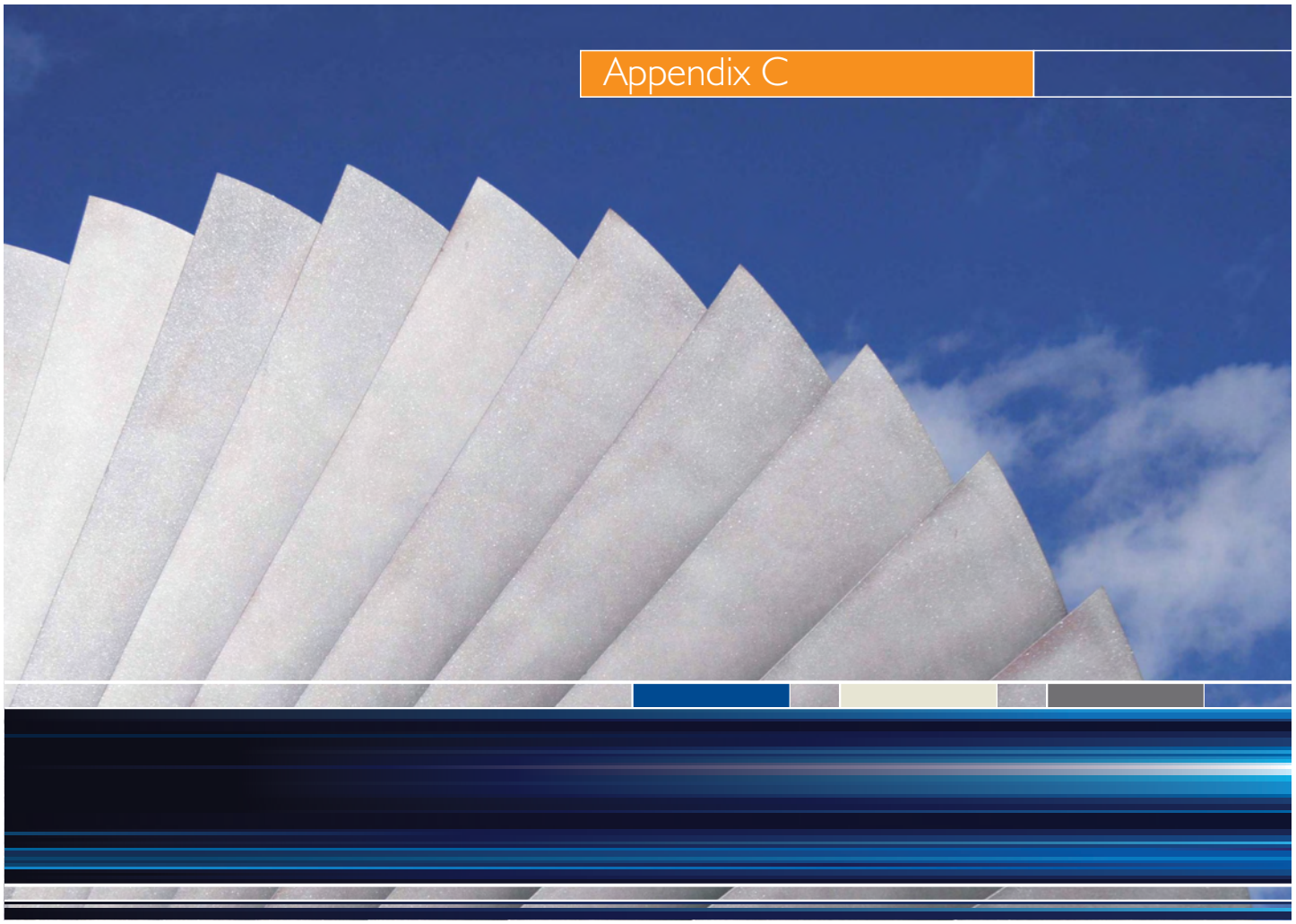
  The Environmental Assessment must include a framework for the mitigation, management and monitoring of noise impacts, particularly with respect to sensitive receptors likely to be significantly impacted by cumulative noise impacts in the local area.

- **Ecological Impacts** – the Environmental Assessment must include an assessment of the impacts on native vegetation, threatened species, populations, ecological communities and their habitats (both terrestrial and aquatic as relevant). The Environmental Assessment must include a screening of species, populations, ecological communities and habitats based on ecological significance and the potential for impact as a consequence of the project. For species, populations, ecological communities and habitats with high ecological significance and significant potential for impact, include sufficient information to demonstrate the likely impacts, consistent with *Guidelines for Threatened Species Assessment* (DEC & DPI, July 2005). The Environmental Assessment must include an assessment of impacts to aquatic and riparian values where waterway crossings are proposed. The assessment must demonstrate a design philosophy of impact avoidance on ecological values, and in particular, ecological values of high significance and include a framework for the further consideration of ecological impacts at the project approval stage, and during detailed design of the project, including options for mitigation and/ or offset consistent with "improve or maintain" principles. Sufficient details must be provided to demonstrate the availability of viable and achievable options to offset the impacts of the project.

- **Heritage Impacts** – the Environmental Assessment must include sufficient information to demonstrate the likely impacts on Aboriginal heritage values/items (archaeological and cultural) and proposed mitigation measures consistent with the Draft *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* (DEC, 2005). The Environmental Assessment must demonstrate effective consultation with Aboriginal communities has been undertaken in determining and assessing impacts and mitigation measures.

- **Visual Impacts** – the Environmental Assessment must include an assessment of the visual impact of the project from representative viewing points including residential receivers, settlements and significant public view points and include a framework for the mitigation and management of visual amenity impacts on

	affected receivers. An overview of the effectiveness and reliability of the measures and any residual impacts after the implementation of such measures must be included. • **Hazards and Risk Impacts** – the Environmental Assessment must include a screening of potential hazards on site to determine the potential for off site impacts and any requirement for a Preliminary Hazard Analysis (PHA). The Environmental Assessment must also provide a preliminary screening of potential risks to aviation safety associated with the exhaust plumes from the operation of the project with consideration to the Commonwealth Civil Aviation Safety Authority's Advisory Circular *Guidelines for Conducting Plume Rise Assessments* (June 2004). • **Waste Management** – identification of the major waste streams to be generated by the proposal (including waste from water treatment and coal ash) and measures for its management and disposal including options for recycling and reuse where reasonable and feasible. • **General Environmental Risk Analysis** – notwithstanding the above key assessment requirements, the Environmental Assessment must include an environmental risk analysis to identify potential environmental impacts associated with the project (construction and operation), proposed mitigation measures and potentially significant residual environmental impacts after the application of proposed mitigation measures. Where additional key environmental impacts are identified through this environmental risk analysis, an appropriately detailed impact assessment of the additional key environmental impact(s) must be included in the Environmental Assessment.
Consultation Requirements	You must undertake an appropriate and justified level of consultation with the following parties during the preparation of the Environmental Assessment: • Commonwealth Department of Climate Change; • NSW Department of Environment and Climate Change; • NSW Department of Water and Energy; • NSW Department of Primary Industries; • Singleton Council; • Muswellbrook Shire Council; and • the local community. The Environmental Assessment must clearly describe the consultation process and indicate the issues raised by stakeholders during consultation and how these matters have been addressed.



Appendix C

Agency and Stakeholder Letters

Your reference: S09/01052; SO9/01053; SO9/01051
Our reference: DOC09/30449, LIC09/664
Contact: Mark Evans, 4908 6824

Department of Planning
GPO Box 39
SYDNEY NSW 2300

Attention: Mr Scott Jeffries

29/6/09

Dear Mr Jeffries

I refer to your letters dated 18 June 2009 requesting the Department of Environment and Climate Change's (DECC's) input to Director-General's Requirements for the preparation of an Environmental Assessment for the following proposals:

- Proposed Bayswater B Power Station (Ref: 09_0118)
- Proposed Munmorah Power Station Refurbishment (Ref: 09_0117)
- Proposed Mt Piper Power Station Extension (Ref: 09_0119)

I also refer to the Planning Focus Group meeting held at the Department of Planning in Sydney on 19 June 2009.

DECC has reviewed the information submitted in relation to these proposals[1] and has identified the information it requires to assess the proposals. DECC considers the key environmental issues to be:

- impacts on air quality, including greenhouse gas emissions and cumulative impacts;
- impacts on water quality; and
- impacts on noise amenity, including cumulative impacts.

DECC has identified the information it requires to assess the proposals in Attachments A, B and C. In carrying out the assessment, the applicant should refer to the guidelines in Attachment D and any relevant industry codes of practice and best practice management guidelines. For ease of reference, DECC also recommends that the Department of Planning request proponents to adopt a consistent format in the presentation of the Environmental Assessment for each proposal.

Proponents should ensure that Environmental Assessments are sufficiently comprehensive and detailed to allow DECC to determine the extent of the impacts of the proposals. In particular, the

[1] "Project Description and Preliminary Environmental Assessment, Mt Piper Power Station, prepared by Sinclair Knight Merz, dated June 2009;
"Preliminary Environmental Assessment Proposed Power Station Bayswater Liddell Power Generation Complex", prepared by AECOM, dated 17 June 2009; and
"Preliminary Environmental Assessment Munmorah Power Station Rehabilitation", prepared by Aurecon, dated 5 June 2009.

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requirements of Section 45 of the *Protection of the Environment Operations Act 1997* should be addressed.

Proponents should also be aware that any commitments made in the Environmental Assessments may be formalised as licence or approval conditions. Consequently pollution control measures should not be proposed if they are impractical, unrealistic or beyond the financial viability of the development. It is important that all conclusions are supported by adequate data.

DECC requests that five (5) hard copies and one (1) electronic copy of each Environmental Assessment be provided for review. These documents should be lodged with the Regional Manager – Hunter, Department of Environment and Climate Change, PO Box 488G, Newcastle NSW 2300.

If you require any further information regarding this matter please contact Mark Evans on (02) 4908 6824.

Yours sincerely

JOE WOODWARD
Deputy Director General
Environment Protection and Regulation

Enclosure:

- Attachment A – DECC's Environmental Assessment Requirements – Proposed Mt Piper Power Station
- Attachment B – DECC's Environmental Assessment Requirements – Proposed Bayswater B Power Station
- Attachment C - DECC's Environmental Assessment Requirements – Munmorah Power Station Rehabilitation
- Attachment D – Guidance Material

ATTACHMENT B

DECC'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS FOR THE PROPOSED BAYSWATER B POWER STATION

Environmental Impacts of the Project

DECC requires the following information to determine the extent of environmental impacts of the proposal. Impacts should be assessed in accordance with the relevant legislative requirements and guidelines listed in **Attachment D**.

Environmental Assessments should be carried out for each operating scenario (i.e. coal fired and/or gas fired generation).

In addition, the EA should assess compliance against existing planning documents and guidelines relevant to the project.

1. The Proposal

The objectives of the proposal should be clearly stated and refer to:

- the size and type of the operation;
- the anticipated level of performance in meeting required environmental standards and cleaner production principles;
- the staging and timing of the proposal; and
- the proposal's relationship to any other industry or facility.

2. The Premises

The EA should fully identify all of the processes and activities intended for the site over the life of the development. This should include details of:

- the location of the proposed facility and details of the surrounding environment;
- the proposed layout of the site;
- appropriate land use zoning;
- ownership details of any residence and/or land likely to be affected by the proposed facility;
- maps/diagrams showing the location of residences and properties likely to be affected and other industrial developments, conservation areas, wetlands, etc in the locality that may be affected by the facility;
- all equipment proposed for use at the site;
- all chemicals, including fuel, used on the project site, the maximum quantity of each chemical, proposed methods for their transportation, storage, use and emergency management;
- waste generation and disposal; and
- methods to mitigate any expected environmental impacts of the development.

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3. Air

The EA should include a comprehensive air quality impact assessment prepared in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (the *Approved Methods*) for each operating scenario. The air quality impact assessment should consider worst case operating scenarios and meteorological conditions, and cumulative impacts from the adjacent Bayswater-Liddell generating complex.

The air quality impact assessment should address impacts at a local, regional and interregional level and assess the impacts of emissions on photochemical smog formation in the Sydney basin. Recognising the need for future economic growth and the ongoing protection of population health, the EA should demonstrate that sufficient mitigation is proposed for ozone precursors to ensure ongoing compliance with the *National Environment Protection Measure for Ambient Air Quality* ozone goals while providing capacity for future industrial growth in the air-shed.

Given the proximity of the proposed power station to the wine industry, the air quality impact assessment should examine the cumulative impact of fluoride emissions on agricultural activities in the region, in particular grape vine productivity.

Additionally, following studies into rainfall quality in the Upper Hunter, DECC recommends that the air quality assessment also investigate acid deposition and its impacts (refer Rainfall Quality in the Upper Hunter EPA, 1994).

The air quality impact assessment should demonstrate the proposal will cause no additional exceedences of the relevant impact assessment criteria in Section 7 of the *Approved Methods.*

The EA should demonstrate that emissions of fine particles and heavy metals will be minimised to the maximum extent practicable through the application of best practice process design and/or emissions controls. Practicability includes a consideration of technical, logistical and financial considerations. It is not expected that reductions in emissions should be pursued at any cost, nor will the preferred option necessarily be the lowest cost option. However, the preferred option should be cost effective.

The EA should demonstrate how proposed operating scenarios will comply with the requirements of the *Protection of the Environment Operations (Clean Air) Regulation 2002*. The EA should also propose an air quality monitoring program to monitor emissions, to assess compliance with the requirements of Schedule 4 of the *Protection of the Environment Operations (Clean Air) Regulation 2002* and verify model predictions.

The EA should include a review of the location of ambient air monitoring stations and the need for additional monitoring stations to reflect highest ground level concentration locations, and locations representative of residential and public receptors.

4. Greenhouse Gas Emissions

The following requirements are provided on the basis that the proposed national Carbon Pollution Reduction Scheme (**CPRS**) will be the primary regulatory instrument for greenhouse gas (**GHG**) emissions.

The EA should comprehensively assess and report on the project's predicted greenhouse gas (GHG) emissions in tonnes of carbon dioxide equivalent (**tCO2-e**) undertaken in accordance with the methodology specified in the *National Greenhouse Accounts (NGA) Factors* (Department of Climate Change, November 2008) including:

- quantification of emissions in accordance with the *Greenhouse Gas Protocol: Corporate Standard* (World Council for Sustainable Business Development & World Resources Institute) including direct emissions (Scope 1), indirect emissions from electricity (Scope 2), and upstream and downstream emissions (Scope 3) both before and after implementation of the

project, including annual emissions for each year of the project (i.e. during construction, operation and decommissioning of the project);

- identification of which emissions will be covered by the proposed CPRS (*Carbon Pollution Reduction Scheme Bill 2009*) and analysis of the expected carbon costs for the proposal including at prices of $10, $25 and $50 per tonne of CO_2e. Analysis is to be presented showing how, at these prices, the project will be prepared to operate successfully within the CPRS;
- evaluation of the availability and feasibility of measures to reduce and/or offset greenhouse gas emissions including investigation of currently available greenhouse gas mitigation technology, such as Carbon Capture and Storage **(CCS).**

  When assessing CCS technology, the proponent should investigate and report on:
  a) potential storage options;
  b) feasibility of transport to storage options;
  c) other environmental issues relating to CCS such as gas leakage, and
  d) any foreseeable barriers to implementing CCS.

  If installation of currently available technology is not practical, then the proponent should continually assess the feasibility of incorporating new greenhouse gas mitigation technologies, such as CCS, as those new technologies are developed and become available and incorporate in the project design provision for either:
  a) suitable technology, such as CCS, to be implemented; or
  b) project emissions to be offset using a method acceptable to DECC;

  to be implemented from 2020 In the event that no national cap and emissions reduction legislation or scheme is in operation by that date;

- evaluation of the feasibility of measures to reduce greenhouse gas emissions associated with the project, concentrating on emissions not covered by the CPRS; and
- evaluation of emissions intensity and thermal efficiency of the new facility against current best available technology and against current NSW averages.

5. Noise

The EA should include a comprehensive noise impact assessment for each operating scenario as follows:

- Construction noise should be assessed using DECC's "Existing Guidelines" available electronically at http://www.environment.nsw.gov.au/noise/constructnoise.htm
- Operational noise from all activities to be undertaken on the premises should be assessed using the guidelines contained in the *NSW Industrial Noise Policy (EPA, 2000)* and *Industrial Noise Policy Application Notes.*
- Operational vibration from all activities to be undertaken on the premises should be assessed using the guidelines contained in the *DECC Environmental Noise Management – Assessing Vibration: a technical guideline (DEC, 2006).*
- Noise from increased traffic resulting from the operation of the premises on public roads should be assessed using the guidelines contained in the *Environmental Criteria for Road Traffic Noise* (EPA, 1999).
- If blasting is required for any reasons, blast impacts should be demonstrated to be capable of complying with the guidelines contained in *"Australian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration"* (ANZEC 1990).

Assessment requirements for potential noise from increased rail movements on the NSW Rail Network can be provided if rail transport is proposed as part of the application.

Note that:

- levels of operational noise and vibration from the any existing power station on the licensed premises needs to be presented, together with predicted levels for any new power station; and,
- the combined operational noise and vibration from both existing and proposed power stations on the licensed premises, not just solely from the proposed power stations alone, needs to be compared against the relevant criteria.
- cumulative noise and vibration impacts are to be assessed by consideration of noise from other premises.
- operational noise and vibration assessment, as indicated above, should be completed for both cooling options (dry and wet) identified in the PEA and the range of scenarios (e.g. dry cooling attemperation) within these options.

6. Water

Wastewater

Although the Preliminary Environment Assessment (**PEA**) does not identify any discharge of wastewater from the site to waters (with this being confirmed during discussion at the Planning Focus Meeting), Section 8.2.2 of the PEA identifies "Degradation of water quality in the local area during operation" as a "High" priority in the Environmental Prioritisation Analysis (Table 18). The EA should clarify this apparent contradiction.

The PEA should include information as to how wastewater generated from operations (under all operating scenarios presented) will be managed to prevent a discharge to waters. This should include detail on the final fate of wastewater and wastewater contaminants.

Water Management Plan

The EA should provide sufficient information to demonstrate that the proposed development can be operated while complying with the *Protection of the Environment Operations Act 1997*, in particular, the protection of water quality, including ground water, during construction and during operation of the project.

The methodology, data and assumptions used to design any pollution control works and assess the potential impact of the proposal on water quality, should be fully documented and justified.

The EA should include a water management plan and site water balance incorporating the following principles:

- maximum on-site reuse of wastewater together with the use of control and storage works to avoid any discharge of pollutants from the premises. This should include correct installation and sizing of the wastewater collection and recycling systems;
- prevention of wet weather overflows of contaminated stormwater by collection and reuse or treatment of contaminated first flush stormwater;
- segregation of contaminated water from non-contaminated water to minimise the volume of polluted water to be dealt with;
- spillage controls and bunding;
- sealing and effectively bunding material storage areas and active areas of the plant to prevent soil, stormwater and groundwater contamination;
- effective management of stormwater to segregate surface water runoff from undisturbed areas and disturbed areas;
- maintenance of sediment and erosion control structures;

- sealing, kerbing and guttering of trafficable areas; and
- provision of truck washing facilities capable of washing wheels and under body of vehicles leaving the premises.

7. Waste and Chemicals

The EA should include an assessment of all likely waste streams associated with the project both during construction and operation, and how waste would be managed by the project in line with the principles of waste avoidance, reuse, and recycling. The EA should include information to ensure:

- waste is managed in accordance with the principles of the waste Hierarchy, NSW Waste Avoidance and Resource Recovery Strategy and cleaner production concepts;
- the handling, processing and storage of all waste materials used at the premises does not have a negative environmental or amenity impact; and
- the beneficial reuse of all waste generated at the premises is maximised where it is safe, practical and lawful to do so both during the construction and ongoing operational phase of the proposed development.

Specific information on waste management should include:

- An assessment and quantification of the types of waste which will be generated, reused, and recycled during the construction and ongoing operational phase of the proposed development, for example;
  - fly and bottom ash residues from the burning of coal and other non-standard fuels,
  - residues from the treatment of water in filters, screens, softeners, reverse osmosis units and brine concentrators,
  - liquid wastes including cooling or boiler water 'blowdown', reagents used to regenerate de-mineralisers or operate closed cooling water systems,
  - irregularly generated liquid cleaning solutions or other materials generated during maintenance turnarounds,
  - construction waste and fill materials,
  - all waste derived non-standard fuels, and
  - any other residue or waste.
- Proposed disposal options for the waste generated on-site.
- An assessment of whether any proposed on-site waste management options will require an Environment Protection Licence under Schedule 1 of the *Protection of the Environment Operations Act 1997.*

In addition to matters listed above, the EA should provide detailed information on the manner of disposal of ash, including but not limited to:

- the manner of transportation of ash to its disposal point;
- the quantity of ash generated each year and over the life of the project;
- the surface area expected to be required to dispose of the ash over the project life;
- options to maximise the re-use of ash; this should include a cost / benefit analysis on the feasibility of each re-use option, or a combination of re-use options to achieve this goal;
- if the preferred disposal option (as indicated during the Planning Focus Meeting) is to utilise coal mine voids, the impacts this will have on the regulatory rehabilitation requirements for the mine; and
- management strategies to prevent dust nuisance, surface water contamination and ground water contamination from disposed ash.

The EA should provide details of chemicals to be stored in bulk on the site, and the expected maximum storage volume for each. A commitment should also be made to construct, operate and maintain all storages in compliance with recognised standards and all applicable legislation.

8. Contaminated Land

The mechanisms for the management of any known, or discovered, contaminated land on the site should be detailed in the EA.

9. Threatened Species and their Habitat

As proposed in the PEA, the proponent should provide an assessment of the potential impacts on threatened species, populations, endangered ecological communities and their habitats as part of the EA. This assessment should include the proposed power station as well as areas required for, and potentially impacted by, the development of infrastructure off site, including but not limited to:

- the 15km gas pipeline spur;
- required railway for coal delivery;
- conveyors to transfer coal to the site; and
- roadways, including the planned road to transfer ash from the site.

There are two assessment tools that can be used by proponents for this purpose:

- the factors identified in the *Threatened Species Assessment Guidelines – The Assessment of Significance* (DECC 2007 and NSW DPI 2008); or
- the BioBanking Assessment Methodology. Further information can be found on the DECC website at: *http://www.environment.nsw.gov.au/biobanking/assessmethodology.htm*.

Any offsets proposed should comply with DECC's '*Principles for the use of Biodiversity Offsets in NSW* identified in **Attachment D**. Justification for any area(s) proposed as compensatory habitat should include an assessment of the threatened species values impacted on by the proposed works and whether the proposed area(s) provides equivalent values.

The EA should:

- document all known and likely threatened species, their habitats, population and ecological communities of the site (including any adjacent areas that may be indirectly impacted upon by the proposal). The EA should provide details of survey methodologies and / or techniques utilised;
- provide a detailed assessment of the impacts on such species, habitats, population and ecological communities; and
- detail the actions that will be taken to avoid or mitigate impacts, or to compensate or offset unavoidable impacts of the project on threatened species, populations, ecological communities and their habitat.

10. Aboriginal Cultural Heritage

DECC notes the existence of 107 registered Aboriginal sites in the immediate locality. These include open camp sites, isolated artefacts, grinding grooves and Potential Archaeological Deposits (PADS). The EA should consider any potential impacts of the proposal on these known sites, the sensitivity and significance of these sites to the traditional Aboriginal custodians and any relationship that may exist between these sites and any Aboriginal cultural values of the project area.

In addition to the above, the EA should:

- address and document the information requirements set out in the draft "Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation' (Department

of Environment and Conservation 2005) and the 'Part 3A EP&A Act Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation' (Department of Planning and Department of Environment and Conservation 2007);

- include surveys by suitably qualified archaeological consultants and include evidence of consultation with traditional Aboriginal custodians;
- identify the nature and extent of impacts on Aboriginal Cultural Heritage values across the project area and the strategies proposed to avoid / minimise these impacts. If impacts are proposed as part of the final development, clear justification for such impacts should be provided;
- assess the archaeological and Aboriginal significance of the site's Aboriginal Cultural Heritage values;
- describe the actions that will be taken to avoid or mitigate impacts of the project on Aboriginal Cultural Heritage values. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented; and
- clearly demonstrate that effective community consultation with Aboriginal communities has been undertaken in assessing impacts, developing options and making final recommendations. DECC supports broad-based Aboriginal community consultation and as a guide the 'Interim Community Consultation Requirements for Applicants (DECC 2005)' provides a useful model to follow.

If impacts on Aboriginal cultural values are proposed as part of the final development, an assessment of the regional significance of the values to be impacted, the extent to which these values are protected elsewhere in the landscape and consideration of the proposed impacts in the context of 'inter generational equity' should be undertaken.

Note: If the EA is relying on past surveys it is critical to confirm that the surveys are consistent with the requirements of the above Part 3A guidelines. Furthermore, if any new sites or objects are located, they should be recorded on NPWS site cards and registered on the Aboriginal Heritage Information Management System (AHIMS). AHIMS contact details: Phone: (02) 9585 6470, address: Lvl 6, 43 Bridge Street, Hurstville, NSW, 2220, e-mail: ahims@environment.nsw.gov.au.

End

26 June 2009

ATTACHMENT D

GENERAL GUIDANCE MATERIAL

Assessing Environmental Impacts

Information requirements described in **Attachment A** should be assessed in accordance with the following legislative requirements and guidelines. In particular the requirements of Section 45 of the *Protection of the Environment Operations Act 1997* should be addressed.

Air Quality

- Protection of the Environment Operations (Clean Air) Regulation 2002.
- Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (2006).
- Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (2005).
- Assessment and Management of Odour from Stationery Sources in NSW (November, 2006).

Impacts on Greenhouse Gas Emissions

- The Greenhouse Gas Protocol: Corporate Standard, World Council for Sustainable Business Development & World Resources Institute.
  http://www.ghgprotocol.org/standards/corporate-standard
- National Greenhouse Accounts (NGA) Factors, Australian Department of Climate Change, 2008.
  http://climatechange.gov.au/workbook/index.html
- Australia's Low Pollution Future: The Economics of Climate Change Mitigation, Australian Treasury, 2008.
  http://www.treasury.gov.au/lowpollutionfuture/
- Carbon Pollution Reduction Scheme: Australia's Low Pollution Future, White Paper, Australian Department of Climate Change, 2008, Chapter 12: Assistance to emissions-intensive trade-exposed industries.
  http://www.climatechange.gov.au/whitepaper/report/index.html

Noise and Vibration

- Construction noise should be assessed using DECC's "Existing Guidelines" available electronically at http://www.environment.nsw.gov.au/noise/constructnoise.htm
- Operational noise should be assessed in accordance with the *NSW Industrial Noise Policy (EPA, 2000)* and *Industrial Noise Policy Application Notes.*
  http://www.environment.nsw.gov.au/noise/industrial.htm
- Operational vibration should be assessed in accordance with *DECC's Environmental Noise Management – Assessing Vibration: a technical guideline (DEC, 2006).*
  http://www.environment.nsw.gov.au/noise/vibrationguide.htm
- Traffic noise should be assessing using the *Environmental Criteria for Road Traffic Noise* (EPA, 1999) http://www.environment.nsw.gov.au/noise/traffic.htm
- If blasting is required for any reasons, blast impacts should be demonstrated to be capable of complying with the guidelines contained in *"Australian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration"* (ANZEC 1990).
  (http://www.environment.nsw.gov.au/noise/blasting.htm

PO Box 488G Newcastle NSW 2300
117 Bull Street, Newcastle West NSW 2302
Tel: (02) 4908 6800 Fax: (02) 4908 6810
ABN 30 841 387 271
www.environment.nsw.gov.au

Water

Water Quality

- National Water Quality Management Strategy: Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000).
- NWQMS Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC 2000).

Stormwater

- Managing Urban Stormwater: Soils and Construction (Landcom, 2004).
- Managing Urban Stormwater: Source Control (EPA 1998).
- Managing Urban Stormwater: Treatment Techniques (EPA 1998).

Groundwater

- State Groundwater Policy Framework Document (DLWC 1997).
- NSW State Groundwater Quality Protection Policy (DLWC 1998).
- (Draft) NSW State Groundwater Quantity Management Policy.
- NSW State Groundwater Dependent Ecosystems Policy (DLWC, 2002).
- National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ & ANZECC, 1995).

Waste and Chemicals

- Waste Classification Guidelines, Part 1: Classification of Waste (DECC, 2008)
- Environmental Compliance Report: Liquid Chemical Storage, Handling and Spill Management Part B Review of Best Practice and Regulation (DEC, 2005) http://www.environment.nsw.gov.au/resources/licensing/ecrchemicalsb05590.pdf
- Storing and Handling Liquids: Environmental Protection Participants Manual (DECC, 2007) http://www.environment.nsw.gov.au/resources/sustainbus/2007210liquidsManual.pdf
- Waste Exemption Guidelines http://www.environment.nsw.gov.au/waste/RegulateWaste.htm

Aboriginal Cultural Heritage Impacts

- Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation – (DEC, 2005) Available from the Department of Planning website.
- Part 3A EP&A Act Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation' (Department of Planning and DEC 2007). Available from DECC and Department of Planning on request.
- Interim Community Consultation Requirements for Applicants (DECC 2005)

Threatened Species Impacts

- Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities (DEC November 2004) http://www.environment.nsw.gov.au/resources/nature/TBSAGuidelinesDraft.pdf).

(Note: Section 6.1 *Assessment of Significance* has now been amended by DECC 2007 and NSW DPI 2008)

- Threatened species survey and assessment guidelines: field survey methods for fauna – Amphibians (DECC April 2009) http://www.environment.nsw.gov.au/resources/threatenedspecies/09213amphibians.pdf

NSW Government
Department of Water & Energy

File ref: MP ER20654

Scott Jeffries
Director Major Development Assessment
Department of Planning
GPO Box 39
Sydney NSW 2001

Attention: Dinuka MacKenzie

Dear Ms MacKenzie

Subject: Macquarie Generation Bayswater B power generator
Concept Plan Application No 09_0118

Thank you for your letter of 18 June 2009 concerning the invitation for written submissions on the Macquarie Generation Bayswater B power generator concept plan proposal under Part 3A of the *Environmental Planning and Assessment Act 1979*.

DWE requires the Environmental Assessment (EA) for the proposal demonstrate that the proposed mining operation will achieve the following:

1. compliance with rules, limitations and operational constraints set within Macquarie Generation Major Water Utility licence under the Hunter Regulated River Water Sharing Plan (HRRWSP) in force under the *Water Management Act 2000* (WMA)

2. no impact on adjacent licensed water users, basic landholder rights, or minimum base flows in the Hunter or Barnard Rivers, or surface or ground water-dependent ecosystems

The information provided in the Preliminary Environmental Assessment does not explain the class or security level of increased water supply required to the operation, nor how the project may achieve the above outcomes. The conceptual statements made in the Preliminary Environmental Assessment (PEA) do not convey understanding of the risks associated with any increased extraction from the Hunter River or increased transfer from the Barnard River water sources, nor how it will comply with the operating rules of the HRRWSP. This must be explained in detail in the Environmental Assessment, and justification of the proposal provided in terms of protection to the two water source

Should you have any further enquiries about this matter, please contact Mr Fergus Hancock, Major Projects Assessments in relation to operational requirements which must be explained in the Environmental Assessment. He may be contacted at the Department's Newcastle Office on telephone number (02) 4904 2532. Should you require any clarification regarding Macquarie Generation's major water utilitiy licence arrangements, please contact Mr Salim Vhora, manager, Corporate Licensing on (02) 4729 8128.

Yours sincerely

Jeff Hunt
A/Manager, Major Projects Assessments 30/6/09

Level 17, 227 Elizabeth Street, Sydney NSW 2000 GPO Box 3889 Sydney NSW 2001 Australia
t + 61 2 8281 7777 | f + 61 2 8281 7799 | DX 332 Sydney | e information@dwe.nsw.gov.au
www.dwe.nsw.gov.au | ABN 58 132 718 272

State Government Technical and Policy Documents

Water Management

Hunter Regulated River Water Sharing Plan 2004

Surface water

NSW Rivers and Estuaries Policy 1994

Groundwater

NSW State Groundwater Policy Framework Document (1997)

NSW State Groundwater Quantity Management Policy (1998)

NSW State Groundwater Quality Protection Policy (1998)

NSW State Groundwater Dependent Ecosystems Policy (2002)

Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)

Australian and New Zealand Guidelines for Water Quality Monitoring and Reporting (2000)

Guidelines for the Assessment and Management of Groundwater Contamination (2007)

Guidelines for Groundwater Protection in Australia (1995)

Craig Flemming
02 6549 3775
520.000

22 July 2009

Michelle Keo
Environmental Scientist
AECOM
PO Box 726
PYMBLE NSW 2073

Dear Ms Keo,

Proposed Bayswater B Power Station Environmental Assessment

Thank you or your letter dated 8 July 2009. Council understands that a Preliminary Environmental Assessment has been prepared and the Director General has issued requirements for the Environmental Assessment (DGRs).

Muswellbrook Shire Council is keen to see the development of an Environmental Assessment which meets the Council's and the Communities concerns over cumulative air quality impacts, the impact on Council roads and infrastructure, social impact associated with workforce needs both during construction and operation and impacts on native vegetation and habitat with reference to the principles of Ecological Sustainable Development.

Ecologically Sustainable Development

The Principles of Ecological Sustainable Development as set out in the Local Government Act, is of considerable interest to Muswellbrook Council where major projects are proposed. It is therefore requested that the EA address these principles specifically. While understanding the sustainable development of infrastructure of this kind needs to be assessed on a state wide and possibly national scale, Muswellbrook Council needs to be able to address these principles for local developments into the future. The EA should demonstrate how future local developments may be impacted with consideration to these principles at a local scale into the future.

Public Consultation

It is noted that the DGRs list Muswellbrook Shire Council and the local community as parties that must be consulted. Muswellbrook Shire Council would request a briefing of its Environment Committee during the Environmental Assessment preparation period prior to finalisation of the EA and further that the Committee be provided with sufficient documentation to make a timely assessment of the EA so that it may advise Council on any submissions Council may make during the public exhibition phase.

It is requested that local community consultation also include public forums in the town of Muswellbrook and may also facilitate site tours etc.

Noise impacts

It is noted that the DGRs lists noise as a consideration. Council has concerns with the cumulative impact of rail noise through the town at night. The delivery of coal to fuel the power station by rail will add to rail shunting and movement through the town.

Statement of Commitments

It is noted in the DGRs that a draft Statement of Commitments are to be provided. It is requested that this aspect of the EA be addressed early on so that Council may make any relevant comments. Council would appreciate the early opportunity to discuss or negotiate any planning agreements regarding the provision of planning benefits to the local community arising from the development.

Roads and other Council Infrastructure

Council holds concerns for its infrastructure including local roads and bridges. The deterioration of public roads should be assessed in the EA with consideration of the proposed route for all heavy vehicles and other construction and operating traffic. Haulage roads for road, concrete and other construction materials should be identified and the impact determined.

Air Quality Impacts

The community has long held concerns regarding air quality in the region. The combination of:

- ☐ five operating coal mines
- ☐ two above ground and two underground approved coal mines;
- ☐ further proposed mining developments;
- ☐ existing two coal fired power stations;
- ☐ a visible haze blanketing the adjacent area on most days; and
- ☐ noticeable dust deposition;

has lead to perceptions of poor air quality in the region and specifically the township of Muswellbrook

With reference to the DGRs in relation to Air Quality, Muswellbrook Council would seek to have the EA assess the health effects of the proposals emission on the community as an addition to the existing air quality conditions and in light of the potential for new mining areas to be developed over the coming decades.

That the combination of any proposed emissions combined with the effects of coal mines air emissions and existing generating technology, be assessed for health impacts of the populations of Muswellbrook and Denman as well as other rural receptors.

Ecological Impacts

The development will clearly impact on the vegetation communities in the proposed and surrounding area. Muswellbrook Council draws the consultant's attention to the Mine Rehabilitation Synoptic Plan and the newly established Great Eastern Ranges Initiative. Both of these considerations relate to the establishment and maintenance of

viable ecological community structures to facilitate migration of species and populations throughout rehabilitated mine land and along the Great Dividing Range. Therefore, Council requests that the EA address implication of the development on both of these considerations. The EA should also consider the impact on biodiversity of all species and not be limited to threatened or vulnerable species.

Social Impacts

It is noted in the Preliminary Environmental Assessment that the social impacts of the operation are likely to be minimal. Council hopes that these issues are further developed in the EA and that any conclusion of the lack of potential impacts is fully justified. These impacts may be different during the construction and operation phases and both should be addressed.

Thank you for the opportunity to provide the above comments on the proposal, and Council looks forward to working with your office providing further input prior to finalisation of the EA document to accord with the DGR's.

You may wish to contact Mr Craig Flemming of Council on 6549 3775 at an early stage to discuss the timing of Council's future Environment Committee meetings to establish a timetable for providing a briefing to that Committee.

Yours faithfully

Peter Jeuken
Acting Director Environmental Services

NSW DEPARTMENT OF
PRIMARY INDUSTRIES

4 August 2009

Ms Michelle Kio
Environmental Scientist
AECOM
Pymble NSW 2073

Our ref: 09/4911
Major Project Ref: MP09_0118

Dear Michelle,

Re: Proposed Bayswater B Power Station Project (MP 08_0061) – Preliminary Environmental Assessment

Thank you for your letter of 8 July concerning the Preliminary Environmental Assessment for the above proposal, requesting comments and the identification of key issues for the preparation of the Draft EA.

The Department of Industry & Investment has been formed by the merger of a number of former NSW Government departments and authorities. These agencies include (amongst others) the former Department of Primary Industries (DPI), from which this response is issued. This response reflects the views of the Minerals Resources, Fisheries and Agriculture Divisions of the former DPI. There are no concerns from Forests NSW. Should a planning focus meeting be scheduled for this proposal, DPI would like to express its interest in attending.

Minerals Issues:

Coal Resources

The Greta Coal Measures occur in the proposal area on the southern end of the Muswellbrook Anticline. There are up to 6 seams present in this area, and the strata is dipping moderately in places. Two drill holes were drilled by the Joint Coal Board; Balmoral DDH R12 and DDH R13, that intersected coal seams which have been intruded and heat affected. In 2005/06 Douglas Partners drilled 8 holes in the area. These holes intersected numerous faults and all the coal recovered was heat affected to some degree.

Exploration Licence 6812, held by Dellworth Pty Ltd, is situated over the area. Known as the Savoy Hill Project, this title was granted in June 2007 for a period of 3 years.

The exact location of the proposed power station within cadastral parcel Lot 322 DP625513 is difficult to determine from the Preliminary Environmental Assessment Report. This makes it hard to determine if the proposed power station is located immediately on top of the interpreted position of the Greta Coal Measures. No coal will be sterilised if the proposed power station is located immediately to the north of the outcrop of the Greta Coal Measures (refer to Map 1). Determination of the exact location of the Greta Coal Measures within the proposed site may require further assessment or shallow drilling to accurately define the nature and extent of the coal bearing strata.

Mineral Resources NSW
PO Box 344 Hunter Region Mail Centre NSW 2310
516 High Street Maitland NSW 2320

ABN 51 734 124 190
www.dpi.nsw.gov.au
Tel: 02 4931 6666

It is recommended that the proposed power station be located outside of the outcrop of the Greta Coal Measures to prevent the sterilisation of any coal resources. Furthermore, it is recommended that the proponent consult with Dellworth Pty Ltd about the exact location of the power station and the associated impacts on any potential coal resources.

Agricultural Issues:

Agricultural Resource Impacts & Assessment

A number of agricultural resource and impact issues are worth noting to encourage the development of a comprehensive and relevant EA.

Land

The Department recommends that the EA comprehensively assesses and documents;

- Current ownership of the proposed site and adjoining lands and current land use.
- Features of the proposed site . This typically involves a review of agricultural suitability, or Land Capability, land use options and key constraints.
- Whether the proposal will require an expansion, or modification to the existing buffer zone and what impacts this would have on land use options and adjoining properties.
- Proposed pest and weed management plans and / or strategies.
- Justification for any resource losses or changes to land use options.

Water

Macquarie Generation's current water use needs, contingency requirements and the impacts of ensuring power supplies on other water users and environmental flows were a significant issue when the Hunter water sharing plan was negotiated. The recent drought also raised concerns about water availability for power generation and mining the cost of buying water. Climate change predictions indicate that water flows may be less reliable in the future. Hence the sustainability and risks associated with further power production expansion need to be comprehensively assessed.

Section 2.4 (page 10) indicates that current water access licences are only sufficient to support a dry cooled plant. The preliminary EA also identifies that this is a less efficient and higher cost option. Waste heat production in a dry-cooled system may be an issue in terms of the adequacy of water supply.

The Department recommends that the proposed EA should comprehensively model, assess and document;

- Existing water use requirements and supply surety.
- Whether or not wet flue gas de-sulphurisation is required and the additional water requirement associated with this.
- The effectiveness and sustainability of the proposed dry-cooled system. In the Hunter region high electricity demand is likely to coincide with high temperatures and reduced cooling efficiency for a dry system. Hence the EA should include an assessment of the correlation between predicted air temperatures over the operating life of the power station and the pattern of electricity generation and cooling demands. It should also consider the likely impacts of increasing average temperatures and demand over the life of the power plant.
- Capacity to manage saline water and justify the proposed reverse-osmosis plant (indicated as required with either fuel source).
- The water-balance for the proposed project and any predicted changes over its operating life.
- Cumulative water requirements for power production, including the indicated expansion of capacity at the existing power stations.

- Compliance with the Hunter River Water Sharing Plan.
- Compliance with Hunter River Salinity Trading Scheme.
- Climate change impacts that may result in higher temperatures, changes to humidity and rainfall that subsequently affect the capacity to meet existing and projected water requirements.
- Justification for any changes to water use demands and patterns.

Air Quality

The operation of the existing power plants has created considerable concern in rural (and urban) communities in the Upper Hunter about air quality and increased acidification.
The Department consequently recommends that the EA comprehensively assess;

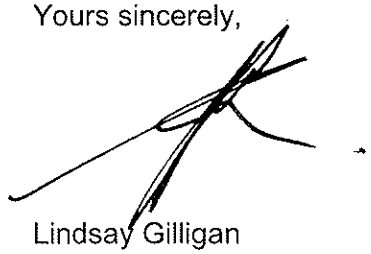
- The current air shed, air flows and air quality monitoring and outcomes in the area affected by the power station complex.
- Any likely impacts on the local /regional climate as a result of cumulative changes to humidity and air temperature resulting from power generation.
- Any cumulative impacts on air flows or air quality that may affect the health of regional communities, or the longevity of infrastructure in the region including farm fencing and sheds.
- Proposed additional monitoring or studies taking into account existing air quality monitoring and recommendations from relevant studies such as the Upper Hunter Cumulative Strategy.
- Justification for any adverse changes

Fisheries Issues:

As part of the EA, the Department would require an assessment of the creek on the site. This assessment would include a study of any aquatic habitats and fauna in the creek line and the potential impact of the construction and operation of the plant on the creek line.

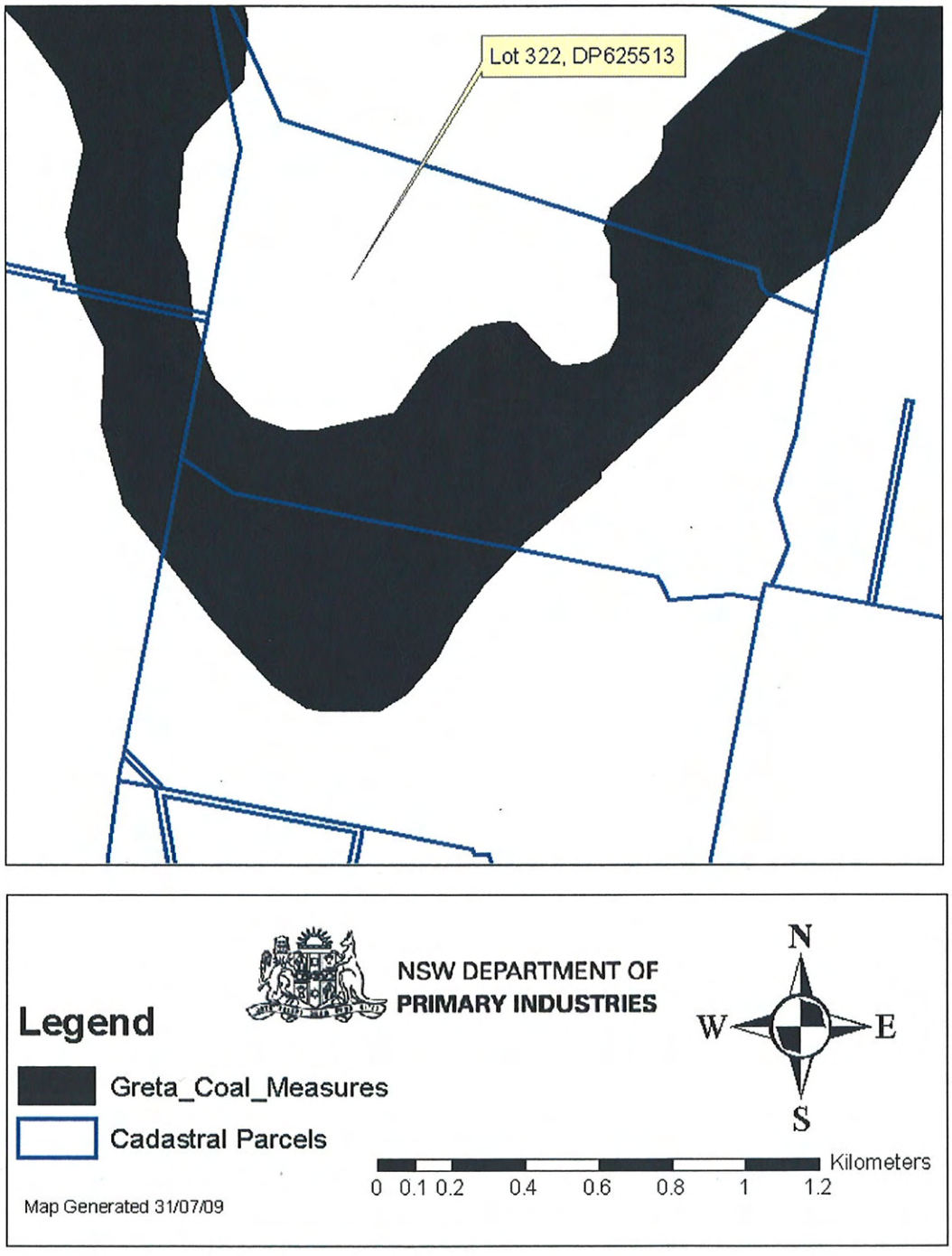
If you have any further queries on this matter please contact Simon Francis, Land Use Assessment (Minerals and Energy) on 4931 6707.

Yours sincerely,



Lindsay Gilligan
Director – Geological Survey of NSW
Minerals and Energy Division
NSW Department of Industry and Investment

Map 1 - Location of the Greta Coal Measures in relation to the Cadastral Parcel (Lot 322 DP625513) in which the Baywater B power station project is proposed.



In reply please send to: Newcastle Head Office

Our reference: FN00-04574S0

Your reference:

Contact: Mike Clarke (02) 4908 4360

Michelle Keo
AECOM
PO Box 726
PYMBLE NSW 2073

23 July 2009

Dear Michelle

ENQUIRY NO. TENQ09-04011S1
LOT 322 DP 625513 BAYSWATER B SITE

This property is within the Patrick Plains Mine Subsidence District, proclaimed under the *Mine Subsidence Compensation Act 1961*. Approval of the Mine Subsidence Board is required for the erection or alteration of any improvements on the site.

The site is presently not undermined but any future mining will have varying implications for improvements on the site. There is no current mining lease over the area, but it appears to be in an Exploration Licence area held by Dellworth P/L.

The Department of Primary Industries – Minerals at Maitland needs to be asked to determine whether mining will take place beneath the site. When this is known, the Mine Subsidence Board will be in a position to advise construction guidelines.

Yours faithfully

Mike Clarke
Secretary

Standard (Auto) Enquiries

MINE SUBSIDENCE BOARD

NEWCASTLE
Ground Floor
NSW Government Offices
117 Bull Street
Newcastle West 2302
PO Box 488G Newcastle 2300
Telephone: (02) 4908 4300
Facsimile: (02) 4929 1032
DX 4322 Newcastle West

PICTON
100 Argyle Street
Picton 2571
PO Box 40 Picton 2571
Telephone: (02) 4677 1967
Facsimile: (02) 4677 2040
DX 26053 Picton

SINGLETON
The Central Business Centre
Unit 6, 1 Pitt Street
Singleton 2330
PO Box 524 Singleton 2330
Telephone: (02) 6572 4344
Facsimile: (02) 6572 4504

WYONG
Suite 3 Feldwin Court
30 Hely Street
Wyong 2259
PO Box 157 Wyong 2259
Telephone: (02) 4352 1646
Facsimile: (02) 4352 1757
DX 7317 Wyong

HEAD OFFICE
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305DA78;1
09/1451
MD

04 SEP 2009

The General Manager
AECOM
PO Box 726
PYMBLE NSW 2073

Attention: Ms Michelle Keo

PROPOSED BAYSWATER B POWER STATION PROJECT AT LOT 322 DP 625513, BAYSWATER ROAD, BAYSWATER

Dear Ms Keo

I refer to your letter dated 23 July 2009 requesting comment from the Roads and Traffic Authority (RTA) regarding the Preliminary Environmental Assessment for the subject concept application. I also refer to our e-mail correspondence dated 26 August 2009.

The RTA has reviewed the information provided, including the data the RTA requested in e-mail correspondence. The RTA's primary interests are in the traffic impacts of the proposed development on the New England Highway. In light of the traffic count data provided and in response to the Preliminary Environmental Assessment, the RTA offers the following comment for consideration:

- The developer should undertake a Traffic Impact Study to identify and consider the likely traffic impact of the proposed project on the existing New England Highway interchange, during both construction and operation, and identify any road upgrades that may be required as a result of traffic generation. The study should be prepared in accordance with the RTA's *Guide to Traffic Generating Developments*.

It is recommended that the applicant consult with Singleton Council and Muswellbrook Shire Council on the Preliminary Environmental Assessment and seek their comments.

The RTA will make further recommendations when the Traffic Impact Study is completed.

Should you require any further advice, please contact Ben Konetschnik on 49240355.

Yours sincerely

Colin Nunn
Manager, Development
Hunter Operations & Engineering Services

31 August 2009

Cc Ms Januka McKenzie
Department of Planning