Concept Approval

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

I, the Minister for Planning, under the *Environmental Planning and Assessment Act 1979* determine:

a) to approve the concept plan referred to in Schedule 1, subject to the modifications in Schedule 2; and

b) pursuant to section 75P(1)(a) of the *Environmental Planning and Assessment Act 1979*, the further environmental assessment requirements for approval to carry out the preferred option (either coal- or gas-fired power station), as detailed in Schedule 2.

The Hon Tony Kelly MLC
Minister for Planning

Sydney 12 JAN 2010 2009 File No: S09/01052

SCHEDULE 1

Application No:	09_0118
Proponent:	Macquarie Generation
Approval Authority:	Minister for Planning
Land:	Land the subject of Major Project Application 09_0118.
Proposal:	Bayswater B Power Station, comprising: • Pulverised Coal Fired Ultra Supercritical Thermal Plant and associated infrastructure (including a coal conveyor connecting to the existing Antiene Rail Coal Unloader as well as an ash conveyor and an ash haulage route to an ash disposal site proximate to the project site); or • Gas Fired Combined Cycle Gas Turbine Plant and associated infrastructure (including a 18 kilometre natural gas spur pipeline linking to the approved Queensland to Hunter Gas Pipeline).
Major Project:	The proposal is declared a Major Project under section 75B(1)(a) of the *Environmental Planning and Assessment Act 1979*, because it is a project of a kind described in Group 8, clause 24 of Schedule 1 to *State Environmental Planning Policy (Major Projects) 2005*
Concept Plan Authorisation:	On 19 June 2009, the Director-General, as delegate for the Minister for Planning, authorised the submission of a concept plan for the proposal.
Critical Infrastructure:	The proposal is classified as critical infrastructure within the meaning of section 75C of the *Environmental Planning and*

Assessment Act as it meets the definition of development for the purposes of a facility for the generation of electricity that has a capacity to generate at least 250 megawatts and is the subject of an application lodged pursuant to Section 75E or 75M of the Act prior to 1 January 2013, pursuant to the Minister's critical infrastructure declaration dated 26 February 2008.

KEY TO CONDITIONS

SCHEDULE 2

Act, the	*Environmental Planning and Assessment Act, 1979*
Committed Projects	Those projects which have been approved for electricity generation and have either been commissioned or where construction has commenced.
Conditions of Approval	The Minister's conditions of approval for the concept plan.
Council	Muswellbrook Shire Council Singleton Shire Council
DECCW	Department of Environment, Climate Change and Water
Department, the	Department of Planning
Director-General, the	Director-General of the Department of Planning (or nominee).
Director-General's Approval	A written approval from the Director-General (or nominee). Where the Director-General's Approval is required under a condition the Director-General will endeavour to provide a response within one month of receiving an approval request. The Director-General may ask for additional information if the approval request is considered incomplete. When further information is requested the time taken for the Proponent to respond in writing will be added to the one month period.
Director-General's Report	The report provided to the Minister by the Director-General of the Department under section 75I of the EP&A Act.
EA	*Bayswater B Power Station, Environmental Assessment,* prepared by AECOM for Macquarie Generation and dated September 2009.
Minister, the	Minister for Planning
Proponent	Macquarie Generation (or any party entitled to act on the approval)
Proposal	Bayswater B Power Station Concept Plan Application.
Publicly Available	Available for inspection by a member of the general public (for example available on an internet site or at a display centre).
Site	Land to which Major Projects Application 09_0118 applies.
Submissions Report	*Bayswater B Submissions Report* prepared by AECOM for Macquarie Generation and dated 27 November 2009.

1. ADMINISTRATIVE CONDITIONS

Terms of Concept Approval

1.1 The Proponent shall carry out the concept plan and all related projects generally in accordance with the:
   a) Major Project Application 09_0118;
   b) *Bayswater B Environmental Assessment,* prepared by AECOM and dated September 2009;
   c) *Bayswater B Submissions Report*, prepared by AECOM and dated 27 November 2009 including final Statement of Commitments; and
   d) the requirements of this approval.

1.2 In the event of an inconsistency between:
   a) the conditions of this approval and any document listed from condition 1.1a) and 1.1(c) inclusive, the conditions of this approval shall prevail to the extent of the inconsistency; and
   b) any document listed from condition 1.1a) and 1.1(d) inclusive, the most recent document shall prevail to the extent of the inconsistency.

1.3 If there is any inconsistency between this concept approval and any project approval granted for the project, this concept approval shall prevail to the extent of the inconsistency.

1.4 The Proponent shall comply with any reasonable requirement(s) of the Director-General arising from the Department of Planning's assessment of:
   a) any reports, plans or correspondence that are submitted in accordance with this concept plan approval or any related project approvals; and
   b) the implementation of any actions or measures contained in these reports, plans or correspondence.

Limits of Approval

1.5 This concept approval shall lapse ten years after the date of its approval by the Minister, unless works the subject of any related project approval are physically commenced on or before that date.

1.6 To avoid any doubt, this concept plan approval does not permit the construction or operation of any projects associated with the Bayswater B Power Station. Construction cannot commence on any projects associated with this concept plan unless a separate project approval has been granted in relation to that project.

2. PROJECT APPLICATION REQUIREMENTS

2.1 The Proponent's preferred option (coal- or gas-fired power station) requires further environmental assessment and the submission of a separate project application in accordance with condition 2.2. The requirements outlined in condition 2.2 include the development of any ancillary infrastructure offsite not otherwise covered by a separate approval, as applicable to the preferred option, including but not limited to:
   a) for the gas-fired option, the gas pipeline spur; and
   b) for the coal-fired option, conveyors to transfer coal to the site and ash from the site, any planned roads to transfer ash from the site, and any ash disposal facility.

2.2 The following environmental assessment requirements apply with respect to a project application (coal- or gas-fired power station):
   a) General Requirements:
      i) a demonstration that the project is consistent with the requirements of this approval and generally consistent with the scope and intent of the concept outlined in the documents under condition 1.1 of this approval;
      ii) detailed description and location of all project components, including ancillary facilities. The Environmental Assessment shall identify likely environmental constraints and potential land use conflicts taking into account existing receptors and future development potential;

iii) consideration of relevant statutory provisions including consistency with the objects of the *Environmental Planning and Assessment Act 1979* and interaction with any other approvals required to be obtained to enable development of the project (including upgrade of the Antiene coal unloader for the coal option); and

iv) a detailed project-specific Statement of Commitments, consistent with the Statement of Commitments prepared for the concept plan, with a clear indication of any new or amended commitments relating to the project.

b) an updated **Greenhouse Gas Assessment** shall be undertaken in consultation with DECCW and in accordance with the methodologies specified in the Australian Government's *National Greenhouse and Energy Reporting Scheme Technical Guidelines* and the NSW *National Greenhouse Accounts Factors*, or any other reference document relevant at the time of preparing the project application, and as agreed by the Director-General, including, but not limited to:

i) a refinement of the greenhouse gas assessment presented in the documents referred to under condition 1.1, having regard to advancements, if any, that may occur in relation to fuel, generating technology and/ or assessment methodologies;

ii) confirmation of emissions (in tonnes of carbon dioxide equivalent) based on detailed project design including ancillary infrastructure and mitigation measures. The Environmental Assessment shall quantify direct emissions (Scope 1), indirect emissions (Scope 2) and any significant up or down stream emissions (Scope 3) of the final project design considering all stages of the project (construction, operation and decommissioning), including detailed information on methodologies applied and derived calculations. The calculations shall be based on worst-case and representative operating conditions;

iii) demonstration that the plant has been designed to incorporate best commercially available technology and mitigation measures to maximise thermal efficiency within water availability constraints and minimise and/or offset greenhouse gas emissions consistent with the outcomes of the greenhouse gas minimisation strategy identified in condition 2.3; and

iv) demonstration that the project can be designed to be retro-fitted to implement carbon capture technology or future technically and economically feasible mitigation measures to continually improve and/or reduce greenhouse gas emissions consistent with the outcomes of the greenhouse gas minimisation strategy identified in condition 2.3.

c) an updated **Air Quality Assessment** shall be developed in consultation with DECCW and NSW Health and in accordance with *Approved Methods for Modelling and Assessment of Air Pollutants in NSW* (DEC, 2005) (or its later version) confirming the air quality emissions associated with the final project design with consideration of worst-case meteorological and operating conditions and cumulative impacts from contemporaneous operations of surrounding relevant land uses. Particular consideration shall be given to:

i) cumulative air impacts at a local, regional and inter-regional level;

ii) relevant operational scenarios for the project including start-up, shut-down and partial load operations;

iii) if coal is selected as the fuel for the project, determination of in-stack emission concentration limits (in mgm^{-3} at reference conditions: dry, 273K, 101.3 kPa and 7% oxygen (O_2), unless otherwise agreed by DECCW) for the following pollutants: cadmium; chlorine; fluorine (F_2) and any compound containing fluorine as total fluoride (HF equivalent); hydrogen chloride; mercury; sulfuric acid mist and sulfur trioxide (as SO_3); sulfur dioxide; Type 1 and Type 2 substances in aggregate; and volatile organic compounds as n-propane equivalent;

iv) the potential for acid deposition, its impacts and the mitigation measures that would be implemented to reduce any identified impacts;

v) if coal is selected as the fuel for the project, potential hydrogen fluoride impacts to specialised land uses, demonstrating that impacts have been minimised as far as practicable and assessing hydrogen fluoride impacts against specialised land use criteria for hydrogen fluoride concentrations. In relation to the coal-fired option, the Air Quality Assessment shall outline a monitoring program to be implemented to monitor hydrogen fluoride concentrations at the following locations:

- Rosemount Estate, Denman;
- Verona Winery, Muswellbrook;
- Denman Estate, Muswellbrook;
- Arrowfield Winery, Jerrys Plains; and
- Mount Dangar Winery, Sandy Hollow.

vi) demonstration that the project has incorporated best commercially available technology for the minimisation of all air emissions;

vii) the mitigation and management measures that will be implemented to reduce the emission of all air pollutants including (as applicable) SO_2, NO_2, NO_x, hydrogen fluoride, solid particles and other air toxics. The assessment shall demonstrate that the project can meet the NO_x limits specified in this approval; and

viii) a description of measures proposed to manage and monitor the efficiency and performance of air pollution control techniques which have been developed in consultation with the DECCW.

d) an updated cumulative **Noise and Vibration Impact Assessment** shall be conducted in accordance with the *NSW Industrial Noise Policy* (EPA, 2000) to demonstrate that the final project design can meet the noise limits specified in this approval under normal operating conditions. The Environmental Assessment shall also include an assessment of the construction noise impacts of the project against the *Interim Construction Noise Guidelines* (DECC, 2009). The Environmental Assessment shall include a Noise and Vibration Management Protocol to demonstrate how noise and vibration (inclusive of related traffic noise impacts) will be mitigated and managed for the project.

e) an updated **Water Assessment** shall be developed in consultation with the Office of Water to confirm the operational water requirements of the final project design taking into account the identification of available water supply and any existing water entitlements. The information is to include a Water Supply Contingency Plan to address operational water availability in relation to any restrictions placed on entitlements during periods of reduced allocation, under the provisions of the *Water Sharing Plan for the Hunter Regulated River Water Source,* including water that has been secured sufficient to maintain the project's full output during the drought of record (1930s-40s).

f) if coal is selected as the preferred fuel, an **Ash Management Strategy** shall be included in the Environmental Assessment, to consider the transport, storage and disposal of ash for the life of the project, including but not limited to:

i) the scope of the ash disposal process and any proposed development options, details of any proposed staged implementation of the disposal options, scale of the proposed disposal area, the proposed ash disposal process and the anticipated quantity to be disposed of on an annual basis at the commencement of operation;

ii) a process for the staged identification, development and management of ash disposal areas over the life of the project;

iii) a framework for the ongoing promotion and evaluation of re-use opportunities for ash generated from the project;

iv) full details of the proposed ash disposal facility(s) including location, capacity and hydro-geological characteristics;

v) proposed collection and handling, conditioning, transport and storage facilities and leachate management; and

vi) an environmental management framework for the on-going management of ash disposal to prevent dust generation and water pollution, consistent with contemporary best environmental practice.

g) an updated **Ecological Assessment** shall be prepared in accordance with relevant DECCW's guidelines including:

i) documentation of all known and likely listed threatened species, their habitats, population and ecological communities of the site (including adjacent areas impacted by the project);

ii) details of all survey methodologies and/or techniques utilised;

iii) a detailed assessment of the impacts on such species, habitats, populations and ecological communities; and

iv) details of the actions that will be undertaken to avoid or mitigate impacts, or to compensate or offset unavoidable impacts of the project on native vegetation,

threatened species, populations, ecological communities and their habitat. Where impacts to biodiversity are unavoidable, the Proponent shall provide a biodiversity offset proposal(s). Justification for any area(s) proposed as offset areas shall include an assessment of the biodiversity values impacted on by the project and whether the proposed area(s) provides equivalent values.

h) an updated **Heritage Impact Assessment** shall be prepared in accordance with the DECCW's *Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation.* The Environmental Assessment shall include an assessment of the impact of the final project design on known items of Aboriginal and non-Aboriginal heritage significance, and include a management framework for management of any additional items that may be uncovered during construction of the project. The assessment shall also document the mitigation and management measures that will be incorporated as part of the final project design to minimise impacts to heritage.

i) an updated **Traffic and Transport Assessment** shall be prepared which includes predicted volumes of traffic associated with the final project design (including from the proposed construction camps and the haulage of ash) and the impact of these on the performance of key intersections in the vicinity of the project. Measures to manage or mitigate traffic impacts are required to be addressed.

j) an updated screening of potential hazards on site (including new gas supply infrastructure where relevant) shall be undertaken to determine the potential for offsite impacts and the any requirement for a **Preliminary Hazard Analysis** (PHA). If potential site impacts are identified, the PHA shall be prepared in accordance with the Department's *Hazardous Industry Planning Advisory Paper No. 3, Hazardous Industry Planning Advisory Paper No. 6 and Multi-level Risk Assessment.* Risk impacts associated with the transport of dangerous goods or hazardous materials shall be documented with reference to the Department's *draft Route Selection Guideline.*

k) notwithstanding the above key assessment requirements, the Environmental Assessment shall include an environmental risk analysis to identify potential environmental impacts associated with the final project design (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 these shall be included in the Environmental Assessment.

l) an appropriate and justified level of consultation with the following parties during the preparation of the Environmental Assessment, including but not limited to:
   i) NSW Department of Environment, Climate Change and Water;
   ii) Muswellbrook Shire Council;
   iii) Singleton Shire Council;
   iv) NSW Office of Water;
   v) NSW Health;
   vi) any vineyards or other specialised land uses within a 10 kilometre radius of the project site;
   vii) the local community, including but not limited to the Local Aboriginal Land Council.

   The Environmental Assessment shall clearly indicate issues raised by stakeholders during consultation, and how those matters have been addressed in the Environmental Assessment.

Greenhouse Gas Minimisation

2.3 The Proponent shall, on a triennial basis from the date of this concept plan approval, evaluate and report on the availability of viable greenhouse gas reduction, mitigation and/or offset options for incorporation into the final project design taking into consideration relevant contemporaneous economic drivers including applicable legislative framework (such as an emissions trading scheme) and electricity demand and supply projections. Unless otherwise agreed to by the Director-General, a report outlining the outcomes of this evaluation shall be submitted to the Director-General and DECCW on a triennial basis and made publicly available on the website required to be established under condition 5.2 (with the exception of any commercial-in-confidence material) no later than six weeks from the date of the report

being lodged with the Director-General and DECCW. The report shall evaluate the viability of greenhouse gas reduction, mitigation and/or offset options (including but not necessarily limited to carbon capture and storage, solar augmentation and biomass fuel taking into account relevant externalities such as fuel sourcing, delivery and storage and captured emission storage and transport) on the basis of Long Run Marginal Cost, unless an alternative methodology is agreed to by the Director-General in consultation with DECCW.

2.4 In the event that a project application is submitted prior to the lodgement of the first triennial report required under condition 2.3, the Environmental Assessment shall include the information required by that condition.

3. SPECIFIC PROJECT LIMITS

Air Quality

3.1 Should the Proponent select natural gas as the preferred fuel for the project, the Proponent shall design and operate the plant to meet the emission concentration limit outlined in Table 1 under normal operating conditions (not including start-up, shut-down or emergency situations).

Table 1 – Maximum Allowable Discharge Concentration Limits (Air)

Emission Point	Pollutant	Units of measure	100 percentile concentration limit	Reference conditions
each stack	Nitrogen dioxide (NO_2) or nitric oxide (NO), or both as NO_2 equivalent	milligrams per cubic metre	52	dry, 273 K, 101.3 kPa, and 15 % oxygen (O_2)

3.2 Should the Proponent select coal as the preferred fuel for the project, the Proponent shall **design** the plant to meet the emission concentration design criteria outlined in Table 2 under normal operating conditions (not including start-up, shut-down or emergency situations).

Table 2 – Design Criteria (Air)

Emission Point	Pollutant	Units of measure	100 percentile concentration limit	Reference conditions
each stack	Nitrogen dioxide (NO_2) or nitric oxide (NO), or both as NO_2 equivalent	milligrams per cubic metre	500	dry, 273 K, 101.3 kPa, and 7 % oxygen (O_2)
each stack	Solid particulates (total), measured as a 24-hour average	milligrams per cubic metre	30	dry, 273 K, 101.3 kPa, and 7 % oxygen (O_2)
each stack	Solid particulates (total), measured as a 1-hour average	milligrams per cubic metre	50	dry, 273 K, 101.3 kPa, and 7 % oxygen (O_2)

3.3 Should the Proponent select coal as the preferred fuel for the project, the Proponent shall **design** to operate the plant to meet the emission concentration limits outlined in Table 3 under normal operating conditions (not including start-up, shut-down or emergency situations).

Table 3 – Maximum Allowable Discharge Concentration Limits (Air)

Emission Point	Pollutant	Units of measure	100 percentile concentration limit	Reference conditions
each stack	Nitrogen dioxide (NO_2) or nitric oxide (NO), or both as NO_2 equivalent	milligrams per cubic metre	500	dry, 273 K, 101.3 kPa, and 7 % oxygen (O_2)
each stack	Solid particulates (total), measured as a 1-hour average	milligrams per cubic metre	50	dry, 273 K, 101.3 kPa, and 7 % oxygen (O_2)

3.4 For the purpose of this approval, measurement of pollutant concentrations shall be undertaken in accordance with reference sample methods specified in *Approved Methods for Sampling and Analysis of Pollutants in NSW* at a frequency specified in an applicable Environment Protection Licence issued under the *Protection of the Environment Operations Act 1997.*

3.5 The Proponent shall **design** the project to install emissions monitoring equipment capable of monitoring and reporting solid particulate emissions on a continuous basis, as approved by the Director-General in consultation with DECCW.

3.6 Should the Proponent select coal as the preferred fuel for the project, after two years of operation, the Proponent shall submit a Proof of Performance Report to the Director-General and DECCW, outlining:

a) the operational performance of the continuous monitoring equipment for air emissions; and

b) the capability of the project to meet solid particulates (total) emission concentration design limit of 30 mgm^{-3} (24-hour average) specified under condition 3.2.

Note: a discharge limit for solids particulates (total) measured as a 24-hour average will be added to the Environment Protection Licence for the project based on the findings of the Proof of Performance Report.

3.7 Should the Proponent select coal as the preferred fuel for the project, the Proponent shall design the project so as not to preclude retro-fitting, if necessary, of flue gas desulfurisation technology.

Noise

3.8 The Proponent shall design the project to ensure that the noise contributions from the project to the background acoustic environment do not exceed the maximum allowable noise contributions specified in Table 4, at the locations and during the periods indicated. This condition only applies to the project operating under normal operating conditions and does not include start-up, shut-down or emergency situations. The noise limits outlined in Table 4 apply under all meteorological conditions, with the exception of any one of the following:

a) wind speeds greater than 3 metres/second at 10 metres above ground level;

b) stability category F temperature inversion conditions and wind speeds greater than 2 metres/second at 10 metres above ground level; or

c) stability category G temperature inversion conditions.

Table 4 – Maximum Allowable Noise Contribution

Noise Assessment Location	Day 7:00am to 6:00pm Mondays to Saturdays 8:00am to 6:00pm Sundays and public holidays	Evening 6:00pm to 10:00pm on any day	Night 10:00pm to 7:00am Mondays to Saturdays 10:00pm to 8:00am Sundays and public holidays	
	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{Aeq(15\ minute)}$	$L_{A1\ (1\ minute)}$
R1 – Lake Liddell Camping Reserve	50	50	50	-
Receivers R2 to R12 inclusive (as identified in Tables 16 and 17 of the Noise Impact Assessment prepared as part of the documents listed in condition 1.1)	35	35	35	45

3.9 For the purposes of condition 3.8, the meteorological data to be used in determining meteorological conditions is the data recorded by either a meteorological station established on the site or the meteorological weather station identified as EPA Identification Point 16 in condition M10 in Environment Protection Licence No. 779, located at Mount Arthur Communications Tower shown as EPA ID Point Number 16 on plan titled "Ambient Monitoring Site Bayswater Power Station Site" received by the EPA on 23 April 2004. Stability category temperature inversion conditions are to be determined by the sigma-theta method referred to in Part E4 of Appendix E of the *NSW Industrial Noise Policy*.

Water Supply

3.10 The Proponent shall design the project to ensure that sufficient water is available for all stages of the project, and if necessary, adjust the scale of operations to match available water supply.

4. COMPLIANCE MONITORING AND TRACKING

Compliance Tracking Program

4.1 The Proponent shall develop and implement a **Compliance Tracking Program** to track compliance with the requirements of this concept approval and all related project approvals. The Program shall include, but not necessarily limited to:

a) provisions for periodic review of the compliance status of the development and each of its project components;
b) provisions for periodic reporting of compliance status to the relevant approval authority;
c) a program for independent environmental auditing of the development, in accordance with *ISO 19011:2002 - Guidelines for Quality and/ or Environmental Management Systems Auditing*; and
d) mechanisms for rectifying any non-compliance identified during environmental auditing or review of compliance.

5. COMMUNITY INFORMATION, CONSULTATION AND INVOLVEMENT

5.1 Subject to confidentiality, the Proponent shall make all documents required under this concept approval and any relevant project approval available for public inspection on request.

Provision of Electronic Information

5.2 The Proponent shall establish and maintain a new website, or dedicated pages within its existing website for the provision of electronic information associated with the development. The Proponent shall publish and maintain up-to-date information on this website or dedicated pages including, but not necessarily limited to:

a) information on the development, each of its project components and the current implementation status of each;
b) a copy of this concept approval and all related project approvals;
c) a copy of each relevant environmental approval, licence or permit required and obtained in relation to the development;
d) a copy of each monitoring program and each environmental management required under this concept approval or under each relevant project approval;
e) details of the outcomes of reviews and audits of the development and each of its project components undertaken in accordance with the Compliance Tracking Program referred to under condition 4.1; and
f) details of a contact point(s) to which community complaints or inquiries may be directed, including a telephone number, a postal address and an email address.