

**ENVIRONMENTAL PLANNING AND ASSESSMENT ACT, 1979**

**INTEGRATED STATE SIGNIFICANT DEVELOPMENT**

**DETERMINATION OF DEVELOPMENT APPLICATION  
PURSUANT TO SECTIONS 76(A)9 & 80**

I, the Minister for Planning, pursuant to Sections 76(A)9 & 80 of the Environmental Planning and Assessment Act, 1979 ("the Act") determine the development application ("the application") referred to in Schedule 1 by granting consent to the application subject to the conditions set out in Schedule 2.

The reasons for the imposition of the conditions are to:

- (i) minimise the adverse impact the development may cause through water and air pollution, noise, and visual disturbance;
- (ii) provide for environmental monitoring and reporting; and
- (iii) set requirements for mine infrastructure provision.

Andrew Refshauge MP  
**Minister for Planning**

Sydney,

2002

File No. S00/01703

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**Schedule 1**

**Application made by:** Liddell Coal Operations Pty Limited  
("the Applicant").

**To:** The Minister for Planning  
(DA 305-11-01)

**In respect of:** Land described in Appendix "1".

**For the following:** Continued open cut coal mining at the Liddell Colliery and associated surface facilities and infrastructure ("the Project").

**BCA Classification:**

Structure	BCA Classification
Office	Class 5
Amenities	Class 8

- NOTE:**
- 1) To ascertain the date upon which the consent becomes effective, refer to section 83 of the Act.
  - 2) To ascertain the date upon which the consent is liable to lapse, refer to section 95 of the Act.



- 3) Section 97 of the Act confers on an Applicant who is dissatisfied with the determination of a consent authority a right of appeal to the Land and Environment Court exercisable within 12 months after receipt of notice.

**APPENDIX 1**  
**Schedule of affected Properties**

Local Government Area: Muswellbrook Shire

<b>Lot</b>	<b>DP</b>	<b>County</b>	<b>Parish</b>
Part C.R. 197 MS 8378		Durham	Liddell
1	1012624	Durham	Liddell
Pt Lot 3	201211	Durham	Liddell
3	231880	Durham	Liddell
1	237654	Durham	Liddell
2	237654	Durham	Liddell
3	237654	Durham	Liddell
4	237654	Durham	Liddell
5	237654	Durham	Liddell
6	237654	Durham	Liddell
7	237654	Durham	Liddell
Pt Lot 1	574167	Durham	Liddell
2	574167	Durham	Liddell
12	579783	Durham	Liddell
1	583527	Durham	Liddell
125	752470	Durham	Liddell
135	752470	Durham	Liddell
31	837350	Durham	Liddell
Pt Lot 33	862516	Durham	Liddell
34	862516	Durham	Liddell
37	862517	Durham	Liddell
Pt Lot 380	869839	Durham	Liddell
381	869839	Durham	Liddell
Pt Conveyance Reg No 264 Book 2819	979456	Durham	Liddell
Pt Lot 40	Sec B 6842	Durham	Liddell
Pt Lot 41	Sec B 6842	Durham	Liddell
Pt Old Great Northern Railway		Durham	Liddell
Various unformed Crown road reserves		Durham	Liddell



<b>Lot</b>	<b>DP</b>	<b>County</b>	<b>Parish</b>
Pt Lot 1	201214	Durham	Liddell
2	233019	Durham	Liddell
1	237655	Durham	Liddell
2	237655	Durham	Liddell
3	237655	Durham	Liddell
1	237766	Durham	Liddell
2	237766	Durham	Liddell
4	255403	Durham	Liddell
6	255406	Durham	Liddell
2	534888	Durham	Liddell
1	565031	Durham	Liddell
80	607296	Durham	Liddell
Pt Lot 81	607296	Durham	Liddell
43	654013	Durham	Liddell
Pt Lot 101	700429	Durham	Liddell
225	752470	Durham	Liddell
23	841165	Durham	Liddell
24	841165	Durham	Liddell
Pt Lot 201	848078	Durham	Liddell
100	858173	Durham	Liddell
Pt Lot 33	862516	Durham	Liddell
35	862516	Durham	Liddell
36	862516	Durham	Liddell
Pt Lot 353	867083	Durham	Liddell
Pt Lot 354	867083	Durham	Liddell
31	870789	Durham	Liddell
32	870789	Durham	Liddell
Pt Auto-Consol 8650-66		Durham	Liddell
Pt Lot 40	Sec B 6842	Durham	Liddell
Pt Lot 41	Sec B 6842	Durham	Liddell
42	Sec B 6842	Durham	Liddell
Various unformed Crown road reserves		Durham	Liddell



## **SCHEDULE 2**

### **Development Consent Conditions for the Continued Operations at the Liddell Colliery**

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#### **DEFINITIONS:**

**Agricultural productivity** - as defined by the Agricultural Suitability Classification System used by NSW Agriculture.

**AEMR** - Annual Environmental Management Report

**CCC** – Community Consultative Committee

**Construction** – Construction of associated surface facilities and infrastructure, such as dams, new access roads, culverts, level crossing etc.

**DA** - Development Application

**DA area** - Development Application area which includes all works described in the DA.

**Director-General** - Director-General of the Department of Planning or delegate.

**EIS** - Environmental Impact Statement

**HRSTS** - Hunter River Salinity Trading Scheme

**Independent Dispute Resolution** - defined in a flow chart which indicates DoP will appoint an independent dispute facilitator to deal with the matters of concern (refer Schedule A)

**LGA** – Local Government Area

**Mining Operations** – Mining activities at Liddell Colliery conducted 12 months after the date of this consent

**MOP** – Mining Operations Plan

**Project** – the continuation of open cut coal mining at the Liddell Colliery including the extension of the existing mining operations at the Liddell Colliery into two pits referred to as the South and Barrier Pits, to the south-east of the existing Pits and associated activities as otherwise described in the EIS, and as modified in the supplementary information supplied by the Applicant to the Department in correspondence titled “Continued Operations of Liddell Colliery – Revised Development Application Area”, dated 13 March 2002.

**ROM** – Run of Mine

#### **Government Authorities**

**SSC** – Singleton Shire Council

**DLWC** - Department of Land and Water Conservation

**DMR** - Department of Mineral Resources

**DoP** – Department of Planning

**EPA** - Environment Protection Authority

**MSB** - Mine Subsidence Board

**MSC** – Muswellbrook Shire Council

**NPWS** - National Parks and Wildlife Service



**NSW Fisheries** – New South Wales Fisheries  
**NSW Agriculture** - New South Wales Agriculture  
**RIC** – Rail Infrastructure Corporation  
**RTA** - Roads and Traffic Authority

**Note:** To assist with the explanation of the intent of certain conditions in this consent, a number of flow charts are provided in the attached Schedule A, which illustrates the various processes contained in this consent.



## **1. General**

There is an obligation on the Applicant to prevent and minimise harm to the environment throughout the life of the project. This requires that all practicable measures are to be taken to prevent and minimise harm that may result from the construction, operation and, where relevant, decommissioning of the development.

### **1.1. Adherence to terms of DA, EIS, etc.**

- (a) The development is to be carried out generally in accordance with:
- development application No.305-11-2001
  - the EIS titled "Liddell Colliery Continued Operations Environmental Impact Statement," dated October 2001, prepared by Umwelt (Australia) Pty Limited and certified in accordance with Section 78A(8) of the Act;
  - the document titled "Response to NPWS Request for further information in relation to the archaeological assessment, Liddell EIS" prepared by Umwelt (Australia) Pty Limited, dated December 2001, and supplemented by the additional information dated 20 February 2002;
  - the correspondence submitted to the Department and SSC in response to the request for addition information from SSC, dated 20 December 2001;
  - the document titled "Response to Submissions Liddell Colliery Environmental Impact Statement, prepared by Umwelt (Australia) Pty Limited, dated March 2002;
  - the document titled "Response to EPA request for further information Liddell Colliery Continued Operations Environmental Impact Statement" prepared by Umwelt (Australia) Pty Limited, dated March 2002;
  - the correspondence titled "Continued Operations of Liddell Colliery – Revised Development Application Area" submitted by Umwelt (Australia) Pty Limited, dated 13 March 2002; and
  - additional air quality contours provided to the Department relating to PM<sub>10</sub> concentrations on 7 May 2002.

as may be modified by the conditions set out herein.

- (b) If, at any time, the Director-General is aware of environmental impacts from the proposal that pose serious environmental concerns due to the failure of environmental management measures in place to ameliorate the impacts, the Director-General may order the Applicant to cease the activities causing those impacts until those concerns have been addressed to the satisfaction of the Director-General.
- (c) If any licence conditions are breached the applicant shall comply with any modification to the work as specified by the relevant agency.

### **1.2. Period of Approval/Project Commencement**

- (a) This consent is limited to a period 21 years from the date of this consent.
- (b) At least two weeks prior to the commencement of construction and within 12 months of development consent being granted, or within such period as agreed by the Director-General, the Applicant shall submit for the approval of the Director-General a compliance report detailing compliance with all the relevant conditions that apply prior to the commencement of construction and conditions that apply within 12 months of development consent.
- (c) Date of commencement of construction is to be notified in writing to the Director-General, SSC and MSC, at least two weeks prior to commencement of construction.

### **1.3. Dispute Resolution**



In the event that the Applicant, SSC, MSC or a Government agency, other than the Department of Planning, cannot agree on the specification or requirements applicable under this consent, the matter shall be referred by either party to the Director-General or if not resolved, to the Minister for Planning, whose determination of the disagreement shall be final and binding on the parties.

**1.4.     *Security Deposits and Bonds***

Security deposits and bonds will be paid as required by DMR under mining lease approval conditions.



## **2. Mine Management**

### **2.1. Mine Management Plan, Operations and Methods**

- (a) No mining undertaken in accordance with this consent shall occur until the Applicant has submitted and had accepted by the DMR, a Mining Operations Plan (MOP) in accordance with current guidelines issued by DMR. The Plan covers Mining Operations for a period of up to seven years.
- (b) The MOP shall:
- (i). be prepared in accordance with DMR Guidelines for the Preparation of MOPs (Document 08060002.GUI or its most recent equivalent);
  - (ii). demonstrate consistency with the conditions of this consent and any other statutory approvals;
  - (iii). demonstrate consistency with the Environmental Management Plans for the project site;
  - (iv). provide the basis for implementing Mining Operations, environmental management, and ongoing monitoring;
  - (v). include a mine rehabilitation and land use management plan;
  - (vi). identify a schedule of proposed mine development for the period covered by the plan and include:
    - the area proposed to be impacted by mining activity and resource recovery mining methods and remediation measures;
    - areas of environmental, heritage or archaeological sensitivity and mechanisms for appropriately minimising impact;
    - water management, and
    - proposals to appropriately minimise surface impacts.
- (c) In preparing the MOP, the Applicant shall consult with affected service authorities and make arrangements satisfactory to those authorities for the protection or relocation of those services.
- (d) A copy of the MOP, excluding commercial in confidence information, shall be forwarded to SSC, MSC and the Director-General within 14 days of acceptance by DMR.
- (e) At least two years prior to the cessation of Mining Operations the Applicant shall investigate, determine and report, taking account of the potential community benefits, on a final strategy for the future use of the mine site and any general infrastructure components, in consultation with DoP, DLWC, SSC, MSC and for approval of DMR and the Director-General.

### **2.2. Spontaneous Combustion**

The Applicant shall within 12 months of development consent being granted prepare a Spontaneous Combustion Management Plan for the Project to the satisfaction of DMR.

### **2.3. Limits on Production**

ROM coal production from the Project shall not exceed 4.5 Mtpa. The Applicant must notify the Director-General, SSC, MSC prior to any short term increase in production above these levels.

### **2.4. Construction Hours of Operation**

Construction activity may only be undertaken between 7.00am to 6.00pm, Monday to Saturday.



### **3. Land and Site Environmental Management**

#### **3.1 *Appointment of Environmental Officer***

- (a) The Applicant shall ensure that a suitably qualified and/or experienced Environmental Officer is available throughout the life of the mine and shall consult with the Director-General prior to the appointment of the Environmental Officer for the Project. The Environmental Officer shall:
  - (i) be responsible for the preparation of the environmental management plans (refer to Condition No. 3.2);
  - (ii) be responsible for considering and advising on matters specified in the conditions of this consent and compliance with such matters;
  - (iii) be responsible for receiving and responding to complaints in accordance with Condition 10.2(a);
  - (iv) facilitate an environmental induction and training program for all persons involved with construction activities, mining and remedial activities; and
  - (v) make recommendations to the Mine Management to take reasonable steps to avoid or minimise adverse environmental impacts. The Mine Management shall issue instructions to stop work if a significant adverse impact on the environment is likely to occur.
- (b) The Applicant shall notify the Director-General, DMR, MSB, EPA, NPWS, DLWC, NSW Fisheries, SSC, MSC and CCC (refer condition 10.1) of the name and contact details of the Environmental Officer and any changes to that appointment.

#### **3.2 *Environmental Management Strategies and Plans***

- (a) The Applicant shall prepare an Environmental Management Strategy, providing a strategic context for the environmental management plans [refer condition 3.2(d)]. The Environmental Management Strategy shall be prepared following consultation with the NPWS, DLWC, EPA, DMR, NSW Fisheries, SSC, MSC and the CCC (refer condition 10.1) and to the satisfaction of the Director-General. The strategy shall be provided to the Director-General no later than the time the first Environmental Management Plan under sub-clause (d) below is submitted.
- (b) The Environmental Management Strategy shall include, but not be limited to:
  - (i) statutory and other obligations which the Applicant is required to fulfil during construction and mining, including all approvals and consultations and agreements required from authorities and other stakeholders, and key legislation and policies;
  - (ii) definition of the role, responsibility, authority, accountability and reporting of personnel relevant to environmental management, including the Environmental Officer;
  - (iii) overall environmental management objectives and performance outcomes, during construction, mining and decommissioning of the mine, for each of the key environmental elements for which management plans are required under this consent;
  - (iv) overall ecological and community objectives for the project, and a strategy for the restoration and management of the areas affected by Mining Operations, including elements such as wetlands and other habitat areas, creek lines and drainage channels, within the context of those objectives;
  - (v) identification of cumulative environmental impacts and procedures for dealing with these at each stage of the development;
  - (vi) steps to be taken to ensure that all approvals, plans, and procedures are being complied with;
  - (vii) processes for conflict resolution in relation to the environmental management of the project; and
  - (viii) documentation of the results of consultations undertaken in the development of the Environmental Management Strategy.
- (c) The Applicant shall make copies of the Environmental Management Strategy available to SSC, MSC, EPA, DLWC, NPWS, DMR, MSB, NSW Fisheries and the CCC within fourteen days of approval by the Director-General.



- (d) The Applicant shall prepare the following environmental management plans:
- (i) Spontaneous Combustion Management Plan (Condition 2.2)
  - (ii) Archaeology and Cultural Management Plan (Condition 3.3(a))
  - (iii) Flora and Fauna Management Plan (Condition 3.4.1(a))
  - (iv) Soil and Water Management Plan (Condition 3.5(a))
  - (v) Landscape and Revegetation Management Plan (Condition 3.7(a))
  - (vi) Final Void Management Plan (Condition 3.8)
  - (vii) Bushfire Management Plan (Condition 3.9)
  - (viii) Land Management Plan (Condition 3.10(a))
  - (ix) Site Water Management Plan (Condition 4.1(a))
  - (x) Surface and Groundwater Monitoring Plan (Condition 4.2(a))
  - (xi) Waste Management Plan (Condition 5.2)
  - (xii) Dust Management Plan (Condition 6.1.2(a))
  - (xiii) Blasting/ Vibration Management Plan (Condition 6.3.2(a))
  - (xiv) Noise Management Plan (Condition 6.4.5)
  - (xv) Lighting Management Plan (Condition 6.5(b))
  - (xvi) Public Road Management Plan (Condition 7.4)
  - (xvii) Joint Acquisition Management Plan (Condition 11.3)

These environmental management plans may also form part of the overall Site Management Plan and/or Mining Operations Plan.

- (e) The Applicant shall make copies of the environmental management plans in sub-clause (d) above available to the relevant government agencies, SSC, MSC and CCC, and ensure that the plans are made publicly available within 14 days of approval by the Director-General.
- (f) The management plans are to be reviewed, and updated every five years or as directed by the Director-General, in consultation with the relevant government agencies. The review should consider changing environmental requirements or changes in technology/operational practices. Any changes which are made shall be made and approved in the same manner as the initial environmental management plan. The plans shall also be made publicly available at SSC and MSC within two weeks of approval by the DoP.

### **3.3 Heritage Assessment, Management and Monitoring**

#### **Assessment and Management**

(a). <sup>1</sup>The Applicant shall prepare an Archaeology and Cultural Management Plan for the DA area to consider Aboriginal cultural and European heritage issues. The Plan shall be prepared in consultation with the relevant Aboriginal community group(s), DMR, NPWS and NSW Heritage, and to the satisfaction of the Director-General. The plan is to be commenced within 3 months and completed within 12 months of the granting of development consent. The Plan shall include but not be limited to:

- (i). provision of management strategies for all parts of the DA area not affected by mining or activities associated with this development;
- (ii). management of parts of the project area where known Aboriginal sites are not expected to be directly impacted by mining operations or activities associated with this development;

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<sup>1</sup> NPWS General Terms of Approval



- (iii). management of parts of the project area where known European heritage sites are not expected to be directly impacted by mining operations or activities associated with this development;
  - (iv). induction procedures and guidance to mining personnel about the management of cultural heritage/ archaeological values within the mining area, both for known sites and sites that may be encountered during the course of Mining Operations;
  - (v). <sup>2</sup>development of a salvage strategy for the sites at which salvage is proposed to be undertaken; and
  - (vi). general land management issues to protect cultural heritage values.
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- (b). <sup>3</sup>The Applicant shall obtain a NPWS Consent to Destroy from the NPWS Director-General prior to any works associated with the destruction and/or interference of the Aboriginal artefact find locations and the deposits between them, identified as LID 1,2,3, 4, 5,11,13,14,15,16,17, 18, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, SP1,2,3 and the Brayshaw Site B.
  - (c). The Applicant is to consult regularly with the relevant Aboriginal community group(s) using consultation principles and strategies consistent with those outlined in the "Guidelines for best practice community consultation in the NSW Mining and Extractive Industries". The results of these consultations shall be documented in the AEMR.
  - (d). <sup>4</sup>The Aboriginal community is to be provided with the opportunity to collect artefacts from all locations for which a Section 90 consent is to be obtained, excluding those areas set aside for scientific investigation.
  - (e). <sup>5</sup>The Applicant shall manage the area of land along Bowmans Creek not being impacted by the current development proposal (as marked in Figure 1) as a heritage management area, to ensure that no adverse impacts from the Project and associated activities occur within that area.
  - (f). The Applicant shall:
    - (i). undertake a full dilapidation study and recording of the fabric of the buildings of the Chain of Ponds Hotel precinct within 12 months of development consent for continued operation of the Colliery;
    - (ii). conduct periodic blast monitoring at the Chain of Ponds hotel in accordance with the Blasting/ Vibration Management Plan (Condition 6.3.2).
  - (g). The Applicant shall mark and/ or flag the perimeter of the Police Lockup precinct and establish protocols for the operation of the plant and machinery involved in drainage works along Chain of Ponds Creek so as to minimise the potential for impact on the archaeological deposit (if any).
  - (h). The Applicant shall obtain an Excavation Permit from the Heritage Office of NSW in respect of the proposed demolition of the site identified in the EIS as Site LMH1.
  - (i). If, during the course of construction of any surface facilities and mining activities the Applicant becomes aware of any heritage or archaeological material not previously identified or covered by the above mentioned Consents to Destroy, all work likely to affect the material shall cease immediately and the relevant authorities consulted about an appropriate course of action prior to recommencement of work. The relevant authorities may include NPWS, the NSW Heritage Office, and the relevant local Aboriginal community. Any necessary permits or consents shall be obtained and complied with prior to commencement of work.

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<sup>2</sup> NPWS General Terms of Approval

<sup>3</sup> NPWS General Terms of Approval

<sup>4</sup>NPWS General Terms of Approval

<sup>5</sup> NPWS General Terms of Approval



- (j) Within six months of development consent being granted, the Applicant shall make a \$50,000 contribution towards the establishment of a trust fund set up by the Department of Planning through the Public Trustee. The funds are to be used for a regional study of Aboriginal sites and other cultural heritage projects as defined in the Trust Deed.

**Note:** Any proposed works that will affect non-indigenous heritage items will require an approval under section 139 of the Heritage Act 1977 and an application for an excavation permit to disturb the relics. This may also require additional approvals from SSC and/or MSC if the items are listed on the Heritage Schedule of the Local Environmental Plan.

### **3.4. Flora and Fauna Assessment, Management and Monitoring**

#### **3.4.1. Assessment and Management**

- (a). The Applicant shall prepare and implement a Flora and Fauna Management Plan for the DA area to address and manage the flora and fauna issues associated with the Project. The Plan is to be prepared within 12 months of granting of development consent in consultation with NPWS and to the satisfaction of the Director-General. The Plan shall be prepared by an appropriately qualified and/or experienced ecologist. The ecologists shall be responsible for providing advice to minimise potential impacts upon threatened and protected fauna species that may utilise the site and to provide expert advice on the regeneration and reconstruction of flora and fauna habitat on mine areas.

The Plan is specifically required to outline the following, but not be limited to:

1. Measures required prior to vegetation clearance

- (i) details of strategic vegetation management, including procedures for clearing or disturbing vegetation and other habitat types;
- (ii) timeframes for clearing and re-vegetation activities (including a map illustrating the Plan);
- (iii) details of the schedule for clearing activities incorporating seasonal habitat requirements for species such as bats and other mammals, with the objective of avoiding incidents during sensitive hibernation and breeding periods; and
- (iv) details of pre-clearance inspections, including the identification and inspection of trees containing tree hollows, including stags, prior to clearing of any vegetation.

2. Clearing of vegetation

- (i). details of how micro habitats including dead trees, stags, stumps and hollow branches will, where practical be salvaged and relocated to areas lacking in tree hollow habitat and in the recreation of habitat areas;
- (ii) details of the establishment of roost and nesting boxes appropriate for bat and avifauna species and methods for their regular maintenance. The details on the specific height, aspect, design, location and timing for the placement of the roosts and nest boxes shall consider any publicly available results and recommendations following the ongoing fauna habitat monitoring program occurring at the Mt Owen mine;
- (iii) details of the methods for strategically placing felled trees between cleared and remnant bushland to provide runways of ground cover for dispersion of animals; and
- (iv) details of the measures to care for any animals injured or found during clearing activities, including the use of WIRES to attend to fauna as necessary, and the methods for their relocation if appropriate. This shall include measures for harbouring and releasing nocturnal animals at night.

3. Reconstruction of native bushland – Post mining Fauna Habitat

- (i) strategies for the establishment of long-term post-mining land use objectives over the site;



- (ii) measures to re-instate vegetation communities and to use local endemic species for revegetation as soon as possible;
  - (iii) methods to actively manage existing areas of remnant vegetation through fencing (using animal friendly materials where practicable) to exclude grazing animals, where appropriate, and control of feral animals where practical, revegetate where appropriate, and maintain weed and fire controls;
  - (iv) details of the strategies for the exclusion of grazing cattle on areas of native bushland reconstruction;
  - (v) measures to monitor the success of revegetated areas and plant additional species where necessary.
  - (vi) methods of revegetation;
  - (vii) development of a protocol for managing significant impacts on any threatened flora and fauna species not identified in the EIS, during construction or operation of the Project; and
  - (viii) details of the habitat monitoring program (refer to subclause 3.4.4 below).
- (b) The Applicant shall ensure that an adequate buffer adjacent to Bowmans and Bayswater Creeks and the mining area is maintained to minimise impacts on aquatic ecology and to ensure an adequate riparian corridor is maintained for both aquatic and terrestrial threatened species known or likely to occur in the study area.
- (c) The Applicant shall establish habitat corridors as part of the final rehabilitated landform to replace areas of forest and woodland vegetation that are to be removed under the proposed mine plan. The design and extent of the habitat corridors shall be generally in accordance with the DMR Synoptic Plan of Integrated Landscapes (1999).

#### **3.4.2. Rehabilitation and remediation**

The Applicant shall, to the satisfaction of the Director-General and in consultation with DLWC and DMR:

- (i). ensure that any vegetated areas cleared for construction purposes and not utilised in the Mining Operations are restored at least to its original condition;
- (ii). develop a program for vegetation rehabilitation involving re-establishment of native species, especially groundcover species, in order to prevent erosion and future degeneration of the communities; and



- (iii). ensure that all rehabilitated slopes are effectively and appropriately stabilised.

#### **3.4.3. Maintenance**

- (a). The Applicant shall during the life of the mine and until the revegetated areas are established to the satisfaction of DLWC and DMR, maintain revegetated areas. Maintenance shall include, where necessary, but not be limited to:
- (i). replanting failed or unsatisfactory areas;
  - (ii). repairing erosion problems;
  - (iii). fire management – fire suppression or fire encouragement;
  - (iv). pest and weed control;
  - (v). maintenance and repair of fencing;
  - (vi). fertiliser application;
  - (vii). application of lime or gypsum to control pH and improve soil structure; and
  - (viii). appropriate and effective stabilisation of all rehabilitated slopes.
- (b). As well as the requirements under subclause 3.4.4 (a), the efforts and progress of the Flora and Fauna Management Plan shall be documented in the Annual Environmental Management Report in accordance with the Department of Mineral Resource's Guidelines to the Mining, Rehabilitation and Environmental Management Process (March 1998) or its latest version.

#### **3.4.4. Monitoring**

- (a) The restoration works shall be monitored by the environmental officer. The results of the monitoring and the effectiveness of the restoration shall be reported as part of the Annual Environmental Management Report.
- (b) The Applicant shall prepare a detailed monitoring program for habitat areas within the DA area, including any aquatic habitats, during the development and for a period after the completion of the development to be determined by the Director-General in consultation with NPWS and DMR. The monitoring program shall be included in the Flora and Fauna Management Plan (Condition 3.4.1) and a summary of the results shall be provided in the AEMR. The program shall:
- (i). monitor impacts attributable to the development and include monitoring of the success of any restoration or reconstruction works. The Applicant shall carry out any further works required by the Director-General and DMR as a result of the monitoring, and
  - (ii). establish an ongoing monitoring program of the existing and proposed revegetated areas to assess their floristics and structure and to propose contingency measures for improvements to revegetation if required.

<p><b>Note:</b> The information obtained from the monitoring shall be used to guide future revegetation efforts on the mine site.</p>
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#### **3.5 Soil Management**

- (a) The Applicant shall prepare and implement a Soil and Water Management Plan for the DA area prior to commencement of construction of the Dam 13B, in consultation with the DMR and DLWC, in accordance with the requirements of Managing Urban Stormwater: Soils and Construction (Department of Housing) or its latest version, and to the satisfaction of DLWC and the Director-General. The Plan shall be prepared and implemented prior to the commencement of construction. Notwithstanding the plan shall be updated as necessary, in consultation with DMR and DLWC and to the satisfaction of the Director-General, prior to commencement of construction of the following infrastructure as described in the EIS:
- New access road, culverts and service corridor;
  - The level crossing across the Main Northern Railway; and
  - Barrier Dam.
- (b) The Soil and Water Management Plan shall include but not be limited to:



- (i) clear identification of areas required to be disturbed and ensuring that disturbance is limited to those areas;
- (ii) details of temporary and permanent erosion and sediment control systems to be used during construction, including earthworks associated with landscaping;
- (iii) details of soil salinity management where relevant;
- (iv) measures that will be employed to minimise soil erosion and the discharge of sediment and other pollutants to lands and/or waters during construction. The Plan should be prepared in accordance with the requirements for such plans outlined in *Managing Urban Stormwater: Soils and Construction* (available from the Department of Housing) or its latest version;
- (v) the consideration of the location and purpose of structures in the erosion and sediment control plan to maximise similarities between pre-development and post-development drainage networks with reference to catchment areas, drainage densities and discharge characteristics;
- (vi) consideration and management of erosion and sedimentation of affected surface watercourses/ waterbodies, including creeklines within or adjacent to the DA area;
- (vii) measures to construct banks, channels and similar works to convey clean run-off away from disturbed areas and to divert surface and road runoff away from fill batters and drainage lines;
- (viii) procedures to ensure that all diversion banks, channels and points of discharge are constructed or stabilised so as to minimise erosion and scouring; and
- (ix) a program for reporting on the effectiveness of the erosion and sediment control systems and performance against objectives contained in the approved Soil and Water Management Plan, and EIS.

### **3.6 Site Rehabilitation Management**

The Applicant shall carry out rehabilitation of all mine areas in accordance with the requirements of any Mining Lease granted by the Minister for Mineral Resources and ensure the progressive rehabilitation of the area is also to the satisfaction of DLWC. The rehabilitation shall also have regard to the *Synoptic Plan – Integrated Landscapes for Minesite Rehabilitation* (1999), for the Upper Hunter, or its latest version.

### **3.7 Visual Amenity and Landscaping**

(a). The Applicant shall prepare a Landscape and Revegetation Management Plan for the DA area to address all visual and landscaping associated with the Project. The plan is to be prepared in consultation with the SSC and MSC, and approved by the Director-General prior to commencement of construction activities associated with the Project. In preparation of this plan, regard shall be had to the *Synoptic Plan – Integrated Landscapes for Minesite Rehabilitation* (1999), for the Upper Hunter, or its latest version. The Plan shall include, but not be limited to, the following:

- (i) an on-site landscaping strategy detailing design and proposed planting of trees and shrubs and landscaping of areas around surface facilities, and at any other areas identified as necessary by SSC or MSC for the maintenance of satisfactory visual amenity, and as agreed by the Director-General;
- (ii) appropriate erosion control and sediment control practices for earthworks associated with the landscaping;
- (iii) details of visual appearance of any buildings, structures, facilities or works (including paint colours and specifications) that are proposed to be constructed or relocated/ renovated. Buildings and structures shall be designed and constructed/ renovated so as to present a neat and orderly appearance, to blend as far as practicable with the surrounding landscape and to minimise visual impact;
- (iv) details, specifications and staged work programs to be undertaken, maintenance of all landscape works and maintenance of building materials and cladding; and
- (v) use of endemic species for rehabilitation.

(b) In the event that a landowner considers that the visual impacts from the proposal once operational are adversely greater than that predicted in the EIS at their dwelling, the Applicant shall, upon the receipt of a written request, consult the landowner, discuss their concerns and the level of impact compared to EIS



predictions, and, in the case of impact adversely greater than the EIS predictions, possible mitigation measures.

- (c) Should the Applicant and / or landowner dispute the level of adverse impact or any proposed mitigation measures from subclause (b) above, then either party may refer the matter to the Director-General in consultation with SSC and MSC. If the matter cannot be resolved within 21 days, the Director-General shall refer the matter to an Independent Dispute Resolution Process. The decision of the Independent Dispute Resolution Process shall be final, as agreed by the Director-General.

### **3.8 Final Void Management Plan**

The Applicant shall, by year 5 of operations, prepare a Final Void Management Plan to the satisfaction of the Director-General, in consultation with the DMR, DLWC, SSC and MSC. The Plan shall be reviewed and updated every 5 years, or as otherwise agreed by the Director-General. The Plan shall include, but not be limited to, the following:

- (i) an investigation of options for future use of the final voids;
- (ii) a re-examination and validation of groundwater modelling of the potential effects on the local and regional groundwater;
- (iii) details of a strategy for the long term management of the final voids;
- (iv) implement strategies to minimise any adverse impacts where the assessment indicates the potential for degradation to surrounding water resources; and
- (v) programs for catchment management, including the types of fertilisers used in the rehabilitation programs to ensure that there is little residual risk of nutrient enrichment of final void water.

### **3.9 Bushfire and other Fire Controls**

The Applicant shall:

- (i). provide adequate fire protection works on site, including the availability of trained personnel, water tankers and fire fighting equipment;
- (ii). undertake annual hazard reduction measures with particular attention to boundaries of adjoining landholdings; and
- (iii). within 12 months of the grant of development consent prepare a Bushfire Management Plan for the DA area to the satisfaction of SSC, MSC and the Rural Fire Service.

### **3.10. Land Management**

- (a) The Applicant shall within 12 months of development consent prepare a Land Management Plan for the DA area to provide for proper land management in consultation with DLWC, SSC, MSC and DMR, and to the satisfaction of the Director-General. The plan shall include, but not be limited to:
  - (i). management proposals for pastures and remnant vegetation;
  - (ii). clear illustration of the design of rehabilitated landforms and the final landform
  - (iii). prevention and rehabilitation of land degradation;
  - (iv). mechanisms to ensure that the diminution of higher land capability classes on the site does not occur, including specific strategies for the rehabilitation of the areas of cropping land of capability classes of I-IV. Details must be provided to explain how land capability classes are to be maintained, and how integration of woodland/forest cover with pasture land is to be provided for fauna corridors and linkages to densely forested areas, microclimate and agricultural land use.
  - (v). progressive reshaping of slopes to less than 10 degrees in drainage lines, unless otherwise indicated in an accepted Mining Operations Plan for the DA area;
  - (vi). progressive rehabilitation of disturbed areas;
  - (vii). feral animal control;



- (viii). proposals for weed and vermin control, including development and implementation of an eradication plan; regular inspections to identify areas of weed infestation; maintenance of regular contact with neighbouring property owners; and regular maintenance of topsoil stockpiles to eradicate weed infestation;
  - (ix). procedures to ensure that all suitable topsoil is recovered during Mining Operations and properly managed to maintain its quality prior to resspreading over areas of rehabilitation. This shall include details of a strategy for controlling weeds in top soil stockpiles, particularly with respect to *Galenia*;
  - (x). consideration of any adverse characteristics in the overburden material on the land rehabilitation program; and
  - (xi). a quantification of the requirements for topsoiling of all rehabilitated lands and a calculation of any deficit in the available topsoil.
- (b) The Applicant shall as far as practicable minimise the removal of trees and other vegetation required for the construction/ relocation of infrastructure or other activities associated with the Project. Such clearance shall be restricted to the areas occupied by mine activity, buildings, access routes, infrastructure, paved surfaces and those areas necessary for fire control in accordance with SSC and/ or MSC requirements.

### **3.11 Relocation of Electrical Transmission Lines**

The Applicant shall, to the satisfaction of Energy Australia and at its own cost, or by agreement with relevant parties, undertake the relocation and/ or construction of any electrical transmission lines which may be required as a result of the proposed development. Such works shall be completed prior to any existing lines being affected by mining activity associated with the Project.



## 4. Water Management and Monitoring

### 4.1 Surface & Ground Water Management Plans

- (a). The Applicant shall prepare a Site Water Management Plan for the DA area within 12 months of development consent being granted, in consultation with DLWC, SSC, MSC and DMR, and to the satisfaction of the Director-General and DLWC. The Plan shall include, but not be limited to the following matters:
- (i) <sup>6</sup>a review of the issues that need to be managed in relation to identified impacts that the Project may have on any aquifer, groundwater dependant ecosystems and any water resources in the DA area;
  - (ii) management of the quality and quantity of surface and groundwater within the areas covered by the water management plans;
  - (iii) <sup>7</sup>proposals to manage potential short-term and long-term impacts on the groundwater resource and their dependant ecosystems, particularly with respect to the alluvial groundwater resources of Bowmans Creek, final voids and the reject areas;
  - (iv) <sup>8</sup>development of a Stormwater Management Scheme to mitigate the impacts of storm water runoff from and within the premises, in accordance *Managing Urban Stormwater : Council Handbook*. This must include management of stormwater and general surface run-off diversion to ensure separate effective management of clean and dirty water, a consideration of the separation of heavily contaminated waters including those containing oil, grease or other pollutants, and the containment of sediment laden run-off from around the surface facilities;
  - (v) measures to prevent the degradation of downstream surface water quality due to Mining Operations below a criteria to be determined in consultation with and to the satisfaction of DLWC, particularly in the unnamed creeks and ephemeral watercourses in the area;
  - (vi) <sup>9</sup>outline of a methodology and rationale demonstrating how mining operations do/will not cause the quality of the groundwater to deteriorate below unacceptable water quality limits in the medium to long term.  
Acceptable water quality limits for these purposes means:
    - that the beneficial value of groundwater remains unchanged, and
    - that water quality changes attributable to mining activity will not lead to an irreversible or significant impact on the environment;
  - (vii) procedures, as far as practicable, to reduce any leakage of water from Bowmans Creek and its alluvium to the upper seam areas of the Liddell/ Hazeldene underground workings;
  - (viii) measures to ensure that poorer quality class waters are effectively reused on the site, where practicable, including consideration of segregation of waters based on salinity classes and other levels of contamination;
  - (ix) details of design and maintenance of all storages, diversion bank, transmission channels and sedimentation basins for the site, to minimise sedimentation of watercourses. Particular reference must be given to the clean water diversion around the active mining area and Dam 13B, and the areas to which such water will be diverted;
  - (x) contingency plans for managing adverse impacts of the development on surface and groundwater quality;
  - (xi) contingency measures for salinity mitigation should the monitoring program (Condition 4.2) identify that any sustained increase in the salinity of Bowmans Creek is attributable to activities associated with the Project;
  - (xii) details of a strategy for the decommissioning of water management structures;
  - (xiii) strategic planing for the cooperative management of water between affiliated operations;
  - (xiv) ongoing development of an arrangement with other mining operations to supply surplus water from Liddell Colliery during the dry periods when other operations may have a water deficit;
  - (xv) details of any licensing requirements for any extractions, storages, or other constructions on the site;

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<sup>6</sup> DLWC General Terms of Approval

<sup>7</sup> DLWC General Terms of Approval

<sup>8</sup> EPA General Terms of Approval

<sup>9</sup> DLWC General Terms of Approval



- (xvi) projection of potential groundwater changes during mining (short term) and post-mining (long term) with particular attention given to the effect of changes to groundwater quality and mobilisation of salts;
  - (xvii) an assessment of water make and usage, particularly to facilitate planning for new water storages as required;
  - (xviii) procedures to provide for the verification of the water balance models throughout the operation of the Project, particularly to clarify the level of water make which is occurring through drainage of the alluvium of Bowmans Creek and the flooded workings; and
  - (xix) a program for reporting on the effectiveness of the water management systems and performance against objectives contained in the approved site water management plans and EIS.
- (b). <sup>10</sup>All works are to be designed and constructed such that there is no detrimental change in hydraulic behaviour, causing sedimentation, erosion, reduction in waterway or permanent diversion or pollution of the watercourse.
- (c). <sup>11</sup>The Applicant shall ensure, to the satisfaction of DLWC, that the works associated with the proposal shall not damage or interfere in any way with:
- (i). vegetation on protected land outside the area of the works;
  - (ii). the stability of adjacent or nearby watercourse bank or bed; and
  - (iii). the quality of water in the watercourse.
- (d). <sup>12</sup>The Applicant shall be responsible for the stabilisation and progressive rehabilitation of the works and all areas affected by those works, in consultation with DLWC.
- (e). <sup>13</sup>The Applicant shall be responsible for any excavation or removal of material undertaken by any person or company within the DA Area with respect to any activities associated with this DA and/ or consent.
- (f). <sup>14</sup>The Applicant shall ensure that any displaced materials are stabilised or relocated and made secure so that these materials will not detrimentally affect any watercourse or riparian area.
- (g). Construction of Culverts  
The Applicant shall ensure that:
- (i). <sup>15</sup>the construction of the crossing of Bayswater Creek is in accordance with the "Policy and Guidelines for Bridges, Roads, Causeways and Similar Structures" (NSW Fisheries, 1999).
  - (ii). <sup>16</sup> the erosion of the bed and banks upstream and downstream is prevented with suitable scour protection; and
  - (iii). <sup>17</sup>the structure does not adversely impact upon the hydraulics of the watercourse.
- (h). Provision of fencing  
<sup>18</sup>The Applicant is required to provide fencing where possible to:
- (i). Manage stock access to the watercourse(s) to minimise bank erosion; and
  - (ii). Establish/ maintain riparian (riverine) corridor vegetation to reduce soil erosion and to encourage habitat regrowth and integrity.
- (i). Concentration limits  
<sup>19</sup> The EPA will include conditions in the licence permitting staged water discharge from Dam 13B generally in accordance with Table 1 of the report titled "Response to EPA Request for Additional Information" (dated February 2002) and the Hunter River Salinity Trading Scheme. The licence condition will:

<sup>10</sup> DLWC General Terms of Approval

<sup>11</sup> DLWC General Terms of Approval

<sup>12</sup> DLWC General Terms of Approval

<sup>13</sup> DLWC General Terms of Approval

<sup>14</sup> DLWC General Terms of Approval

<sup>15</sup> DLWC General Terms of Approval

<sup>16</sup> DLWC General Terms of Approval

<sup>17</sup> DLWC General Terms of Approval

<sup>18</sup> DLWC General Terms of Approval



- (i) limit the volume of water discharged to Chain of Ponds creek under certain conditions;
- (ii) limit the concentration of non-filtrable residue in waste waters discharged to Chain of Ponds Creek; and
- (iii) limit the pH of wastewaters that may be discharged to Chain of Ponds Creek.

## 4.2 Surface and Groundwater Monitoring

(a). <sup>20</sup>The Applicant shall prepare a Surface and Groundwater Monitoring Plan for the DA area within 12 months of development consent being granted, in consultation with DLWC. The monitoring program shall satisfy the requirements of DLWC and shall be reviewed after five years of mining operations to ensure its adequacy;

This monitoring program shall include:

- the establishment of a groundwater monitoring program to establish background water quality and assess short and long term environmental impact associated with the Mining Operations and other associated groundwater works.
  - prepare a detailed monitoring program in respect of surface water quality and quantity, including water in and around the DA area during mining works and post mine operations. The program shall be developed in consultation with DLWC, and to the satisfaction of the Director-General and DLWC.
- (b). The Monitoring Program shall have the capacity to collect sufficient data to adequately assess:
- (i). the impact of any licensed groundwater extraction on groundwater levels on neighbouring properties and in the locality, and to identify any water quality impacts;
  - (ii). <sup>21</sup>long term effects of any seepage from the mine tailings, specifically to identify any leachate from the spoils and to monitor any leachate from the spoils and to monitor any change in the quality of water in the alluvial flats between the river and eastern spoil emplacement.
  - (iii). <sup>22</sup>cumulative impacts of mining on the local and regional groundwater regime, including the contribution from the Project
  - (iv). <sup>23</sup>monitor changes in surface water quality which may result from the impact of the mining operations on groundwaters, and describe any remedial action which may be required to minimise these changes.
- (c). (i). The Applicant shall incorporate into the Site Water Management Plan details of the monitoring program for both surface water and groundwater. The monitoring program shall include:
- the duration of the program (pre, during and post mining);
  - sites to be sampled;
  - frequency of sampling;
  - the parameters to be measured (including but not limited to the location and depths of aquifers and any groundwater-dependent ecosystems);
  - the depth of bore construction;
  - the need for any contingency plans;
  - <sup>24</sup>the analysis of data and the reporting procedure, including mechanisms to transfer monitoring data from the mine to DLWC data base and to produce annual reports with interpreted results; and
  - determination of appropriate criteria for monitoring purposes determined in consultation with DLWC.

The results of the monitoring program shall be reported in the AEMR. The post-mining monitoring program shall be prepared no later than one year prior to the cessation of Mining Operations.

(ii) The Applicant shall report on the monitoring results and raw data in the AEMR on the following matters:

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<sup>19</sup> EPA General Terms of Approval

<sup>20</sup> DLWC General Terms of Approval

<sup>21</sup> DLWC General Terms of Approval

<sup>22</sup> DLWC General Terms of Approval

<sup>23</sup> DLWC General Terms of Approval

<sup>24</sup> DLWC General Terms of Approval



- a basic statistical analysis (mean, range, variance, standard deviation) of the results for the parameters measured in individual bores/wells and as a subset of the aquifer;
- an interpretation of the water quality results and changes in time for water quality and water levels (supported with graphs, contour plots showing changes in aquifer pressure levels);
- an interpretation and review of the results in relation to cut-off criteria and predictions made in the EIS;
- an interpretation of the water balance identifying the volume and make up of mine pit inflows as compared to Part V licence (required under Part V of the Water Act 1912), and predictions made in the EIS on previous AEMR; and
- provide an electronic copy of the data forwarded to DLWC.

(d). Requirement to monitor wastewater discharges

<sup>25</sup>The Applicant shall monitor the discharge of water as required by the EPA. This shall include.

- (i) installation of monitoring equipment at the authorised discharge point licensed by the EPA to enable full compliance with the monitoring requirements of the Hunter River Salinity Trading Scheme (refer to Table 1).

**Table 1.** Description of monitoring point

<b>EPA Identification No.</b>	<b>Type of monitoring point</b>	<b>Type of discharge point</b>	<b>Description of location</b>
2	Water discharge to Chain of Ponds Creek under the Hunter River Salinity Trading Scheme	Water discharge under the Hunter River Salinity Trading Scheme	At a point in Chain of Ponds Creek to be determined when a licence variation application is submitted to the EPA

- (ii) <sup>26</sup>The following parameters must be measured continuously at the authorised discharge point during discharge:

- the volume of the wastes discharged in megalitres per day;
- the conductivity of the wastes discharged in microSiemens per centimetre;
- non-filterable residue in milligrams per litre; and
- pH.

- (iii) <sup>27</sup>The following must be measured in the receiving waters at locations and frequencies to be determined by the EPA at the licence variation application stage:

- Non-filterable residue in milligrams per litre;
- pH; and
- Conductivity.

- (iv). <sup>28</sup>The Applicant must otherwise monitor waters and any discharge as specified by the HRSTS and as set out in an environment protection licence issued by the EPA.

<sup>25</sup> EPA General Terms of Approval

<sup>26</sup> EPA General Terms of Approval

<sup>27</sup> EPA General Terms of Approval

<sup>28</sup> EPA General Terms of Approval



- (v) <sup>29</sup>The results of continuous monitoring required by condition 4.2(b)(ii) must be forwarded via the Hunter Integrated Telemetry System (HITS) to the regional water quality monitoring network operated by the NSW Department of Land and Water Conservation (DLWC).

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<sup>29</sup> EPA General Terms of Approval



## **5. Waste Management and Overburden Management**

### **5.1 Overburden Emplacement and Management**

- (a) The Applicant shall construct and manage the overburden emplacements as set out in the EIS, and to the approval of the DMR.
- (b) The Applicant shall undertake measures, as far as practical, to prevent spontaneous combustion from occurring on the site, in accordance with the Spontaneous Management Plan required under Condition 2.2.
- (c) The Applicant must not cause, permit or allow any waste generated outside the premises to be received at the premises for storage, treatment, processing, reprocessing or disposal or any waste generated at the premises to be disposed of at the premises, except as expressly permitted by a licence under the *Protection of the Environment Operations Act 1997*.

This condition only applies to the storage, treatment, processing, reprocessing or disposal of waste at the premises if it requires an environment protection licence under the *Protection of the Environment Operations Act 1997*.

- (d)
  - (i). The Applicant shall reuse, recycle or dispose of all waste (including but not limited to solid waste, liquid waste and putrescible matter) from the site to the satisfaction of SSC, MSC or EPA, as relevant.
  - (ii). The Applicant shall dispose of all solid waste and putrescible matter from the sites to the satisfaction of SSC, MSC or EPA, as relevant.
  - (iii). The Applicant shall dispose of all treated sewage and sullage to the satisfaction of SSC or MSC in accordance with the EPA License.

### **5.2 Waste Management**

Within 12 months of the grant of development consent the Applicant shall prepare a Waste Management Plan for the DA area in consultation with SSC, MSC and to the satisfaction of the Director-General. The Plan shall include but not be limited to:

- i. details of measures to facilitate waste management on site;
- ii. details of compliance with the Applicant's obligations under the Protection of the Environment Operations Act (1997);
- iii. identification of all types and quantities of waste materials produced at the mine site during construction, commissioning and operation of the Project;
- iv. programs aimed at minimising production of waste at the mine site through the implementation of operational and management measures;
- v. details of the potential reuse and recycling avenues for waste materials produced at the mine site, including collection and handling procedure;
- vi. details of appropriate disposal routes in the event that reuse and recycling avenues are not available or are not practicable; and
- vii. programs for involving and encouraging employees and contractors to minimise waste production at the mine site and reuse/ recycling where appropriate



## 6. Air Quality, Blast, Noise and Light Management and Monitoring

### 6.1. Air Quality Management and Monitoring

#### 6.1.1. (a). Air Quality Standards/Goals

The Applicant shall manage the Project so as to satisfy the relevant EPA air quality criteria for dust deposition and dust concentration in Table 2, Table 3 and Table 4 below.

**Table 2.** Long Term Particulate Matter Criteria

POLLUTANT	CRITERION	AGENCY
Total Suspended Particulate Matter (TSP)	90ug/m <sup>3</sup> (annual mean)	NH & MRC
Particulate matter < 10um (PM <sub>10</sub> )	30 ug/m <sup>3</sup> (annual mean)	NSW EPA

**Table 3.** Short Term Particulate Matter Criterion

POLLUTANT	CRITERION	AGENCY
Particulate matter < 10um (PM <sub>10</sub> )	50ug/m <sup>3</sup> (24 hr average)	NSW EPA

**Table 4.** Long Term Criteria for Dust Fallout

POLLUTANT	AVERAGING PERIOD	MAXIMUM INCREASE IN DEPOSITED DUST LEVEL	MAXIMUM TOTAL DEPOSITED DUST LEVEL
Deposited dust	Annual	2 g/m <sup>2</sup> /month	4 g/m <sup>2</sup> /month

Note: dust is assessed as insoluble solids as defined by AS 3580.10.1-1991 (AM-19)

#### 6.1.2. Dust Management Plan

(a). The Applicant shall, within 6 months of development consent being granted, prepare a Dust Management Plan for the DA area to address and manage the dust impacts generated by, or associated with, the Project. This plan shall detail procedures for dealing with dust emissions from the construction and operation of the Project to the satisfaction of the Director-General. The Plan shall be prepared in consultation with the SSC and MSC and shall be updated as required by the Director-General. The Plan shall include, but not be limited to, details of:



- (i) the identification of properties which will be affected by dust generated by the mine in accordance with the criteria detailed in condition 6.1.1;
- (ii) specifications of the procedures that will be used for monitoring dust deposition, PM<sub>10</sub> and TSP for the purpose of undertaking independent investigations, including any joint investigations with nearby mines;
- (iii) outline the procedure to notify property owners and occupiers as identified in the EIS or by monitoring as likely to be affected by dust generated by the mine in excess of criteria detailed in condition 6.1.1;
- (iv) mitigation measures to be employed to minimise dust emissions during both the construction and operation phases. This should include predictive and reactive mitigation measures to be employed to minimise dust emissions including visible dust emanating from the site;
- (v) methods to determine when and how the mine operation is to be modified to minimise the potential for dust emissions, particularly from surface activities;
- (vi) the establishment of a protocol for handling dust complaints that include recording, reporting and acting on complaints;
- (vi) appropriate mechanisms for community consultation;
- (vii) methods and frequency of making dust monitoring data publicly available such as the placement of monitoring details and results on the internet;
- (vii) equipment to be available and used to control dust generation;
- (viii) a program to continue baseline monitoring undertaken prior to development consent;
- (ix) a program to undertake ambient monitoring of TSP, PM<sub>10</sub> concentrations and dust deposition rates at nearest sensitive receptors, including details of locations and frequency of ambient TSP and PM<sub>10</sub> monitors and dust deposition gauges at the residential areas as agreed by the Director-General; and
- (x) as far as practicable details of the interrelationships of this plan with the dust management plans with other mining operations in the vicinity.

(b). The Plan shall also include a procedure to address potential dust impacts on residential tenants, which is to be prepared in consultation with EPA, NSW Health, landowners of affected residences in Table 5 and the operators of other mining/ industrial operations contributing to the impacts.

**Table 5** Properties at which a procedure shall be developed to address health concerns of tenants.

Location	Landowner*	Parent company*
3	Ravensworth East	Xstrata
15	Scriven <sup>#</sup>	
17	NovaCoal Australia	Coal and Allied
18	Hunter Valley Coal Corporation	Xstrata
19	Hunter Valley Coal Corporation	Xstrata
20	Hunter Valley Coal Corporation	Xstrata
21	Ravensworth East	Xstrata
22	Hunter Valley Coal Corporation	Xstrata
23	Glendell Joint Venture	Xstrata
24	Glendell Joint Venture	Xstrata
25	Glendell Joint Venture	Xstrata
26	Glendell Joint Venture	Xstrata
27	Glendell Joint Venture	Xstrata

<sup>#</sup> agreement is required if a residence is constructed on the property

\* at date of development consent being granted

The procedure shall:

- (i) ensure that all existing tenants of identified properties are advised in writing of the increase to fine particulate levels likely to occur at those locations during the operational life of the mine and that these



- increases are likely to result in exceedences of the criteria in condition 6.1.1. Information shall also be provided to the residents on the available research relating to the health effects of fine particulate matter;
- (ii) ensure that all potential tenants are advised in writing of the increase to the fine particulate matter likely to occur at that location during the operational life of the mine prior to signing a residential tenancy agreement to occupy the residence. This advice must ensure that such tenants are aware that increases in emissions are likely to result in exceedences of the criteria in condition 6.1.1. Information shall also be provided to the residents on the available research relating to the health effects of fine particulate matter;
  - (iii) ensure that the advice provided to current and future tenants is based on current knowledge of ambient air quality monitoring, dispersion modelling results and air quality criteria; and,
  - (iv) provide a mechanism for providing current ambient air quality monitoring data, dispersion modelling results and air quality criteria to the residents of these affected residences.

### 6.1.3. Air Quality and Dust Monitoring

(a) The Applicant shall:

- (i) <sup>30</sup>monitor dust deposition and the concentration of total suspended particulate matter and of PM<sub>10</sub> particulate matter in accordance with a Dust Monitoring Plan submitted to the EPA with an application for a licence variation. The Environment Protection Licence will include conditions specifying the location, frequencies and methods used to monitor air emissions. The results of this monitoring and reporting are to be incorporated into the AEMR;
- (ii) include sites for monitoring impacts of dust at the nearest non-mine owned residences and locations as may be determined to be necessary by the Director-General and in accordance with the Dust Management Plan referred to in Condition 6.1.2(a); and
- (iii) provide reporting once every 12 months on the performance of the control measures and of the monitoring system detailed in the EIS and conditions of this consent, unless otherwise agreed by the Director-General. The reports shall be included in the AEMR and provided to the Director-General, CCC, SSC and MSC within fourteen days of completion of the report.

(b) Exceedence of Dust Criteria / Goals

In the event that:

- a landowner or occupier considers that dust from the Project at his/her dwelling is in excess of the criteria detailed in Tables 2, 3 and 4 above; or,
- a landowner, having selected a suitable site for a dwelling on his/her vacant land, considers that dust from the Project at his/her future dwelling would be in excess of the criteria detailed in Tables 2, 3 and 4 above,

and the Director-General is satisfied that an investigation is required, the Applicant shall upon the receipt of a written request from the landholder:

- (i) consult with the landowner or occupant affected to determine his/her concerns;
- (ii) after consulting as far as reasonably practicable with the other mines in the vicinity, including Ravensworth East and Mt Owen, make arrangements for, and bear the costs of appropriate independent dust investigations in accordance with the Dust Management Plan, and to the satisfaction of the Director-General, to quantify the impact and determine, as far as practicable the source of the effect and contribution of the Project;
- (iii) modify the mining activity or take other steps in accordance with the Dust Management Plan if exceedences are demonstrated by the independent investigations to result in part from the Project related activity. This may include:

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<sup>30</sup> EPA General Terms of Approval



- 1) introduction of additional controls, either of dust generation from individual sources on the site or on site operations, or modify operations to attempt to ensure that the dust criteria are achieved; and/or;
  - 2) negotiate, as far as reasonably practicable, an agreement with the landowner or provide such forms of benefit or amelioration of the impact of dust as may be agreed between the parties as providing acceptable compensation for the dust levels experienced.
- (iv) conduct follow up investigation(s) to the satisfaction of the Director-General, where necessary.

**Note:** Vacant land in this condition means the whole of the lot in a current plan registered at the Land Titles Office as at the date of this consent that does not have a dwelling situated on the lot and is permitted to have a dwelling on that lot.

- (c) If the independent dust investigations in sub-clause (b) above confirm that dust levels from the Project alone are in excess of the relevant criteria detailed in Tables 2 and 4 above, and if the measures in sub-clause (b)(iii) (1) above do not reduce the dust levels below the criteria in Tables 2 and 4 above, or if agreement in accordance with sub-clause (b)(iii) (2) above cannot be reached, the Applicant shall at the written request of the owner acquire the relevant property. Acquisition shall be in accordance with the procedures set out in Condition 11.1.
- (d) If the independent dust investigations in sub clause (b) above confirm that other mining activity in the vicinity of the project and the Project is contributing to the cumulative dust levels in excess of the criteria as described in sub-clause (c) above, the Applicant shall contribute to the purchase of an affected property at the written request of the landholder, in accordance with the Joint Acquisition Management Plan (refer to condition 11.3).

Should the Applicant not be able to formulate a Joint Acquisition Management Plan in accordance with Condition 11.3, the Applicant shall at the written request of the owner acquire the relevant property. Acquisition shall be in accordance with the procedures set out in Condition 11.1

- (e) If the independent dust investigations in subclause (b) above confirm that ambient dust levels at the residence or proposed residence are in excess of the relevant criteria detailed in Table 3 above, and if the measures in condition 6.1.3 (b)(iii) above do not reduce the dust levels below the criteria in Table 3, or if agreement in accordance with condition 6.1.3 (b)(iii)(2) above cannot be reached, the Applicant shall, assess ambient dust levels and the incremental contribution of the Project to ambient dust levels as set out in Table 6 below:

Table 6 - Short Term Particulate Matter Acquisition Criteria

POLLUTANT	CRITERIA	AGENCY
Particulate matter < 10um (PM <sub>10</sub> )	50 ug/m <sup>3</sup> (incremental contribution of the Project to ambient levels)	NSW EPA
Particulate matter < 10um (PM <sub>10</sub> )	150 ug/m <sup>3</sup> (cumulative)	US EPA

If the independent dust investigations in subclause (b) above confirm that ambient dust levels at the residence or proposed residence are in excess of either of the relevant criteria detailed in Table 6 above the Applicant shall, at the written request of the owner, acquire the relevant property. Acquisition shall be in accordance with the procedures set out in conditions 11.1.



In the case of cumulative dust levels in excess of the criteria in Table 6, should the Applicant form an agreement with the relevant contributing parties under a Joint Acquisition Management Plan pursuant to Condition 11.3, the Applicant shall purchase an affected property in accordance with this Plan. Should a Joint Acquisition Management Plan not be prepared between the relevant contributing parties, the Applicant shall acquire the property in accordance with condition 11.1.

- (f). If continued complaints and dust investigations confirm that ambient air quality criteria in Table 3 are being exceeded, but are less than the ambient dust levels in Table 6, the Applicant shall continue to negotiate with the landowner, and other nearby mines where relevant, until a resolution to the satisfaction of the Director General is reached.
- (g). If a landowner disputes any dust mitigation or other measures proposed by the Applicant in accordance with subclause (b) above, the matter shall be referred by either the Applicant or landowner to the Director-General in consultation with SSC. If the matter cannot be resolved within 21 days, the matter shall be referred to the Independent Dispute Resolution Process.
- (h). Further independent investigation(s) shall cease if the Director-General is satisfied that the relevant criteria in Tables 2 , 3 and 4 are not being exceeded and are unlikely to be exceeded in the future.
- (i). Monitoring for the concentration of a pollutant emitted to the air required to be conducted by a licence under the Protection of the Environment Operations Act 1997, in relation to the development or in order to comply with a relevant local calculation protocol must be done in accordance with:
  - any methodology which is required by or under the *Protection of the Environment Operations Act 1997* to be used for the testing of the concentration of the pollutant;
  - if no such requirement is imposed by or under the *Protection of the Environment Operations Act 1997*, any methodology which the condition of the licence or the protocol (as the case may be) requires to be used for that testing; or
  - if no such requirement is imposed by or under the *Protection of the Environment Operations Act 1997* or by a condition of the licence or the protocol (as the case may be), any methodology approved in writing by the EPA for the purposes of that testing prior to the testing taking place.

## **6.2. Dust Suppression and Control**

- (a). The Applicant shall ensure the prompt and effective rehabilitation of all disturbed areas of the DA area following the completion of mining and associated activities in that area to minimise the generation of wind blown dust.
- (b). Activities occurring at the premises must be carried out in a manner that will minimise emissions of dust from the premises.

## **6.3 Blast Management and Monitoring**

### **6.3.1 Blasting criteria and limits**

- (a). Time of blasting

<sup>31</sup>Blasting operations on the premises may only take place between 9.00am and 5.00pm Monday to Saturday inclusive, unless permission is granted by the DMR district inspector of coal mines where special circumstances related to the safety of the mine requires a blast to be initiated outside these hours.

- (b). Overpressure

The overpressure level from blasting operations on the premises must not:

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<sup>31</sup> EPA General Terms of Approval



- (i) Exceed 115dB (Linear Peak) for more than 5% of the total number of blasts over a period of 12 months; and
- (ii) Exceed 120dB (Linear Peak) at any time,

when measured at any point that is located at least 3.5m from any building or structure at any nearby residential property or other noise sensitive location such as a school or hospital, unless otherwise agreed in writing with the landholder of the affected residence.

(c). Ground vibration (ppv)

Ground vibration peak particle velocity from the blasting operations at the premises must not:

- (i) Exceed 5mm/s for more than 5% of the total number of blasts over a period of 12 months; and
- (ii) Exceed 10mm/s at any time,

when measured at any point within the grounds of noise sensitive locations and within 30m of any residence or other noise sensitive location such as a school or hospital, unless otherwise agreed in writing with the landholder of the affected residence.

(d). Vibration Limits at other structures

The Applicant shall ensure that vibration at the following structures shall not exceed the vibration limits provided in Table 7, unless agreed by the relevant agency.

**Table 7.** Vibration limits for structures

Structure	Vibration Limit (mm/s)
Rail Embankment	200
Rail cutting	200
Rail culvert	20
Rail overbridge	25
Concrete power poles	50
Lake Liddell dam wall	25

(e). Chain of Ponds Hotel

- (i). The Applicant shall undertake blast monitoring at the Chain of Ponds Hotel, at a frequency to be determined in consultation with DMR and NSW Heritage, and to the satisfaction of the Director-General. The Applicant shall implement permanent blast monitoring to record vibration and airblast at such time as the vibration levels reach 1.5mm/s.
- (ii). Prior to the exceedence of vibration levels of 2mm/s, the Applicant shall undertake a structural assessment of the former Chain of Ponds Hotel, in consultation with DMR and NSW Heritage to determine the appropriate blast limits to be maintained for all future operations.

(f). Residences

The Applicant shall investigate any vibration problem(s) associated with above ground floor level of residential buildings which occur as a result of blasting at the mine in relation to the standards in Condition (6.3.1 (b) and (c)) above. Should such an investigation be necessary the Applicant shall advise the Director-General the result of such investigation and any proposed preventive/remedial measures.

### 6.3.2 Blasting/ Vibration Management Plan

- (a). The Applicant shall prepare and implement a Blasting/Vibration Management Plan to the satisfaction of the Director-General, in consultation with EPA, Rail Infrastructure Corporation, Energy Australia, and



NSW Dams Safety Committee within 12 months of development consent. The Plan must include, but not be limited to, the following matters:

- i) compliance standards;
- ii) mitigation measures;
- iii) remedial action;
- iv) monitoring methods and program;
- v) monitoring program for flyrock distribution;
- vi) measures to be undertaken to demonstrate that the Project is achieving best practice in minimising air blast overpressure, ground vibration levels, fumes and odours from blasting activities;
- vii) measures to protect underground utilities (eg: rising mains, subsurface telecommunication and electric cables, irrigation lines) and livestock on non-mine owned land;
- viii) measures to protect surface infrastructure where relevant, such as dams, rail infrastructure, power poles and the Lake Liddell dam wall;
- ix) measures to consider the blasting activities from other neighbouring mines. This shall include details of the proposed measures to ensure that cumulative blast related impacts are managed, such as through consultation with the other mines to co-ordinate blasting activities;
- x) procedures for the investigation of blast related complaints from the Project, in consultation with other mines in the event of cumulative related impacts;
- xi) procedures for the notification of occupiers of buildings and residents prior to detonation of each blast; and
- xii) measures to ensure no damage by flyrock to people, property, livestock and powerlines.

(b) The Applicant shall, as a minimum, advise occupiers of buildings and residents, unless otherwise requested by the occupier, within three (3) kilometres of blasting locations of future blasting events on at least a monthly basis, and of any changes to the proposed blast program.

(c) Upon written request of the owner of any dwellings located within three (3) kilometres of the blasting locations, the Applicant shall arrange at its own costs, for the inspection by a technically qualified person agreed to by both parties, to record the material condition of any structure on such property within 14 days of receipt of the request. The Applicant shall supply a copy of any inspection report, certified by the person who undertook the inspection, to the relevant property owner within fourteen (14) days of receipt of the report.

### **6.3.3. Blast Monitoring**

- (a) <sup>32</sup>The applicant must monitor ground vibration and overpressure of all blasts at locations in accordance with the Blast Management Plan.
- (b) Ground vibration or the overpressure must be measured at noise sensitive sites (eg. residences, hospitals, schools etc), selected in consultation with the EPA.
- (c) The Applicant must document the date, location of blast holes and the quantity of explosive used for each blast.

## **6.4 Noise Control**

### **6.4.1 Noise Criteria**

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<sup>32</sup> EPA General Terms of Approval



- a. <sup>33</sup>The Applicant shall ensure that noise generated by the Project does not exceed  $L_{Aeq(15 \text{ minute})}$  35 dB(A) at all residences that are not the subject of a private agreement between the Applicant and the owner of the residence as to an alternative noise limit.
- b. <sup>34</sup>The Applicant shall ensure that noise generated by the Project does not exceed  $L_{A1(1 \text{ minute})}$  45 dB(A) between the hours of 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays at all residences that are not the subject of a private agreement between the Applicant and the owner of the residence as to an alternative noise limit.
- c. <sup>35</sup>The Applicant shall ensure that compliance with the  $L_{Aeq(15 \text{ minute})}$  noise limit in condition 6.4.1(a) noise from the premises is to be measured within 30 m of the subject dwelling, or at such other location as approved by the EPA in writing.
- d. <sup>36</sup>To determine compliance with the  $L_{A1(1 \text{ minute})}$  noise limit in condition 6.3.1(b), noise from the premises is to be measured within 30 m of the subject dwelling, or at such other location as approved by the EPA in writing.
- e. <sup>37</sup>The noise emission limits identified in conditions 6.3.1(a) and 6.3.1(b) apply under meteorological conditions of:
  - wind with speeds up to 3 m/s at 10 metres above ground level averaged over the respective noise measuring T period; and
  - temperature inversion conditions of up to 3°C/100m.

#### **6.4.2. Area of Affection**

The area of noise affection during Mining Operations is defined by demonstrated exceedence of  $L_{Aeq(15 \text{ minute})}$  40dBA under the following meteorological conditions:

- wind with speeds up to 3 m/s at 10 metres above ground level averaged over the respective noise measuring T period; and
- temperature inversion conditions of up to 3°C/100m.

#### **6.4.3 Landowner agreement for alternative noise criteria**

The applicant must enter into an agreement as to an alternative noise limit with all landowners identified in Table 8, other than the Applicant. The agreements must be finalised within 6 months of development consent being granted.

**Table 8** Landowners subject to alternative noise criteria

Location	Landowner*	Parent company*
3	Ravensworth east	Xstrata
15	Scriven <sup>#</sup>	-
16	Liddell Joint Venture	Xstrata
17	Novacoal Australia	Coal & Allied
21	Ravensworth East	Xstrata

\* at date of development consent being granted

<sup>#</sup> agreement is required if a residence is constructed on the property

#### **6.4.4. Request for independent monitoring and acquisition**

##### **(a). Monitoring and management**

<sup>33</sup> EPA General Terms of Approval

<sup>34</sup> EPA General Terms of Approval

<sup>35</sup> EPA General Terms of Approval

<sup>36</sup> EPA General Terms of Approval

<sup>37</sup> EPA General Terms of Approval



In the event that:

- a landowner or occupier of a non-mined owned property considers that noise from the Project is in excess of the noise level criteria of 35dBA; as specified in condition 6.4.1 (a) or
- that a landowner, having selected a suitable site for a dwelling on his/her vacant land, considers that noise from the Project at his/her future dwelling would be in excess of 35dBA as specified in Condition 6.4.1 (a);

and the Director-General is satisfied that an investigation is required, the Applicant shall upon the receipt of a written request from the landowner:

- i. consult with the landowner or occupants affected to determine their concerns;
- ii. make arrangements for, and bear the costs of, following consultation as far as reasonably practicable with other mine operations in the vicinity where necessary, appropriate independent noise investigations in accordance with the Noise Management Plan to the satisfaction of the Director-General, to quantify the impact and determine the source of the effect and the contribution of the Project to the effect;
- iii. modify the mining activity in accordance with a noise reduction plan prepared as part of the Noise Management Plan, if exceedence are demonstrated by the investigation to result in part from the mine related activity. This shall include:
  - introduction of additional controls, either on noise emission from individual sources on the site or on site operations or modify operations, to ensure that the noise criteria is satisfied;
  - seek agreement of the landowner, and in the case of the cumulative impacts the other relevant mines/industrial operations, to undertake noise mitigation measures at the dwelling to achieve the acceptable internal noise levels;
  - seek agreement of the landowner, and in the case of cumulative impacts with the other relevant mines/ industrial operations in the area and the landowner, to provide such other forms of benefit or amelioration of the impacts of noise as may be agreed between the parties as providing acceptable compensation for the noise levels experienced.
- iv. conduct follow up investigations to the satisfaction of the Director-General, where necessary.

(b). Acquisition

(i). If the independent noise investigation(s) in sub clause (a) above confirm that the noise acquisition criteria of 40 dBA is being exceeded by the Project alone, and the measures in Condition 6.4.3 (a)(iii) do not reduce the levels below this criteria, the Applicant shall at the written request of the landowner acquire the relevant property. Acquisition shall be in accordance with the procedures set out in condition 11.1.

(ii). If the independent noise investigations in sub clause (a) confirm that the noise acquisition criteria is being exceeded as a result of cumulative impacts, including a contribution from the Project, the Applicant shall contribute to the purchase of the affected property in accordance with the Joint Acquisition Management Plan pursuant to Condition 11.3.

Should the Applicant not be able to formulate a Joint Acquisition Management Plan in accordance with Condition 11.3, the Applicant shall at the written request of the owner acquire the relevant property. Acquisition shall be in accordance with the procedures set out in Condition 11.1

(c). If continued complaints and noise investigation confirm that the noise criteria is being exceeded as a result of the contribution from the Project, but are less than the noise acquisition criteria, the Applicant shall negotiate with the landowner until a resolution to the satisfaction of the Director-General is reached.

(d). If a landowner disputes any noise mitigation or other measures proposed by the Applicant in accordance with sub-clause (a) above, the matter shall be referred by either the Applicant or landowner to the Director-General in consultation with SSC. If the matter cannot be resolved within 21 days, the matter shall be referred to the Independent Dispute Resolution Process.



- (e). Further independent investigations shall cease if the Director-General is satisfied that the relevant criteria in are not being exceeded and are unlikely to be exceeded in the future.

#### **6.4.5 Noise Management Plan**

- (a) The Applicant shall within 12 months of development consent being granted prepare a Noise Management Plan for the Project (incorporating construction and operational noise), in consultation with EPA, SSC, MSC and to the satisfaction of the Director-General. The Plan shall:
- i) include details of the conduct of noise investigations at six monthly intervals (unless otherwise agreed by the Director-General) to evaluate, assess and report the L<sub>Aeq</sub> (15 minute) noise emission levels due to the normal operations of the Project;
  - ii) provide details regarding operating configuration, determining survey intervals, weather conditions and seasonal variations, selecting variations, locations, periods and times of measurements;
  - iii) detail management measures where the target noise level criteria of this consent are predicted to be exceeded, or are exceeded during Mining Operations. These measures should include but not be limited to:
    - The selection of representative monitoring locations within the community must be carried out in consultation with the Director-General;
    - prompt response to any community issues of concern;
    - refinement of on site noise mitigation measures and mine operating procedures where practical;
    - discussions with relevant property holders to assess concerns;
    - consideration of acoustical mitigation at receivers; and
    - consideration of negotiated agreements with property owners.
  - iv) outline proactive/predictive and reactive mitigation measures to be employed on the site to limit noise emissions.
  - v) outline measures to reduce the impact of intermittent, low frequency and tonal noise (including truck reversing alarms);
  - vi) survey and investigate noise reduction measures from plant and equipment annually, subject to noise monitoring results and/or complaints received, and report in the AEMR at the conclusion of the first 12 months of Mining Operations and set targets for noise reduction taking into consideration valid noise complaints in the previous year;
  - vii) specify the procedures for a noise monitoring program for the purpose of undertaking independent noise investigations;
  - viii) outline the procedure to notify property owners and occupiers likely to be affected by noise from the operations;
  - ix) maintain a protocol for handling noise complaints that include recording, reporting and acting on complaints, particularly where complaints are received and it is demonstrated noise levels are in excess of the criteria contained in this consent;
  - x) record appropriate mechanisms for community consultation; and
  - xi) as far as practicable, details of the interrelationship of this plan with the noise management plan for Ravensworth East and Mt Owen, and for other mines in the vicinity.

#### **6.4.6. Noise Monitoring**

<sup>38</sup>The levels of noise emitted from the premises must be monitored in accordance with a Noise Management Plan to be submitted to the EPA with a licence variation application. The monitoring must determine L<sub>Aeq,9 hour</sub> L<sub>Aeq,15 min</sub> L<sub>A10,15 min</sub> L<sub>A90,15 min</sub> and L<sub>A1,1min</sub> levels set at specified locations and include an assessment of the impact of operational noise on adjoining residents.

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<sup>38</sup> EPA General Terms of Approval



### **6.5. *Lighting Emissions***

- (a) The Applicant shall screen or direct all on-site lighting away from residences and roadways to the satisfaction of SSC and MSC.
- (b) The Applicant shall prepare a Lighting Management Plan for the DA area to control any potential lighting impacts. The Plan is to be formulated to the satisfaction of the Director-General and in consultation with SSC and MSC, outlining details of the proposed process and measures to address complaints that may be received from residents or road users impacted by lighting from the mine site and details of measures to minimise light emissions.
- (c) The Applicant shall report on the effectiveness of the lighting emission controls in the AEMR.



## **7. Transport and Utilities**

### **7.1 Road Transport**

- (a). Transport of tailings by truck along the New England Highway is to be restricted to old tailings with residual energy content and at a rate of not more than 80 truck movements per day. The Applicant is to provide written consent from the RTA for the transport of tailings along the section of the New England Highway.
- (b). Transport of tailings to the surrounding power stations is to be via the Pikes Gully Road Underpass, merging lane and New England Highway. The Applicant is to provide written consent from the RTA for the use of the intersection with the New England Highway in this location. Any design and construction changes to Pikes Gully Road and/ or the intersection will require approval from the RTA and other relevant bodies where appropriate.
- (c). Vehicular access to the DA area from Antiene Road within the MSC LGA boundary is restricted to:
- (i). crossing the road to access the DA area;
  - (ii). access to the existing construction pad adjacent to the crossing; and
  - (iii). transport of heavy machinery to the site via Hebden Road, unless otherwise agreed by MSC.

### **7.2 Road Requirements**

- (a). <sup>39</sup>The Applicant shall undertake road closure and purchase of land within the road reserve in accordance with SSC standard conditions for road closure and land valuation
- (b). <sup>40</sup>The Applicant is to reserve the right for SSC to recover assets from the section of the Old State Highway north-west of Liddell Station Road which is to be closed, in accordance with this development consent. The Applicant shall ensure that suitable notice is provided to SSC to enable road base material, signs and any other recoverable assets to be recovered prior to the disturbance of the road surface by any activity associated with the Project.

### **7.3 Road Work Schedule**

The Applicant shall notify SSC, MSC and residents using the road of the schedule of road works and disruptions to road usage, at least 24 hours prior to the scheduled road works or disruption to road usage.

### **7.4 Road closures/ diversions**

The Applicant shall prepare a Public Road Management Plan to the satisfaction of the Director-General, and in consultation with SSC and MSC for any roads closures or diversions which may be required as a result of activities associated with the Project. The Plan shall include, but not be limited to, the following matters:

- (i) details of the proposed safety management measures during the period of public road works;
- (ii) methods for ensuring the safety of road users and the general public;
- (iii) strategies for informing road users and the local community of any proposed road closure/ diversions;
- (iv) details of the procedures for permitting the passage of emergency vehicles during any road closure/ diversions. This shall also include details of the proposed methods for sufficiently notifying emergency service providers of the proposed times and period of the road closures and/or the diversion routes; and
- (v) details of the disruptions that are likely to occur during the closure/ diversion period.

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<sup>39</sup> SSC General Terms of Approval

<sup>40</sup> SSC General Terms of Approval



### **7.5      *Rail traffic and level-crossing***

- (a). The Applicant shall construct, locate and operate the level crossing over the Main Northern Railway, generally in accordance with the Figure 4.10 of the EIS and in consultation and to the satisfaction of RIC.
- (b). The Applicant shall develop a protocol in consultation with the RIC to schedule the use of the level crossing to accommodate the train schedule of the Main Northern Railway. The transfer of large equipment across the level crossing shall be supervised by RIC.

### **7.6      *Provision of Utility Services***

In preparing the Mining Operations Plan (refer to Condition 2.1), the Applicant shall consult with affected service authorities, including Energy Australia, Telecommunications Infrastructure Providers and the Land Information Centre. Following this consultation, the Applicant shall make arrangements satisfactory to those authorities for the protection or relocation of services. Particular reference should be given to transmission lines, optical fibre cables and copper network cables and State Trigonometric Points.



## 8. Monitoring/Auditing

- (a) In addition to the requirements contained elsewhere in this consent, the Director-General may, at any time in consultation with the relevant government authorities and Applicant, require the monitoring programs in Conditions 3, 4 and 6 to be revised/updated to reflect changing environmental requirements or changes in technology/operational practices. Changes shall be made and approved in the same manner as the initial monitoring programs. All monitoring programs shall also be made publicly available at SSC and MSC within two weeks of approval of the relevant government authority.
- (b) All sampling strategies and protocols undertaken as part of any monitoring program shall include a quality assurance/quality control plan and shall be included in the relevant environmental management plan. Only accredited laboratories shall be used for laboratory analysis.

### 8.1 Third Party Monitoring / Auditing

#### Independent Environmental Auditing

- (a) Every three years from the date of this consent until completion of mining in the DA area, or as otherwise directed by the Director-General, the Applicant shall conduct an environmental audit of the mining and infrastructure areas of the development in accordance with ISO 14010 - Guidelines and General Principles for Environmental Auditing, and ISO 14011 - Procedures for Environmental Auditing (or the current versions), and in accordance with any specifications required by the Director-General. Copies of the report shall be submitted by the Applicant to the Director-General, SSC, MSC, EPA, DLWC, DMR, NPWS and CCC within two weeks of the report's completion for comment.
- (b) The audit shall:
  - (i) assess compliance with the requirements of this consent, licences and approvals;
  - (ii) assess the development against the predictions made in the EIS;
  - (iii) review the effectiveness of the environmental management of the mine, including any mitigation works;
  - (iv) be carried out at the Applicant's expense; and
  - (v) be conducted by a duly qualified independent person or team approved by the Director-General in consultation with SSC and MSC.
- (c) The Director-General may, after considering any submission made by the relevant government agencies, SSC, MSC and CCC on the report, notify the Applicant of any requirements with regard to any recommendations in the report. The Applicant shall comply with those reasonable requirements within such time as the Director-General may require.

**Note:** the Director-General may agree to a request from the Applicant that the Independent Environmental Audit requirement under this condition be integrated with similar audits required in accordance with other development consents applicable to the Liddell Colliery

### 8.2 Meteorological

<sup>41</sup> The Applicant must monitor (by sampling and obtaining results by analysis) the parameters specified in Column 1 of Table 9. The applicant must use the sampling method, units of measure, averaging period and sample at the frequency, specified opposite in the other columns:

Table 9. Meteorological monitoring requirements

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<sup>41</sup> EPA General Terms of Approval



Parameter	Units of measure	Averaging Period	Frequency	Method
Sigma Theta @ 10 m	°	1-hour	Continuous	AM-2
Siting	-	-	-	AM-1
Temperature @ 10 m	K	1-hour	Continuous	AM-4
Temperature @ 2 m	K	1-hour	Continuous	AM-4
Temperature Profile	°C/100m		Continuous	See note
Wind Direction @ 10 m	°	1-hour	Continuous	AM-2
Wind Speed @ 10 m	m/s	1-hour	Continuous	AM-2

Note: The Applicant shall calculate temperature inversion from measurements at 2 and 10m.

The monitoring results from this station shall be incorporated in the AEMR.



## **9. Reporting**

### **9.1 Reports on Operations**

The Applicant shall report on mine operations in accordance with the Mining Operations Plan (refer to Condition 2.1).

### **9.2 Annual Environmental Management Report (AEMR)**

- (a) The Applicant shall, throughout the life of the mine and for a period of at least three years after the completion of mining in the DA area, prepare and submit an Annual Environmental Management Report (AEMR) to the satisfaction of the Director-General and DMR. The AEMR shall review the performance of the mine against the Environmental Management Strategy and the relevant Mining Operations Plans, the conditions of this consent, and other licences and approvals relating to the mine. To enable ready comparison with the predictions made in the EIS, diagrams and tables, the report shall include, but not be limited to, the following matters:
- (i) an annual compliance audit of the performance of the project against conditions of this consent and statutory approvals;
  - (ii) a review of the effectiveness of the environmental management of the mine in terms of EPA, DLWC, DMR, SSC, MSC requirements;
  - (iii) results of all environmental monitoring required under this consent or other approvals, including interpretations and discussion by a suitably qualified person;
  - (iv) identification of trends in monitoring results over the life of the mine;
  - (v) an assessment of any changes to agricultural land suitability resulting from the Mining Operations, including cumulative changes;
  - (vi) a listing of any variations obtained to approvals applicable to the DA area during the previous year;
  - (vii) the outcome of the water budget for the year, the quantity of water used from water storages and details of discharge of any water from the site;
  - (viii) rehabilitation report; and
  - (ix) environmental management targets and strategies for the next year, taking into account identified trends in monitoring results.
- (b) In preparing the AEMR, the Applicant shall:
- (i) consult with the Director-General during preparation of each report for any additional requirements;
  - (ii) comply with any reasonable requirements of the Director-General or other relevant government agency; and
  - (iii) ensure that the first report is completed and submitted within twelve months of this consent, or at a date determined by the Director-General in consultation with the DMR and the EPA.
- (c) The Applicant shall ensure that copies of each AEMR are submitted to the Director-General, DMR, EPA, DLWC, NPWS, SSC, MSC and CCC, and made available for public information at SSC and/or MSC within fourteen days of submission to these authorities.

### **9.3 Recording and Reporting Requirements**

#### **Monitoring Records**



- (a) The results of any monitoring required to be conducted by this consent, or a licence under the *Protection of the Environment Operations Act 1997*, in relation to the development or in order to comply with any load calculation protocol must be recorded and retained as set out in subclauses (b) and (c).
- (b) All records required to be kept by the licence must be:
  - (i) in a legible form, or in a form that can readily be reduced to a legible form;
  - (ii) kept for at least 4 years after the monitoring or event to which they relate took place; and
  - (iii) produced in a legible form to any authorised officer of the EPA who asks to see them.
- (c) The following records must be kept in respect of any samples required to be collected:
  - (i) the date(s) on which the sample was taken;
  - (ii) the time(s) at which the sample was collected;
  - (iii) the point at which the sample was taken; and
  - (iv) the name of the person who collected the sample.
- (d) The Applicant must provide an annual return to the EPA in relation to the development as required by any licence under the *Protection of the Environment Operations Act 1997* in relation to the development. In the return the Applicant must report on the annual monitoring undertaken (where the activity results in pollutant discharges), provide a summary of complaints relating to the development, report on compliance with licence conditions and provide a calculation of licence fees (administrative fees and, where relevant, load based fees) that are payable. If load based fees apply to the activity the applicant will be required to submit load-based fee calculation worksheets with the return. This may form part of the AEMR.



## **10. Community Consultation/Obligations**

### **10.1 Community Consultative Committee**

The Applicant shall

- (a).
  - (i) Establish a CCC to incorporate all issues specific to the Project. A meeting of the CCC must be convened prior to the submission of the Environmental Management Strategy (Condition 3.2). Selection of representatives shall be to the satisfaction of the Director-General in consultation with the Applicant, SSC and MSC. The Committee shall comprise two (2) representatives of the Applicant (including the environmental officer), one (1) representative of SSC, one (1) representative of MSC, two (2) community representatives from the SSC LGA, and two (2) community representatives from the MSC LGA. The Committee shall be chaired by a representative SSC or MSC, by rotation every two (2) years, or by mutual agreement to the satisfaction of the Director – General.
  - (ii) Representatives from relevant government agencies or other individuals may be invited to attend meetings as required by the Chairperson. The Committee may make comments and recommendations about the preparation and implementation of environmental management plans, monitor compliance with conditions of this consent and other matters relevant to the operation of the mine during the term of the consent. The Applicant shall ensure that the Committee has reasonable access to the necessary plans for such purposes. The Applicant shall consider the recommendations and comments of the Committee and provide a response to the Committee and Director-General.
- (b) The Applicant shall, at its own expense:
  - (i) nominate two (2) representatives (including the Environmental Officer) to attend all meetings of the Committee;
  - (ii) provide to the Committee regular information on the progress of work and monitoring results;
  - (iii) promptly provide to the Committee such other information as the Chair of the Committee may reasonably request concerning the environmental performance of the development;
  - (iv) provide access for site inspections by the Committee; and
  - (v) provide meeting facilities for the Committee, and ensure minutes of Committee meetings are taken. These minutes shall be available for public inspection at SSC, MSC within 14 days of the meeting, or as agreed by the Committee.

### **10.2 Complaint Handling Procedures**

- (a) The Environmental Officer employed by the mine (refer condition 3.1) shall be responsible for:
  - (i) establishing and maintaining a system for recording complaints with respect to construction works and mine operations on a dedicated and publicly advertised telephone line, 24 hours per day 7 days per week, entering complaints or comments in an up to date log book, or other suitable data base, and ensuring that an initial response is provided to the complainant within 24 hours;
  - (ii) for providing a report of complaints received with respect to the construction and operation of the mine, every 12 months throughout the life of the project to the Director-General, SSC, EPA, DMR, and CCC, or as otherwise agreed by the Director-General. A summary of this report shall be included in the AEMR (condition 9.2(a)).
- (b) The Applicant must nominate at least two persons (and their telephone numbers) who will be available to the EPA on a 24 hours basis, and who have authority to provide information and to implement such measures as may be necessary from time to time to address a pollution incident or to prevent pollution from continuing as directed by an authorised officer of the EPA.

## **11. Applicant's Obligations**



### 11.1 Area of Affection – Land Acquisition

**Note:** In Condition 11.1 (a)-(g) "land" means the whole of a lot in a current plan registered at the Land Titles Office as at the date of this consent.

- (a). The Applicant shall seek to conclude an agreement to purchase a property, or part of a property, as identified by 6.1.3 (c) or 6.3.3(b) within six (6) months of a written request from the affected land owner. The owner of any dwelling, or vacant land (as described in 6.1.3 (c) or 6.4.4 (b)), located in areas that exceed noise and/or air quality criteria established in accordance with conditions 6.1.1 and 6.4.2 and of this consent, and at any time after the granting of development consent, may request the Applicant in writing to purchase the whole or part of that property.
- (b). In respect of a request to purchase land arising under this condition, the Applicant shall pay the owner the acquisition price which shall take into account and provide payment for:
- (i) a sum not less than the current market value of the owner's interest in the land at the date of this consent, as if the land was unaffected by the Project the subject of this DA, having regard to:
    - the existing use and existing permissible use of the land in accordance with the planning instruments in force at the date of the written request; and
    - the presence of permissible or approved improvements on the land and/or any Council approved building or structure which is substantially commenced at the date of request is completed subsequent to that date.

The sum outlined above does not include the value associated with the businesses operating on that land (eg. annual turnover/profit or goodwill) but is limited to physical structures and improvements only.
  - (ii) the owner's reasonable compensation for disturbance allowance and relocation costs within the Singleton or Muswellbrook Local Government Area, or within such other location as may be determined by the Director-General in exceptional circumstances; and
  - (iii) the owner's reasonable costs for obtaining legal advice and expert witnesses for the purposes of determining the acquisition price of the land and the terms upon which it is to be acquired.

Notwithstanding any other condition of this consent, the Applicant may, upon request of the landowner, acquire any property affected by the project during the course of this consent on terms agreed to between the Applicant and the landowner.

- (c). In the event that either the owner or the Applicant is not satisfied the Applicant and any owner referred to in this condition cannot agree within the time limit upon the acquisition price of the land and/or the terms upon which it is to be acquired, then:
- (i) either party may refer the matter to the Director-General, who shall request the President of the Australian Property Institute to appoint a qualified independent valuer or Fellow of the Institute, who shall determine, after consideration of any submissions from the owners and the Applicant, a fair and reasonable acquisition price for the land as described in sub-clause (b) and/or terms upon which it is to be acquired;
  - (ii) in the event that either the owner or the Applicant is not satisfied with the determination of the independent valuer, the independent valuer shall refer the matter to the Director-General, recommending the appointment of a qualified panel. The Director-General, if satisfied that there is need for a qualified panel, shall arrange for the constitution of the panel. The panel shall consist of:
    - 1) the appointed independent valuer,
    - 2) the Director-General or nominee, and
    - 3) the President of the Law Society of NSW or nominee.

The qualified panel shall determine a fair and reasonable acquisition price as described in sub-clause (b) above and/or the terms upon which the property is to be acquired.



- (d). The Applicant shall bear the costs of any valuation or survey assessment requested by the independent valuer, panel, or the Director-General and the costs of determination referred to in sub clauses (b) and (c).
- (e) Upon receipt of a determination pursuant to sub-clauses (b) and (c), the Applicant shall, within 14 days, offer in writing to acquire the relevant land at a price not less than the determination. Should the Applicant's offer to acquire not be accepted in writing by the owner within six (6) months of the date of such offer, the Applicant's obligations to purchase the property shall cease, unless otherwise agreed by the Director-General.
- (f) In the event that the Applicant and the land owner agree that only part of the land is to be transferred to the Applicant, the Applicant shall pay all reasonable costs associated with applying for Council approval to any plan of subdivision and registration of the plan at the Office of the Registrar-General.
- (g) The provisions of this condition do not apply to a land owner who is the holder of an authority under the Mining Act, 1992.

### **11.2 Cumulative Impact Management**

- (a) In the event that the cumulative impact of noise or dust contributed by the operation of the Project and other nearby mines, including Ravensworth East and Mt Owen, and any future mining activities/ industrial operations, at dwellings, or vacant land (as described in Condition 6.1 and 6.3), in the vicinity of the operation, is in excess of the noise or dust acquisition criteria contained in these conditions of consent, the Applicant shall endeavour, as far as reasonably practicable, to negotiate with the other companies and landowner to determine appropriate arrangements to reasonably contribute to the management of the identified cumulative impacts to the satisfaction of the Director-General in proportion to their contributions to the impact.
- (b) If agreement cannot be reached from negotiations undertaken in accordance with subclause (a), then, with the agreement of the other contributing mines, the matter is to be referred to the Director-General in consultation with SSC and MSC by either the Applicant or landowner. If the matter is not resolved within 21 days of the referral, the matter will be referred to an Independent Dispute Resolution Process as determined by the Director-General, and resolved as determined by the Director-General. The Independent Dispute Resolution Process shall determine the responsibilities of each of the mining companies in accordance with subclause (a) above and actions to be undertaken. The decision of the Independent Dispute Resolution Process shall be final, as determined by the Director-General.
- (c). Prior to referral to the Independent Dispute Resolution process, the Applicant shall provide the Director-General a report detailing the Applicant's reasons for being unable to reach agreement with the other parties, and the reasons for the criteria exceedences with demonstration that the Project activities are not the sole cause of the exceedence.

### **11.3. Joint Acquisition Management Plan**

The Applicant shall, within 12 months of development consent, use all reasonable endeavours to prepare a Joint Acquisition Management Plan with Ravensworth East and Mt Owen and any other contributing operations as appropriate, to the satisfaction of the Director-General. Any plan prepared pursuant to this condition shall as far as practicable provide details of a joint approach to be adopted in regard to meeting the acquisition procedure requirements outlined in Condition 11.1 and 11.2 of this consent.

#### **Note:**

1.The Applicant shall endeavour to enter into an agreement with other nearby mines/ industrial operations to address any potential cumulative management and joint acquisition requirements of this development consent;



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| <p>2.The intent of this condition is to encourage mining companies to form a voluntary agreement regarding the management and acquisition of properties subject to cumulative impacts;</p> <p>3.The Department will be requiring joint acquisition requirements in all development consents where cumulative impacts are known to occur, and may potentially occur, as a result of mine or industrial related activities.</p> |
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#### **11.4. Contributions to MSC**

Within 6 months of development consent, the Applicant shall enter into a legally binding agreement with MSC for financial and /or in kind contribution to MSC for the purpose of community enhancement to address the social, amenity and associated community infrastructure requirements arising from the operation of the development. The financial and/or in kind contribution shall be generally in accordance with the MSC Section 94 Contribution Plan and the associated Community enhancement Program as adopted by MSC on 26 March 2001.

In the event that a mutually acceptable agreement can not be reached in accordance with this Condition, the matter shall be referred to the Director-General for determination as to an appropriate level of contribution.



## 12. Further Approvals and Agreements

### 12.1 Statutory Requirements

- (a) The Applicant shall ensure that all statutory requirements including but not restricted to those set down by the Environmental Planning and Assessment Act 1979, the Local Government Act 1993, Protection of the Environment Administration Act 1991, Protection of the Environment Operations Act 1997, Rivers and Foreshores Improvement Act 1948, Water Act 1912, National Parks and Wildlife Act 1974, and all other relevant legislation, Regulations, Australian Standards, Codes, Guidelines and Notices, Conditions, Directions, Notices and Requirements issued pursuant to statutory powers by the SSC, MSC, EPA, DMR, NPWS, DLWC, RTA, NSW Agriculture, and NSW Fisheries, are fully met.

(b) Structural Adequacy

Detailed plans and specifications relating to the design and construction of each structural element associated with the proposed development are to be submitted to the Principal Certifying Authority prior to the construction of each particular building or structure. Such plans and specifications must be accompanied by certification provided by a practicing professional structural engineer or an accredited certifier certifying the structural adequacy of the proposed building design and compliance with the Building Code of Australia.

(c) Verification of Construction

Upon completion of building works and prior to the issue of an occupation certificate, a certificate/s prepared by a suitably qualified person or a compliance certificate/s issued by an accredited certifier, is to be submitted to the Principal Certifying Authority certifying that the following building components, where relevant, have been completed in accordance with approved plans and specifications:

- footings;
- concrete structures, including ground floor and any subsequent floors, retaining walls and columns;
- framing and roof structure;
- fire protection coverings to building elements required to comply with the Building Code of Australia; and
- mechanical ventilation.

The certificate/s shall demonstrate at what stage of construction inspections were undertaken.



**SCHEDULE A**  
**Explanatory Flow Charts**

**Note:**

- The process will be subject to a procedural protocol to ensure that the process is transparent and consistent
- The process will be subject to terms of reference on both a qualitative and quantitative basis against which judgements will be made.
- In relation to disputes regarding noise impacts, the process will only result in agreed outcomes regarding mitigation measures proposed by the Applicant in the noise management zone. Acquisition is not an option in the noise management zone, unless otherwise privately agreed between the Applicant and landowner, and therefore acquisition will not be an option for the dispute resolution process to consider in these cases.



