

LIDDELL COAL OPERATIONS

APPENDIX **D**

Director General’s Requirements and
Related Government Correspondence

APPENDICES



Planning & Infrastructure

Major Development Assessment

Mining Projects

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Room 305

23-33 Bridge Street

GPO Box 39

SYDNEY NSW 2001

Our ref.: 10/04889

Melinda Hawthorne
Liddell Coal Operations Pty Ltd
PO Box 7
SINGLETON NSW 2330

Dear Ms Hawthorne,

Liddell Coal Operations Liddell Mine Extension (DA 305-11-01 Mod 5) Director General's Requirements

I have attached a copy of the Director General's environmental assessment requirements (DGRs) for the preparation of an Environmental Assessment (EA) for the Liddell Mine Extension.

These requirements are based on the information you have provided to date. Please note that the Department may alter these requirements at any time, and that you must consult further with the Department if you do not lodge a development application and EA for the project within two years of the date of issue of these DGRs. The Department will review the EA for the project carefully before putting it on public exhibition, and will require you to submit an amended EA if it does not adequately address the DGRs.

The Department also advises that key policy and planning documents that are relevant to the project are currently being finalised. These include the Strategic Regional Land Use Plan for the Hunter, the Government's Aquifer Interference Policy and guidelines for the preparation of Agricultural Impact Statements. Therefore, these DGRs may be amended to reference these additional documents, to ensure that any are appropriately considered during the preparation of the EA.

Your project may require separate approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Department encourages you to confirm whether such an approval will be required as soon as possible. If an EPBC Act approval is required, I would appreciate it if you would advise the Department accordingly, as the Commonwealth approval process may be integrated into the NSW approval process, and supplementary DGRs may need to be issued.

I would appreciate it if you would contact the Department at least two weeks before you propose to submit the development application and EIS for your project. This will enable the Department to:

- confirm the applicable fee (see Division 1AA, Part 15 of the *Environmental Planning and Assessment Regulation 2000*); and
- determine the number of copies (hard-copy and CD-ROM) of the EIS required for review.

If you have any enquiries about these requirements, please contact David Mooney at the details listed above.

Yours sincerely,

Howard Reed 15.2.12
A/Director
Mining and Industry Project
As delegate for the Director-General

Director-General's Requirements

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

Application Number	DA 305-11-01 Mod 5
Project	The Liddell Mine Extension, which includes: • extension of open cut mining in the South Pit and the Entrance Pit to the south and east; • extension of open cut mining beneath the current Coal Handling and Processing Plant (CHPP) infrastructure area; • extension of the approved overburden emplacement area to the east of the Entrance Pit; • changed location for an approved tailings dam; and • ancillary surface disturbance and infrastructure to support new mining areas.
Location	Approximately 25 kilometres north-west of Singleton
Proponent	Liddell Coal Operations Pty Ltd
Date of Issue	15 February 2012
General Requirements	The Environmental Assessment for the modification must include: • an executive summary; • a detailed description of: - historical operations on the site; - existing and approved mining operations/facilities, including any statutory approvals that apply to these operations/facilities; and - the existing environmental management and monitoring regime on site; • a detailed description of the modification, including the: - need for the modification; - alternatives considered, including a justification for the proposed mine plan/s and coal rejects disposal strategy on economic, social and environmental grounds; - likely interactions between existing and approved mining operations; - likely staging of the modification; and - plans of any proposed building works; • a risk assessment of the potential environmental impacts of the modification, identifying the key issues for further assessment; • a detailed assessment of the key issues specified below, and any other significant issues identified in the risk assessment (see above), which includes: - a description of the existing environment, using sufficient baseline data; - an assessment of the potential impacts of all stages of the modification, including any cumulative impacts associated with the concurrent operation of the modification with any other existing or approved mining or gas production operations in the region, taking into consideration any relevant policies, guidelines, plans and statutory provisions (see below); and - a description of the measures that would be implemented to avoid, minimise, mitigate and/or offset the potential impacts of the modification, including detailed contingency plans for managing any significant risks to the environment; • a statement of commitments, outlining all the proposed environmental management and monitoring measures; • a conclusion justifying the modification on economic, social and

	environmental grounds, taking into consideration whether the modification is consistent with the objects of the <i>Environmental Planning & Assessment Act 1979</i>; and • a signed statement from the author of the Environmental Assessment, certifying that the information contained within the document is neither false nor misleading.
Key Issues	• Soil and Water – including: ○ a detailed assessment of the potential impacts of the modification, using appropriate quantitative modelling on: - the quantity and quality of both surface and ground water resources, with particular reference to the Hunter River, alluvial groundwater and the evaporative sink extension; - ground and surface water users, both in the vicinity of and downstream of the modification; - the riparian and ecological values of the watercourses both on site and downstream of the proposal; - environmental flows; and - flooding; ○ a comparison of these impact predictions against those associated with the existing mine plan, including detailed explanations for any differences; ○ plans for the proposed tailings dam, including detailed design and completion criteria; ○ a detailed assessment of the environmental, hydro-geological, hydrological and geomorphic considerations of the final drainage alignments; and ○ a revised site water balance for the mine; • Noise & Blasting – including: ○ a quantitative assessment of the potential construction and operational noise impacts, in conjunction with the cumulative noise impacts from other sources, including the surrounding mines and other operations at the mine; ○ noise modelling based on applicable meteorological and stability category temperature inversion conditions to be developed in consultation with OEH; and ○ potential blasting impacts of the project on people, livestock, property and roads; • Air Quality – including a detailed consideration of the potential construction and operational impacts on the local air shed, in conjunction with the cumulative air impacts from other sources, including the surrounding mines and other operations at the mine; • Biodiversity – including: ○ accurate estimates of any vegetation clearing or other impacts; ○ an assessment of the potential impacts of the project on any terrestrial or aquatic threatened species or populations and their habitats, endangered ecological communities, riparian vegetation or groundwater dependent ecosystems; and ○ a description of the measures that would be implemented to maintain or improve the biodiversity values of the surrounding region in the medium to long term; • Heritage – including the potential impacts of the project on Aboriginal and non-Aboriginal heritage; • Greenhouse Gas – including: ○ a quantitative assessment of the potential scope 1, 2 and 3 greenhouse gas emissions of the project, and qualitative assessment of the potential impacts of these emissions on the environment; and ○ a detailed description of the measures that would be implemented to minimise, reuse, recycle and dispose of any waste produced on

	site to ensure that the project is energy efficient; • Visual – including a detailed description of the measures that would be implemented to minimise the potential visual impacts of the project; • Transport – including a detailed assessment of any potential impacts of the project on the safety and performance of the road network. • Waste – including: ○ estimates of the quantity and nature of the potential waste streams of the project; and ○ a detailed description of the measures that would be implemented on site to ensure that the project is energy efficient; • Hazards – paying particular attention to public safety; • Social & Economic – including: ○ an assessment of the potential impacts of the project on the local and regional community; and ○ a detailed assessment of the costs and benefits of the project as a whole, and whether it would result in a net benefit for the NSW community; and • Rehabilitation – including a description of the proposed rehabilitation strategy for the mine, taking into consideration and relevant strategic land use planning or resource management plans or policies, including: ○ the costs of rehabilitation, remediation and repair, including the diversion of the drainage line; ○ identifying post-mining land use options; ○ clearly defining project rehabilitation objectives; ○ outlining general rehabilitation methods and procedures; and ○ a conceptual final landform design.
References	The environmental assessment of the key issues listed above must take into account relevant guidelines, policies, and plans. While not exhaustive, the following attachment contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this project.
Consultation	During the preparation of the Environmental Assessment, you should consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups or affected landowners. In particular you must consult with the: • Office of Environment and Heritage; • NSW Office of Water; • Division of Resources and Energy within the Department of Trade and Investment, Regional Infrastructure and Services; • Department of Primary Industries; • Hunter-Central Rivers Catchment Management Authority; • Dams Safety Committee; • Roads and Traffic Authority; • Muswellbrook Council; • Singleton Council; and • relevant Aboriginal groups The consultation process, and the issues raised during this process, must be described in the Environmental Assessment.
Deemed refusal period	90 days

Policies, Guidelines & Plans

Aspect	Policy /Methodology
Soil and Water	
<i>Surface Water</i>	Australian Drinking Water Guidelines 2004 (NWQMS)
	Australian and New Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ) 2000
	Australian and New Zealand Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ) 2000
	Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC)
	Water Sharing Plan for the Hunter River Water Source 2003
	Hunter Central Rivers Catchment Action Plan (DPI)
	State Water Management Outcomes Plan
	NSW Government Water Quality and River Flow Environmental Objectives (DECC)
	Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC)
	Managing Urban Stormwater: Soils & Construction (Landcom)
	Managing Urban Stormwater: Treatment Techniques (DECC)
	Managing Urban Stormwater: Source Control (DECC)
<i>Groundwater</i>	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC)
	NSW State Groundwater Policy Framework Document (DLWC) 1997
	NSW State Groundwater Quality Protection Policy (DLWC) 1998
	NSW State Groundwater Quantity Management Policy (DLWC) 1998
	NSW State Groundwater Dependent Ecosystems Policy (2002)
	Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources (NOW) 2009
	Murray-Darling Basin Groundwater Quality. Sampling Guidelines. Technical Report No 3 (MDBC)
	Murray-Darling Basin Commission. Groundwater Flow Modelling Guideline (Aquaterra Consulting Pty Ltd)
	Guidelines for the Assessment & Management of Groundwater Contamination (DECC) 2007
<i>Soil</i>	Guidelines for Groundwater Protection in Australia (1995)
	Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC & NHMRC)
	National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC)
	State Environmental Planning Policy No. 55 – Remediation of Land
	Managing Land Contamination – Planning Guidelines SEPP 55 – Remediation of Land (DOP)
Noise	
	NSW Industrial Noise Policy (DECC)
	Environmental Noise Management – Assessing Vibration: a technical guide (DEC, 2006)
	NSW Road Noise Policy (OEH, 2011)
	Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC, 1990)
	Interim Construction Noise Guideline (DECC, 2009)
	Interim Guideline for the Assessment of Noise from Rail Infrastructure Projects (DECC, 2007)

	DIN 4150 Part 3 - Structural Vibration: effects of vibration on structures (ISO, 1999)
Biodiversity	Draft Guidelines for Threatened Species Assessment under Part 3A of the <i>Environmental Planning and Assessment Act 1979</i> (DEC) NSW Groundwater Dependent Ecosystem Policy (DLWC) Biobanking Assessment Methodology and Credit Calculator Operational Manual (DECCW, 2008) Guidelines for developments adjoining land and water management by the Department of Environment, Climate Change and Water (DECCW, 2010) Threatened Species Survey and Assessment Guidelines: Field Survey Methods for Fauna – Amphibians (DECCW, 2008) Threatened Species Survey and Assessment: Guidelines for Developments and Activities – Working Draft (DEC, 2004) Threatened Species Assessment Guideline – The Assessment of Significance (DECCW, 2007) Policy & Guidelines - Aquatic Habitat Management and Fish Conservation
Rehabilitation	Strategic Framework for Mine Closure (ANZMEC and Minerals Council of Australia) Mine Rehabilitation – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth of Australia) Mine Closure and Completion – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth of Australia)
Blasting and Vibration	ANZECC Guidelines to Minimise Annoyance Due to Blasting Overpressure & Ground Vibration Assessing Vibration – A Technical Guide 2006 (DEC)
Air Quality	Protection of the Environment Operations (Clean Air) Regulation 2002 Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (DEC) Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC)
Traffic and Transport	Guide to Traffic Generating Development - Section 2 Traffic Impact Studies (RTA) Road Design Guide (RTA) Road and Related Facilities (Department of Planning EIS Guidelines) Relevant Austroad standards
Heritage	Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DoP) 2005 Aboriginal Cultural Heritage Consultation requirements for proponents 2010 Code of Practice for Archaeological Investigations of Aboriginal objects in NSW
<i>Aboriginal</i>	
<i>Non-Aboriginal</i>	NSW Heritage Manual (NSW Heritage Office & DUAP) The Burra Charter (The Australia ICOMOS charter for places of cultural significance)
Greenhouse Gas	The Greenhouse Gas Protocol: Corporate Standard (World Council for Sustainable Business Development & World Resources Institute) National Greenhouse Accounts (NGA) Factors (Australian Department of Climate Change) National Greenhouse and Energy Reporting System, Technical Guidelines (Australian Department of Climate Change)

	National carbon Accounting Toolbox (Australian Department of Climate Change)
	Australian Greenhouse Emissions Information System (AGEIS)
Social and Economic	
	Draft Economic Evaluation in Environmental Impact Assessment (DOP)
	Techniques for Effective Social Impact Assessment: A Practical Guide (Office of Social Policy, NSW Government Social Policy Directorate)
Waste	
	Environmental Guidelines: Solid Waste Landfills (EPA, 1996)
	Draft Environmental Guidelines: Industrial Waste Landfilling (1998)
	Waste Classification Guidelines (DECC, 2008)
Risk Assessment	
	AS/NZS 4360:2004 Risk Management (Standards Australia)
	HB 203: 203:2006 Environmental Risk Management – Principles & Process (Standards Australia)



Ms Melinda Hawthorne
Liddell Coal Operations Pty Ltd
PO Box 7
Singleton NSW 2330

12/07297

Dear Ms Hawthorne

Subject: Supplementary Director-General's Requirements for Liddell Mine Extension Modification 5 (DA 3005-11-01 MOD 5)

I refer to the Director-General's Requirements which were issued for the above project on 15 February 2012.

As you are aware, the draft Upper Hunter Strategic Regional Land Use Plan (SRLUP) has been released for public exhibition. The draft plan details the NSW Government's proposal to apply a pre-development application gateway process to State significant mining and coal seam gas proposals that are located on or within two kilometres of areas mapped as strategic agricultural land.

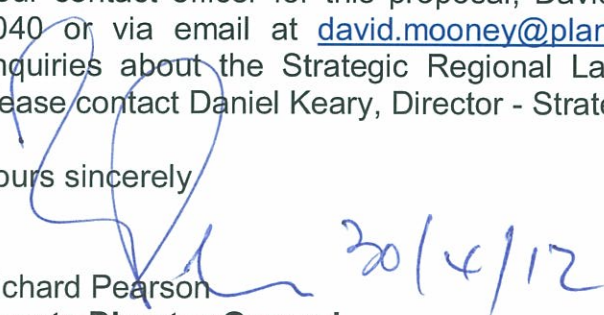
The Department has developed a policy that sets out the interim arrangements for mining and coal seam gas proposals on strategic agricultural land until the draft SRLUPs are finalised (see Attachment 1).

Accordingly, under section 75F(3) of the *Environmental Planning and Assessment Act 1979*, I am issuing a supplementary requirement which must be addressed in the preparation of your Environmental Assessment. The requirement is:

1. an Agricultural Impact Statement that includes a specific focused assessment of the impacts of the proposal on strategic agricultural land, having regard to the draft gateway criteria in the draft Upper Hunter Strategic Regional Land Use Plan.

Your contact officer for this proposal, David Mooney, can be contacted on (02) 9228 2040 or via email at david.mooney@planning.nsw.gov.au. Should you have any enquiries about the Strategic Regional Land Use Plans and the gateway process, please contact Daniel Keary, Director - Strategic Regional Policy, on (02) 9228 6373.

Yours sincerely


Richard Pearson
Deputy Director General
Development Assessment & Systems Performance
as delegate of the Director General

POLICY STATEMENT
**INTERIM STRATEGIC AGRICULTURAL LAND POLICY FOR STATE SIGNIFICANT AND
TRANSITIONAL PART 3A MINING AND COAL SEAM GAS PROPOSALS IN THE UPPER
HUNTER AND NEW ENGLAND NORTH WEST REGIONS**

Background

Draft Strategic Regional Land Use Plans (SRLUPs) for the Upper Hunter and New England North West regions are on public exhibition until 3 May 2012. The draft SRLUPs identify strategic agricultural land in these regions and propose to apply a gateway process to State significant mining and coal seam gas proposals on or within 2km of this land.

The SRLUPs will be finalised following the consideration of all submissions received during the exhibition period, including final maps of strategic agricultural land and final details of the gateway process. In the meantime, there are a number of current and pending State significant mining and coal seam gas applications that are proposed on or within 2 km of land mapped as strategic agricultural land in the draft SRLUPs.

In March 2012 (concurrent with the release of the draft SRLUPs), the NSW Government introduced a requirement for an Agricultural Impact Statement (AIS) for all State significant development (SSD) applications for mining and petroleum (including coal seam gas) projects (as well as applications for associated State significant infrastructure such as pipelines) which have the potential to affect agricultural resources or industries. The purpose of an AIS is to ensure a focused assessment of the potential impacts of these projects on agricultural resources or industries. The information will form a key component of the assessment process in terms of evaluating and avoiding impacts on and loss of agricultural lands. A guideline that sets out the purpose and content of an AIS is available at <http://haveyoursay.nsw.gov.au/document/show/195>.

Purpose of this policy statement

Until the final policy position on protecting strategic agricultural land is finalised as part of the Upper Hunter and New England North West SRLUPs, it is important to ensure that the potential impacts of mining and coal seam gas projects on strategic agricultural land are comprehensively considered as part of the assessment process.

This policy statement outlines the interim arrangements for State significant and transitional Part 3A mining and coal seam gas applications on or within 2 km of land mapped as strategic agricultural land in the draft SRLUPs.

Interim policy arrangements

The following interim arrangements apply to all SSD and Part 3A mining and petroleum (including coal seam gas) applications and significant modifications that:

- are located on or within 2 kilometres of land mapped as strategic agricultural land in the draft SRLUPs, and
 - have been or will be lodged with the Department before the finalisation of the SRLUPs.
- (1) Projects which have not commenced public exhibition or that have not been deemed adequate for exhibition as at 6 March 2012 (date of commencement of exhibition of the draft SRLUPs) will be required to submit an AIS that includes a specific focused assessment of the impacts of the proposal on strategic agricultural land, having regard to the draft gateway criteria in the draft SRLUPs.

The implementation of this requirement will vary according to the stage of the project, ie:

- A Projects for which Director General's Requirements are yet to be issued:

This requirement will be included in the DGRs.

- B Projects for which Director General's Requirements have been issued but which have not yet commenced public exhibition (SSD) or which have not yet been deemed adequate for public exhibition (Part 3A):

The Department will issue supplementary DGRs to include this requirement.

- (2) For SSD and Part 3A applications that have progressed to or beyond public exhibition, the Department will conduct an assessment of the impacts of the proposal on strategic agricultural land as part of its assessment of the project and may, in limited circumstances, require additional information from the applicant to assist this assessment.

It is acknowledged that the gateway criteria are draft only. Applicants should use their best endeavours to address the draft gateway criteria when assessing the impacts of the proposal on strategic agricultural land. In addition, the assessment can include site verification information if the applicant believes that the land mapped as strategic agricultural land does not meet the published draft criteria for strategic agricultural land. Finally, as the Government is yet to publish a cost benefit methodology, the applicant may submit any additional information relating to the social, environmental and economic aspects of the proposal that may be relevant to the consideration of whether the proposal would be in the public interest.



Manager Liddell Coal Operations Ltd
PO Box 7
SINGLETON NSW 2330

Attention: Ben De Somer

Contact Fergus Hancock
Phone 02 4904 2632
Fax 02 4904 2503
Email Fergus.Hancock@water.nsw.gov.au

Our ref ER21632
Your ref:

Dear Ben

Requirements – Liddell Coal Open Cut extension proposal DA 305-11-01 MOD 5

I refer to your request for specific assessment requirements following the meeting held on 1 May 2012 with the NSW Office of Water (Office of Water) regarding the proposed modification to Liddell Operations development consent, to extend the open cut operations for Liddell Operations. At that meeting, three primary issues were raised. The Office of Water requires these issues to be fully addressed as part of the Environmental Assessment to the application to modify Liddell operations consent.

The proximity to Bowmans Creek requires a generally precautionary approach with regards to potential interaction between surface flows and/or alluvial groundwater and the mining operation. As explained at the meeting, interference with either alluvial or surface waters associated with Bowmans Creek requires, as a minimum, accounting in accordance with the *Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources 2009* (WSPHUAWS). It may be impossible to fully account for inadvertent interception of significant volumes of surface flows and/or alluvial groundwater, which would place Liddell Operations at risk of statutory non-compliance and possible prosecution. Therefore, protection to Bowmans Creek and its alluvial aquifer is critical to the acceptability of the proposal.

This requires clear and rigorous identification of the limits to the alluvial aquifer and development of adequate baseline monitoring to properly inform predictive assessment of likely and potential impacts upon Bowmans Creek and its alluvium. The Office of Water has requested you to provide mapping of the alluvial boundary, based on the methodology you presented at the meeting, with additional information regarding the development of the alluvial groundwater system, and the nature, integrity and risks posed by the open cut mining proposal to the alluvial system. This requires the following information to be presented prior to, or at least within, the EA:

- Mapping of the lateral and vertical alluvial materials, and identification of saturated layers within the alluvium
- Transects across the Bowmans Creek floodplain from within the extension footprint to the break of slope forming the lower cadastre to the east side of Bowmans Creek
- Identification of alluvial terraces and other geomorphic features both within the floodplain and in the inset channel to Bowmans Creek
- Ranges and time series groundwater level and quality data, and interpreted groundwater hydraulic gradients and conductivities

- Formation of an adequate baseline of alluvial groundwaters, including absolute and relative groundwater levels, triangulated groundwater gradients across the Bowmans Creek floodplain

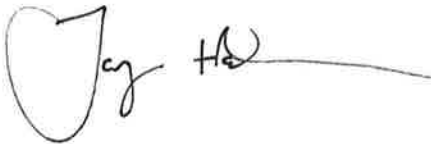
Previous underground mining operations have significantly impacted upon the Bowmans Creek system, with ongoing drainage and flooding of the Hazeldene mine workings. The interaction has not been properly quantified, accounted for or remediated. Further incursion into the impacted area of the Hazeldene workings may lead to further take of surface water which cannot be accounted for. The EA must present an adequate understanding of the importance of the Bowmans Creek portion of the Jerrys Water Source, and the accounting mechanisms related to the provisions of the *Water Management Act 2000*, and the WSPHUAWS to provide confidence to the Office of Water that its statutory obligations will be satisfactorily addressed through the EA.

This may require a significant level of detailed assessment as to the history of impacts to Bowmans Creek, present actions by Liddell Operations and risks associated with further interaction with the flooded underground mine workings. This may require a significant investment of time and resources to develop adequate baseline datasets, and revising previous predictive and interpretative models for the Liddell Operations site.

The development of a regional-scale groundwater model will be a complex arrangement, requiring significant calibration and sensitivity modelling to attempt to understand the in-situ and mining-affected groundwater regimes, in addition to the surface/ground water interaction for the site. The Office of Water requests additional consultation regarding the development of the modelling programme(s) in order to understand the conceptualisation and iterations to the model and its operation.

Should you require further information please contact Fergus Hancock, Senior Planning and Assessment Coordinator on (02) 4904 2632 at the Newcastle office.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Jag H2' followed by a long horizontal line.

Per Mark Mignanelli
Manager Major Projects, Mines and Assessment
28 June 2012

18 April 2012

Mr Steve Clair
NSW Office of Environment and Heritage
PO Box 488G
NEWCASTLE NSW 2300

Dear Mr Clair,

Subject: DA 305-11-01: Proposed Modification 5 to Liddell Coal Operations (Modification Application)

Liddell Coal Operations (LCO) is an established open-cut mining operation located at Ravensworth, in the Upper Hunter Valley of New South Wales. Liddell is operated and managed by Liddell Coal Operations Pty Limited, a wholly owned subsidiary of Xstrata Coal Pty Limited (Xstrata), on behalf of a Joint Venture between Xstrata (67.5%) and Mitsui Matsushima Australia (32.5%).

Mining at LCO has been in continuous operation since the 1950s, during which time mining operations have been subject to a number of development consents. In 2001, a development application was lodged with the then Planning NSW to continue operations within the colliery holding. Development Consent DA 305-11-01 was granted by the Minister for Planning on 20 November 2002 for 21 years of continued mining operations at LCO. This DA remains the current development consent for LCO, and has since been modified on four separate occasions.

Director-General Requirements (DGRs) were issued by the Department of Planning and Infrastructure on the 15 February 2012 for a further modification (Mod 5) to DA 305-11-01 under Section 75W of the *Environmental Planning and Assessment Act 1979*. The enclosed Preliminary Environmental Assessment provides further details on the proposed modification, which will primarily comprise an increase in the mining and dump footprint of LCO by approximately 25%, within both the existing development consent boundary and mining lease boundary. Importantly, no changes are proposed to the approved annual rate of ROM production from the mine. In addition, no changes are proposed to the mining method, mining equipment, operating hours, workforce, coal handling techniques and coal transportation from those for which development consent has already been granted.

Global Acoustics have been engaged to undertake a noise impact assessment of the proposed modification. Noise levels will be predicted using RTA Technology's Environmental Noise Model (ENM), a computer based environmental noise model, to determine the acoustic impact of proposed mining operations. The model takes into account geometric spreading, atmospheric absorption, and barrier and ground attenuation.

Results will be calculated for prevailing meteorological conditions determined from data sourced from a local meteorological station. This method is in accordance with the guidelines detailed in the NSW Industrial Noise Policy (INP). The INP defines prevailing conditions as those that occur more than 30% of any time period, in any season. Temperature inversion conditions are to be considered if there is more than 30% occurrence of stability classes F and G during winter nights (18:00 to 07:00).

With regards to this noise assessment, the DGRs state that noise modelling must be undertaken -

"...based on applicable meteorological and stability category temperature inversion conditions to be developed in consultation with OEH"

On this basis, we seek any further input that OEH may have on this noise modelling, and the methodology put forward in this letter.

Should you wish to discuss the Project, please have no hesitation in contacting Ben de Somer (Environment and Community Coordinator) at LCO on 02 6570 9947.

We thank you for your assistance with this matter and look forward to hearing from you.

Yours Faithfully

A handwritten signature in dark ink, appearing to read 'D. Foster', written in a cursive style.

David Foster

Operations Manager

Liddell Coal Operations Pty Ltd



Our reference: DOC12/16728; LIC08/238-03
Contact: Ross Brylinsky (02) 4908 6809

Liddell Coal Operations Pty Ltd
PO Box 7
SINGLETON NSW 2330

16 MAY 2012

Attention: David Foster

Dear Mr Foster

DA 305-11-01: PROPOSED MODIFICATION 5 TO LIDDELL COAL OPERATIONS

I refer to your letter of 18 April 2012 and received on 26 April 2012 requesting comments from the Environment Protection Authority (EPA) on the proposed noise modelling and methodology for DA 305-11-01: Proposed Modification to Liddell Coal Operations (Mod 5).

The EPA notes that Director-General Requirements were issued by the Department of Planning and Infrastructure on 15 February 2012 for Mod 5 under Section 75W of the *Environmental Planning and Assessment Act 1979*.

The following comments are provided in relation to the proposed noise modelling and methodology:

As noted in your letter, temperature inversion conditions are to be considered if there is more than 30% occurrence of stability classes F and G during winter nights (18:00hrs to 07:00hrs). However, the EPA expects that temperature inversion conditions do need to be considered.

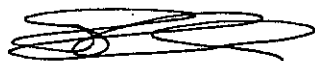
In this regard, the default inversion condition in the *NSW Industrial Noise Policy* (INP) for noise modelling is a lapse rate of 3degC/100m. However, the EPA would prefer that noise modelling be undertaken for F Stability Class conditions, rather than 3degC/100m. With the RTA Technology's Environmental Noise Model (ENM), this might be achieved by modelling for 4degC/100m.

Assuming that the EPA is prepared to license the noise levels predicted for F stability Class conditions, then the license would reflect this with the noise limits applying for all stability classes except G. Compliance could then be assessed by deriving Stability Class from continuous meteorological measurements made at 10m above ground level, using the Sigma Theta method (as outlined in Section E4 of the INP).

Alternatively, if noise modelling is undertaken for the INP default lapse rate of 3degC/100m, then for compliance assessment purposes the EPA would require lapse rates to be determined from continuous temperature measurements simultaneously at both 10m and 60m above ground level, in accordance with the Direct Measurement method (as outlined in Section E2 of the INP).

Please contact Ross Brylinsky on (02) 4908 6809 if you require any further information regarding this matter.

Yours sincerely



KAREN MARLER
Head Regional Operations Unit – Hunter
Environment Protection Authority

Cc: Department of Infrastructure and Planning
Major Project Assessment – Mining and Industry
GPO Box 39
SYDNEY NSW 2001