

WATERMARK

COAL PROJECT

ENVIRONMENTAL IMPACT STATEMENT

February 2013

D Regulatory Correspondence





Planning & Infrastructure

Office of the Director General

Mr Joe Clayton
Project Director
Shenhua Watermark Coal Pty Limited
368 Conadilly Street
GUNNEDAH NSW 2380

11/21326

Ref10/21034

Contact: Paul Freeman
Phone: 02 9228 6587
Fax: 02 9228 6466
Email: paul.freeman@planning.nsw.gov.au

Dear Mr Clayton

State Significant Development - Director-General's Requirements Watermark Coal Project (SSD-4975)

As you are aware, the draft New England North West 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 SRLUP is finalised (see Attachment 1). This policy requires you to prepare an Agricultural Impact Statement as part of your development application and EIS that specifically assesses the impacts of the proposal on strategic agricultural land, having regard to the draft gateway criteria in the draft SRLUP.

Please find a copy of your DGRs attached. These requirements are based on the information you have provided to date, and have been prepared in consultation with relevant government agencies with input from the Watermark Community Consultative Committee and NSW Farmers Association. I have also attached a copy of their comments, which you need to consider and address appropriately in preparing the EIS (see Attachment 3). 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 EIS for the project within two years of the date of issue of these DGRs. The Department will review the EIS for the project carefully before putting it on public exhibition, and will require you to submit an amended EIS if it does not adequately address the DGRs.

The Commonwealth Department of Sustainability, Environment, Water, Populations and Communities (SEWPaC) has determined that the project will also require approval under the *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act), and

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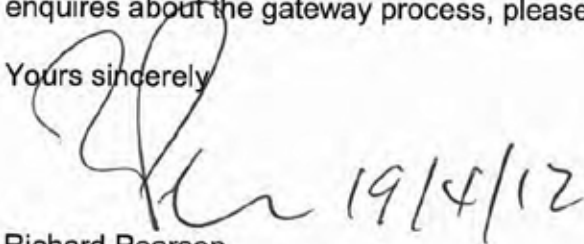
has given the Department its requirements for the project (see Attachment 4). These requirements must be addressed in any EIS you submit for the project.

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 Paul Freeman at the details listed above or Stephen O'Donoghue on 9228 6393. In you have any enquires about the gateway process, please contact Daniel Keary on 9228 6373.

Yours sincerely



Richard Pearson
Deputy Director General
Development Assessment & Systems Performance

Director General's Environmental Assessment Requirements**Section 78A(8A) of the *Environmental Planning and Assessment Act 1979*****State Significant Development**

Application Number	SSD 4975
Development	The Watermark Coal Project, which includes: • developing a new open cut mining operation to extract up to 10 million tonnes of coal a year for 30 years; • constructing and operating a range of associated infrastructure including a coal handling and preparation plant, rail spur line, rail loop and rail loading facility, mine access roads, water supply and management, electricity supply, communications, administration and service infrastructure; • transporting coal from the mine by rail; and • rehabilitating the site.
Location	Kamilaroi Highway, Breeza, Gunnedah Shire LGA.
Applicant	Shenhua Watermark Coal Pty Limited.
Date of Issue	April 2012
General Requirements	The Environmental Impact Statement (EIS) for the development must meet the form and content requirements in Clauses 6 and 7 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i>. In addition, the EIS must include a: • detailed description of the development, including: – need for the proposed development; – justification for the proposed mine plan, including efficiency of coal resource recovery, mine safety, and environmental protection; – likely staging of the development - including construction, operational stage/s and rehabilitation; – likely interactions between the development and existing, approved and proposed mining operations in the vicinity of the site; – plans of any proposed building works; • consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments; • risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment; • detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes: – a description of the existing environment, <u>using sufficient baseline data</u>; – an assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes; and – a description of the measures that would be implemented to avoid, minimise and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage any significant risks to the environment; and • consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS.

	The EIS must address the requirements of the Commonwealth Department of Sustainability, Environment, Water, Populations and Communities (SEWPaC) set out in Attachment 4.
Key Issues	The EIS must address the following specific issues: • Agricultural and Other Land Resources – including 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 New England North West Strategic Regional Land Use Plan. The EIS must also include a detailed description and assessment of the potential impacts on: - soils and land capability (including salinisation and contamination); - landforms and topography, including cliffs, rock formations, steep slopes, etc; - land use, including agricultural, forestry, conservation and recreational use, with particular reference to agricultural land use and Breeza State Forest; - agricultural resources and/or enterprises in the local area, with particular reference to highly productive alluvial soils that may be impacted directly or indirectly by the project, and including: - o pre-mining and post-mining agricultural assessment and mapping (including Land Capability and Agricultural Suitability mapping) of soil characteristics across all proposed disturbance areas, and an assessment of their value and rehabilitation limitations; - o definition of the limit of the Upper Namoi Alluvium, and justification for the nominated limit; - o any change in land-use arising from requirements for biodiversity offsets; - o a detailed description of the measures that would be implemented to avoid, reduce or mitigate impacts of the development on local agricultural resources and/or enterprises; and - o justification for any significant long term changes to agricultural resources, particularly highly productive soils potentially affected by the development; • Water Resources – including: - detailed assessment of potential impacts on the quality and quantity of existing surface and ground water resources, including: - o detailed modelling of potential groundwater impacts; - o impacts on affected licensed water users and basic landholder rights; - o impacts on riparian, ecological, geo-morphological and hydrological values of watercourses, including environmental flows; and - o a consideration of the proposal against the draft Aquifer Interference Policy; - a detailed site water balance, including a description of site water demands, water disposal methods (inclusive of volume and frequency of any water discharges), water supply infrastructure and water storage structures; - an assessment of proposed water discharge quantities and quality/ies against receiving water quality and flow objectives; - assessment of impacts of salinity from mining operations on groundwater and surface water resources, including disposal and management of coal rejects and modified hydrogeology, a salinity budget and the evaluation of salt migration to surface, near surface and groundwater sources; - identification of any licensing requirements or other approvals under the <i>Water Act 1912</i> and/or <i>Water Management Act 2000</i>; - demonstration that water for the construction and operation of the development can be obtained from an appropriately authorised and

	reliable supply in accordance with the operating rules of any relevant Water Sharing Plan (WSP) or water source embargo; - a detailed description of the proposed water management system (including sewage), water monitoring program and other measures to mitigate surface and groundwater impacts; and - a detailed flood impact assessment, which identifies impacts on local and regional flood regimes, including: - o an assessment of the potential for flooding to occur in the open-cut pits; and - o any measures proposed to mitigate potential flood impacts. • Biodiversity – including: - measures taken to avoid, reduce or mitigate impacts on biodiversity; - accurate estimates of proposed vegetation clearing; - a detailed assessment of potential impacts of the development on any: - o terrestrial or aquatic threatened species or populations and their habitats, endangered ecological communities and groundwater dependent ecosystems; and - o regionally significant remnant vegetation, or vegetation corridors; - a comprehensive offset strategy to ensure the development maintains or improves the terrestrial and aquatic biodiversity values of the region in the medium to long term. • Heritage – including an assessment of impacts on Aboriginal cultural heritage and Historic heritage, including: - an Aboriginal cultural heritage assessment (including cultural and archaeological significance) which must: - o demonstrate effective consultation with Aboriginal communities in determining and assessing impacts, and developing and selecting options and mitigation measures; - o outline any proposed impact mitigation and management measures (including an evaluation of the effectiveness and reliability of the measures); and - a Historic heritage assessment (including archaeology) which must: - o contain a detailed history and land-use summary of the site; - o include a statement of heritage impact (including significance assessment) for any State significant or locally significant historic heritage items; and, - o outline any proposed mitigation and management measures (including an evaluation of the effectiveness and reliability of the measures); • Air Quality – including a quantitative assessment of potential: - construction and operational impacts, with a particular focus on dust emissions (including PM_{2.5} and PM₁₀ emissions, and dust generation from coal transport), as well as diesel and blast fume emissions; - spontaneous combustion properties of overburden or reject material; - reasonable and feasible mitigation measures to minimise dust, diesel and blast fume emissions, including evidence that there are no such measures available other than those proposed; and - monitoring and management measures, in particular real-time air quality monitoring and predictive meteorological forecasting. • Greenhouse Gases – including: - a quantitative assessment of potential Scope 1, 2 and 3 greenhouse gas emissions; - a qualitative assessment of the potential impacts of these emissions on the environment; and - an assessment of reasonable and feasible measures to minimise greenhouse gas emissions and ensure energy efficiency; • Noise, Vibration & Blasting – including a quantitative assessment of potential: - construction, operational and off-site transport noise impacts; - blasting impacts on people, livestock and property;
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	- reasonable and feasible mitigation measures (including assessment of restricted night time operations), including evidence that there are no such measures available other than those proposed; and - monitoring and management measures, in particular real-time, attended noise monitoring and predictive meteorological forecasting; • Traffic & Transport – including: - a detailed assessment of the potential impacts of the development on the capacity, safety and efficiency of the: - o local and regional rail network, having regard to the strategic objectives and cumulative impacts for the passenger and freight rail network; and - o local and regional road network, with particular regard to a cumulative traffic impact assessment, condition assessment of the existing network, proposed new road infrastructure and impacts of coal trains on level crossing operations; - details of mine to port or other domestic customer transport movements, train path availability and any required rail infrastructure works; and - a detailed description of the measures that would be implemented to maintain and/or improve the capacity, efficiency and safety of the road and rail networks in the surrounding area over the life of the project; • Visual – including: - a detailed assessment of the: - o changing landforms on the site during the various stages of the project; and - o potential visual impacts of the project on private landowners in the surrounding area as well as key vantage points in the public domain, including lighting impacts; and - a detailed description of the measures that would be implemented to minimise the visual impacts of the project; • Waste - including: - accurate estimates of the quantity and nature of the potential waste streams of the development, including tailings and coarse reject; and - a detailed description of the measures that would be implemented to minimise the production of waste on site, and ensure that any waste produced is appropriately managed; • Hazards - including bushfires; • Social & Economic – including an assessment of the: - potential direct and indirect economic benefits of the project for local and regional communities and the State; - potential impacts on local and regional communities, including: - o increased demand for local and regional infrastructure and services (such as housing, childcare, health, education and emergency services); and - o impacts on social amenity; - a detailed description of the measures that would be implemented to minimise the adverse social and economic impacts of the project, including any infrastructure improvements or contributions and/or voluntary planning agreement or similar mechanism; and - a detailed assessment of the costs and benefits of the development as a whole, and whether it would result in a net benefit for the NSW community; and • Rehabilitation – including the proposed rehabilitation strategy for the site, having regard to the key principles in the Strategic Framework for Mine Closure, including: - rehabilitation objectives, methodology, monitoring programs, performance standards and proposed completion criteria; - nominated final land use, having regard to any relevant strategic land use planning or resource management plans or policies; and
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	- the potential for integrating this strategy with any other rehabilitation and/or offset strategies in the region.
Plans and Documents	The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the <i>Environmental Planning and Assessment Regulation 2000</i> . These documents should be included as part of the EIS rather than as separate documents.
Consultation	During the preparation of the EIS, you must consult with relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with the: • Commonwealth Department of Sustainability, Environment, Water, Population and Communities; • Office of Environment and Heritage (including the Heritage Branch and the Environment Protection Authority; • Division of Resources and Energy within the Department of Trade and Investment, Regional Infrastructure and Services; • Department of Primary Industries (including the NSW Office of Water; NSW Forestry, Agriculture and Fisheries sections; and the Catchments and Lands (Crown Lands Division)); • Transport for NSW (including the Centre for Transport Planning and Roads and Maritime Services); • NSW Health; • Australian Rail Track Corporation, and downstream coal chain operators including Railcorp, Newcastle Ports Corporation and the Hunter Valley Coal Chain Co-ordinator; • Namoi Catchment Management Authority; • Gunnedah Shire Council; • Liverpool Plains Shire Council; and • Tamworth Regional Council. The EIS must: • describe the consultation process used and demonstrate that effective consultation has occurred; • describe the issues raised by public authorities, service providers, community groups and landowners; • identify where the design of the development has been amended in response to issues raised; and • otherwise demonstrate that issues raised have been appropriately addressed in the assessment.
Further consultation after 2 years	If you do not lodge a DA and an EIS for the development within 2 years of the issue date of these DGRs, you must consult further with the Director-General in relation to the requirements for lodgement.
References	The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, Attachment 2 contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this development.

ATTACHMENT 1

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.

ATTACHMENT 2

Technical and Policy Guidelines

The following guidelines may assist in the preparation of the Environmental Impact Statement. This list is not exhaustive and not all of these guidelines may be relevant to your proposal.

Many of these documents can be found on the following websites:

<http://www.planning.nsw.gov.au>

<http://www.bookshop.nsw.gov.au>

<http://www.publications.gov.au>

Policies, Guidelines & Plans

Risk Assessment

AS/NZS 4360:2004 Risk Management (Standards Australia)

HB 203: 203:2006 Environmental Risk Management – Principles & Process (Standards Australia)

Biodiversity

Threatened Species Survey and Assessment Guidelines: Field Survey Methods for Fauna – Amphibians (DECCW 2009)

Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities – Working Draft (DECC 2004)

Threatened Species Assessment Guidelines: the Assessment of Significance (DECC 2007)

Guidelines for Threatened Species Assessment (DoP 2005)

BioBanking Assessment Methodology and Credit Calculator Operational Manual (DECCW 2008)

NSW State Groundwater Dependent Ecosystem Policy (DLWC)

Policy & Guidelines - Aquatic Habitat Management and Fish Conservation (NSW Fisheries)

Policy & Guidelines - Fish Friendly Waterway Crossings (NSW Fisheries)

State Environmental Planning Policy No. 44 – Koala Habitat Protection

Water Resources

Surface Water

National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ)

National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ)

National Water Quality Management Strategy: Guidelines for Sewerage Systems – Effluent Management (ARMCANZ/ANZECC)

National Water Quality Management Strategy: Guidelines for Sewerage Systems – Use of Reclaimed Water (ARMCANZ/ANZECC)

Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC)

State Water Management Outcomes Plan

Any relevant Water Sharing Plans for surface waters under the *Water Management Act 2000*

NSW Government Water Quality and River Flow Objectives (DECC)

Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC)

Managing Urban Stormwater: Soils & Construction (Landcom) and associated Volume 2E: Mines and Quarries.

Managing Urban Stormwater: Treatment Techniques (DECC)

Groundwater	Managing Urban Stormwater: Source Control (DECC)
	Floodplain Development Manual (DIPNR)
	Floodplain Risk Management Guideline (DECC)
	A Rehabilitation Manual for Australian Streams (LWRRDC and CRCCH)
	Technical Guidelines: Bunding & Spill Management (DECC)
	Environmental Guidelines: Use of Effluent by Irrigation (DECC)
	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)
	Murray-Darling Basin Groundwater Quality. Sampling Guidelines. Technical Report No 3 (MDBC)
	Murray-Darling Basin Commission. Groundwater Flow Modelling Guideline (Aquaterra Consulting Pty Ltd)
Air Quality	Guidelines for the Assessment & Management of Groundwater Contamination (DECC, 2007)
	Any relevant Water Sharing Plan for groundwater resources under the <i>Water Management Act 2000</i>
Noise & Blasting	Protection of the Environment Operations (Clean Air) Regulation 2010
	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)
Agriculture / Land Resources	NSW Industrial Noise Policy (DECC)
	Environmental Noise Management – Assessing Vibration: a technical guide (DEC)
	NSW Road Noise Policy (DECCW)
	Interim Guideline for the Assessment of Noise From Rail Infrastructure Projects (DECC)
	Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZECC)
Traffic & Transport	Agricultural Impact Statement Guideline 2012 (DP&I)
	Rural Land Capability Mapping (DLWC)
	Agfact AC25: Agricultural Land Classification (NSW Agriculture)
	Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC)
Heritage	Guide to Traffic Generating Development (RTA)
	Road Design Guide (RTA)
	Draft Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation (DEC 2005)
Aboriginal	The Burra Charter (The Australia ICOMOS charter for places of cultural significance)
Historic	NSW Heritage Manual (NSW Heritage Office)
	The Burra Charter (The Australia ICOMOS charter for places of cultural significance)
Greenhouse Gases	National Greenhouse Accounts Factors (Australian Department of Climate Change (DCC))
	Guidelines for Energy Savings Action Plans (DEUS)
Waste	

Waste Classification Guidelines (DECC)	
Hazards	State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
	Hazardous and Offensive Development Application Guidelines - Applying SEPP 33
	Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis
Rehabilitation	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)
	Strategic Framework for Mine Closure (ANZMEC-MCA)
Socio-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)

ATTACHMENT 3

Agency and Stakeholder Input into Key Assessment Issues

Refer to separate file Attachment



**Office of
Environment
& Heritage**

Our reference : LIC11/100; DOC11/53364
Contact : Robert O'Hern, 6773 7000
Date : 21 November 2011

Mr Howard Reed
Manager Mining Projects
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Attention: Mr Paul Freeman

Dear Mr Reed

Watermark Coal Project – Environmental Assessment Requirements

The Environment Protection Authority (EPA) has received the Department of Planning & Infrastructures (DoPI) request for Environmental Assessment (EA) Requirements for the proposed Watermark Coal Mine. The EPA has considered the details of the project as provided in the document "Watermark Coal Project Background Document – October 2011" with further details and discussions held at the Planning Focus Meeting (PFM) held on 4 November 2011.

The EPA has identified the information it requires to assess the project in **Attachment A**. The proponent should ensure that the EA is sufficiently comprehensive and detailed to allow the EPA to determine the extent of the impact(s) of the proposal.

In summary the EPA's key information requirements for the project are:

- the impact on air quality, noise amenity, water quality and quantity for all operations proposed for the mine and associated infrastructure;
- the impact on threatened species and native vegetation (including Koala habitat);
- impact assessment and protection of Aboriginal heritage, including blasting and vibration from operations and potential instability as a result of open pit operations and layout;
- the design and layout of facilities to minimise potential impact and achieve ambient goals; and
- the actions that will be taken to avoid or mitigate environmental impacts, or compensatory measures to minimise unavoidable impacts.

In carrying out the assessment the applicant should refer to the relevant guidelines in **Attachment B** and also any industry codes of practice or best environmental management practice guidelines, for example:

- the Department of Environment and Heritage's Best Practice Environmental Management in Mining series;
- "Leading Practice Sustainable Development Program for the Mining Industry" Series, Department of Resources, Energy and Tourism; and
- the Australian Minerals Industry Code for Environmental Management.

The regulatory responsibilities of the Office of Environment and Heritage are now carried out by the Environment Protection Authority

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

The EPA requests that 1 hard copies of the EA are provided for adequacy assessment and one CD copy. These documents should be lodged with the EPA's Armidale Office – postal address PO Box 494, ARMIDALE NSW 2350.

If you have any queries regarding this matter please contact Robert O'Hern on (02) 6773 7000.

Yours sincerely,



ROBERT O'HERN
Head Regional Operations Unit - Armidale
Environment Protection Authority

Incl: Attachment A - EA Requirements
Attachment B – Guidance Material

Attachment A –Environmental Assessment (EA) Requirements

Environmental impacts of the project

1. The following environmental impacts of the project need to be assessed, quantified and reported on:
 - Air Quality, including Greenhouse Gas Emissions;
 - Noise and vibration;
 - Water quantity and quality (groundwater and surface waters);
 - Mine rehabilitation and assessment of final void water quality and impacts;
 - Threatened Species; and,
 - Aboriginal Cultural Heritage.
2. These should be assessed in accordance with the relevant guidelines listed in Attachment B
3. Describe mitigation and management options that will be used to prevent, control, abate or mitigate identified environmental impacts associated with the project and to reduce risks to human health and prevent the degradation of the environment.

This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

The proponent will also need to clearly identify and fully evaluate options to avoid/ minimise impacts. A key issue will be minimising surface disturbance through open cut mining vs. underground mining. The full costs (including environmental) and benefits of open cut vs. underground mining need to be identified.

Impacts on air quality

The goal is to maintain existing rural air quality and protect sensitive receptors, both on and off site, from adverse impacts of dust and odour.

Dust (PM2.5, PM10 and TSP) is the primary concern with potential emissions from construction activity, clearing and open cut mining operations, heavy equipment movement, crushing equipment and conveyors, transfer points, loading facilities and from coal, topsoils and overburden stockpiles.

The air quality impacts from the proposed development will need to be assessed using the methodology detailed in the EPA document *"Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales"*. In particular all assumptions used in modelling impacts will need to be clearly identified and justified. In particular, if the modelling and proposed management incorporates dust suppression using water then the volume requirements and source of the water must be identified, particularly for drier periods where water availability for dust suppression may be problematic. Contingencies to modify operations during high wind periods and as a result of water availability may need to be considered to minimise dust impacts. Best practice dust management will need to be incorporated into the design including, including consideration of real time dust monitoring and weather forecasting to feed into mine operations.

Any assumptions made in relation to wind borne dust sources from disturbed/ undisturbed land, particularly the progressive/ maximum area of disturbance against realistic rehabilitation objectives must be clearly established. It is expected that any assumptions in the air quality modelling made in relation to rate of progressive rehabilitation to minimise dust sources from wind borne erosion be a clear commitment by the proponent.

Air quality impacts from movement of coal in uncovered wagons by rail should also be assessed. EPA continues to receive complaints in relation to coal dust from rail transportation. The proponent should liaise with ARTC regarding any outcomes from Pollution Reduction Program on the ARTC rail network licence (EPL 3142) to evaluate coal dust issues from rail transport and implement a work program to reduce dust emissions.

The cumulative impacts incorporating adjoining mining operations and general ambient rural dust levels needs to be assessed – this includes PM10 24 hr dust impacts.

Greenhouse gas emissions

The EA should include a comprehensive assessment of, and report on, the project's predicted greenhouse gas emissions (tCO₂e). Emissions should be reported broken down by:

- a) direct emissions (scope 1 as defined by the Greenhouse Gas Protocol – see reference below),
- b) indirect emissions from electricity (scope 2), and
- c) upstream and downstream emissions (scope 3)

before and after implementation of the project, including annual emissions for each year of the project (construction, operation and decommissioning).

If relevant, greenhouse emissions intensity (per unit of production) should be compared before and after the project. Emissions intensity should be compared with best practice if possible.

The emissions should be estimated using an appropriate methodology, in accordance with NSW, Australian and international guidelines (see below).

The proponent should also evaluate and report on the feasibility of measures to reduce greenhouse gas emissions associated with the project. This could include a consideration of energy efficiency opportunities or undertaking an energy use audit for the site.

The proponent should also identify if there are any cost-effective opportunities to reduce scope 3 emissions (eg by using different methods of supply or distribution).

Impacts of noise and vibration

The development should be designed so that the mine premises and associated activities comply with the NSW Government's *Industrial Noise Policy* (INP) and the Australia and New Zealand Environmental Council's *Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration*. Please note that the recently released publication "*Interim Construction Noise Guideline, DECC 2009*" has advised that construction noise from mining and quarrying needs to be assessed and considered as operational noise under the INP.

Noise impacts associated with road haulage off the defined premises will need to be assessed against the DEC's guidance document '*NSW Environmental Criteria for Road Traffic Noise (EPA, 1999)*'

Sleep disturbance as a result of mine activities, including road/ rail movements on the private premises needs to be fully assessed.

Modifying factor adjustments as outlined in section 4 of the INP need to be fully considered, particularly low frequency noise from locomotive operation and coal handling and preparation plant, impulsive and tonal noise sources.

Impacts of increased rail movements along the rail network to Newcastle needs to be evaluated against the noise objectives set in the ARTC rail network licence (EPL 3142) and the guideline "*Interim Guideline for the Assessment of Noise from Rail Infrastructure Projects, 2007*"

A key issue in the Gunnedah Basin area is that an adequate assessment of impact of inversions be undertaken, using if available, real temperature lapse rate data as outlined in section E of the INP. Anecdotal evidence from existing mining operations near Boggabri suggests that inversions greater than the default of 3°C/100m are a feature of the area exacerbating noise impacts. This issue needs to be fully evaluated in the EA.

The cumulative effects of operational noise and blasting (including increase in blast frequency) from adjoining mining operations needs to be fully evaluated.

Impacts on water quality and quantity

The EPA recommends that a water balance be prepared to model water management through the life cycle of the mine. A detailed water management plan will be required for control of clean water, sediment laden water from disturbed areas and potentially saline/ contaminated water from mining operations and groundwater seepage into the mining void. The proposed mine is adjacent to the Liverpool plains and the design incorporates a pit of varying depth to over 200 metres deep. This is a key concern due to likely water management of excess water and potential impacts on beneficial use of aquifers and groundwater dependent ecosystems.

Any discharge points will need to be identified with estimates of the frequency and volume of discharges and likely water quality discharges for key pollutants (but not limited to):

- Total dissolved and suspended solids;
- Heavy metals;
- Grease and oil;
- Nutrients;
- pH
- Total organic carbon; and
- Conductivity (salts)

The EA should consider any proposed discharge in terms of NSW Water quality and river flow objectives and utilising the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000). In addition, the Namoi Catchment Action Plan (CAP) objectives should be used to guide discharges including reference to the NSW Salinity Strategy end of catchment salt concentration and load targets. Discharges of salt to the Namoi River, including potential lateral seepage and inputs to deep drainage, from land application, need to consider green offsets with an objective of no net impact from the development.

An assessment of potential water quality impacts on groundwater resources must also be undertaken. An assessment of likely water quality and frequency of discharges from the final mining void following rehabilitation must also be undertaken. The proponent must demonstrate that options for minimising the final mine void have been identified and that discharges from the mining void will meet ambient water quality targets and stored mine void water quality will meet requirements for proposed future land-use on the premises. An objective of no final mine void should also be fully evaluated with a minimum objective of final void depth being above predicted groundwater recovery levels to avoid long term impacts as a groundwater sink and land use sterilisation.

Impacts on biodiversity and specifically threatened species and their habitat

Generally, steps in the assessment in accordance with the Part 3A threatened species guidelines includes:

1. A field survey of the site should be conducted and documented in accordance with the gazetted draft *Guideline for Threatened Species Assessment* and the document "Threatened Biodiversity Assessment – Guidelines for Developments and Activities" (Working Draft) (DEC 2004)
2. Likely impacts on threatened species and their habitat need to be assessed, evaluated and reported on. The assessment should specifically report on the considerations listed in Step 3 of the draft guideline.
3. Describe the actions that will be taken to avoid or mitigate impacts or compensate for unavoidable impacts of the project on threatened species and their habitat. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

4. Describe the extent of loss of any native vegetation and a strategy to offset any losses to ensure maintenance of, or improved outcome for biodiversity.
5. The EA needs to clearly state whether it meets each of the key thresholds set out in Step 5 of the guideline.

The EA must consider the corridor values or connective importance of any vegetation on the subject land. The EPA prefers that vegetation on adjoining land that exhibits these corridor values should be retained and, where necessary, rehabilitated. The final rehabilitation objectives, with appropriate performance monitoring against rehabilitation objectives, should be clearly defined in the EA.

The impact on Koala habitat is obviously a key concern. It noted that work has been commenced on identifying and protecting Koala's and their habitat in the proposed mine area. Management of Koala and their habitat will need to be fully assessed and impacts avoided / mitigated in accord with Best Practice.

Impacts on Aboriginal cultural heritage values

1. The EA should address and document the information requirements set out in the draft *Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation* involving surveys and consultation with the Aboriginal community. Please note that the the EPA has recently released a new guideline *"Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010."*
2. Identify the nature and extent of impacts on Aboriginal cultural heritage values across the project area.
3. Describe the actions that will be taken to avoid or mitigate impacts or compensate to prevent unavoidable impacts of the project on Aboriginal cultural heritage values. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.
4. The EA needs to clearly demonstrate that effective community consultation with Aboriginal communities has been undertaken in determining and assessing impacts, developing options and making final recommendations.

Impacts of the project on Native Vegetation.

The EA needs to address the potential impact on native vegetation, specifically:

1. The hectares of native vegetation that will have to be cleared to accommodate mining for the extension project;
2. The floristics of the botanical communities of native vegetation that will need to be cleared;
3. The extent of native vegetation on the site which may be remnant vegetation, protection regrowth or non-protected regrowth as defined by the Native Vegetation Act 2003;
4. The requirement to develop suitable offset(s) to improve or maintain environmental outcomes for the lawful clearing of native vegetation, in relation to four environmental values: water quality, soils, salinity and biodiversity (including threatened species).

Attachment B - Guidance Material

1. *Assessing Environmental Impacts*

Air quality

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

Greenhouse gas emissions

- The Greenhouse Gas Protocol: Corporate Standard, World Council for Sustainable Business Development & World Resources Institute <http://www.ghgprotocol.org/standards/corporate-standard>
- National Greenhouse Accounts (NGA) Factors, Australian Department of Climate Change (Latest release), <http://www.climatechange.gov.au/publications/greenhouse-acctg/national-greenhouse-factors.aspx>
- National Greenhouse and Energy Reporting System, Technical Guidelines (latest release) <http://www.climatechange.gov.au/en/government/initiatives/national-greenhouse-energy-reporting/tools-resources.aspx>
- National Carbon Accounting Toolbox <http://www.climatechange.gov.au/government/initiatives/ncat.aspx>
- Australian Greenhouse Emissions Information System (AGEIS) <http://ageis.climatechange.gov.au/>

Noise and vibration

- NSW Industrial Noise Policy (EPA, 1999)
- NSW Environmental Criteria for Road Traffic Noise (EPA, 1999)
- Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration (ANZECC 1990)
- Interim Noise Construction Guidelines (DECC 2009)
- Interim Guideline for the Assessment of Noise from Rail Infrastructure Projects, 2007. See <http://www.environment.nsw.gov.au/noise/railnoise.htm> for more guidance material.
- Assessing Vibration: a Technical Guideline, DECC, 2006.

Water and Soils

Water quality

- National Water Quality Management Strategy: Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000)
- NWQMS Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC 2000)
- Water Quality and River Flow Objectives for the Namoi River Catchment (DEC, 2006) <http://www.environment.nsw.gov.au/ieo/Namoi/index.htm>
- Namoi River Catchment Action Plan (CAP)

Waste water

- National Water Quality Management Strategy: Guidelines for Sewerage Systems - Effluent Management (ARMCANZ/ANZECC 1997)

- National Water Quality Management Strategy: Guidelines for Sewerage Systems – Use of Reclaimed Water (ARMCANZ/ANZECC 2000)
- Environmental Guidelines for the Utilisation of Treated Effluent by Irrigation (NSW DEC 2004)

Stormwater

(note: some of these documents will be revised in 2006)

- Managing Urban Stormwater: Soils and Construction 4th Edition (Landcom 2004)
- Managing Urban Stormwater: Soils and Construction – Vol 2E Mines and Quarries, 2008.
- Managing Urban Stormwater: Source Control (EPA 1998)
- Managing Urban Stormwater: Treatment Techniques (EPA 1998)

Groundwater

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

Waste

- Guideline for the Use and Disposal of Biosolids Products (NSW EPA 1997)
- Environmental Guidelines: Solid Waste Landfills (NSW EPA 1996)
- Draft Environmental Guidelines - Industrial Waste Landfilling (April 1998)
- Waste Classification Guidelines Part 1: Classifying Waste, April 2008.

2. Assessing Threatened Species Impacts

Part 3A Draft Guidelines for Threatened Species Assessment - Available from Dept of Planning

Threatened Biodiversity Assessment – Guidelines for Developments and Activities (Working Document) (DEC 2004) – Available from DEC's website at:-

<http://www.environment.nsw.gov.au/surveys/BiodiversitySurveyGuidelinesDraft.htm>

Environmental Assessment Guidelines: Flora and Fauna (Attachment C). Guidelines for the threatened species "Assessment of Significance" (known previously as the "8 part test") are available from DECC at the following web address:

<http://www.environment.nsw.gov.au/threatenedspecies/tsaguide.htm>

Biobanking methodologies and offset principles are available at:

<http://www.environment.nsw.gov.au/biobanking/>

<http://www.environment.nsw.gov.au/biocertification/offsets.htm>

3. Assessing Aboriginal Cultural Heritage Impacts

Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation - Available from Dept of Planning.

Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010

<http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf>

Aboriginal Cultural Heritage Standards and Guidelines Kit

<http://www.environment.nsw.gov.au/resources/cultureheritage/aboriginalHeritageGuidelinesKitFinal.pdf>



**Department of
Primary Industries
Office of Water**

**Mining Projects
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001**

Attention: Paul Freeman

Contact Fergus Hancock
Phone 02 4904 2532
Mobile 0413 302593
Fax 02 4904 2501
Email fergus.hancock@water.nsw.gov.au

Our ref ER 21659

Your ref SSD-4975

Dear Paul

Watermark Coal Project (SSD-4975) - Director-General's Requirements

I refer to your communication of 7 November 2011. The Office of Water has reviewed the Preliminary Environmental Assessment for the Watermark Coal Project and provides the following advice, as well as detailed comments in **Attachment A**.

The Office of Water requires that the Environmental Impact Statement (EIS) for the proposal demonstrates the following:

1. Adequate and secure water supply is available for the life of the project. This includes confirmation that water supplies for construction and operation of the mine and associated activities are sourced from an appropriately authorised and reliable supply in accordance with the operating rules of relevant water sharing plans, including the:
 - *Water Sharing Plan for the Upper Namoi and Lower Namoi Regulated River Water Sources 2003;*
 - *Water Sharing Plan for the Upper and Lower Namoi Groundwater Sources 2003;*
 - *Water Sharing Plan for the Phillips Creek, Mooki river, Quirindi Creek and Warrah Creek Water Sources;*
 - *Draft Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources 2011 (to commence early 2012); and*
 - *Draft Water Sharing Plan for the Namoi Unregulated and Alluvial Water Sources (to commence in 2012).*
2. Compliance with the rules in relevant water sharing plans, in particular the distance restrictions for water supply works and the process of assessment with respect to water source protection criteria.
3. Baseline monitoring/data over a minimum two year period of all surface and groundwater sources and dependent ecosystems within and adjacent to the mining operation area for calibration of models.

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4. Predictive assessments of the impact of the project on surface and groundwater sources, basic landholder rights to water, adjacent licensed water users and groundwater dependent ecosystems.
5. Definition of the boundary limit to the Upper Namoi alluvium, and assessment and justification for the nominated boundary limit. Full geomorphic, hydrologic and salinity assessment of the surface and alluvial groundwater systems associated with the Upper Namoi alluvium.
6. Development of a salinity budget, evaluation of salt migration to any surface water sources and justification for any salt migration changes pre to post mining.
7. Identification of and design and implementation of a monitoring program for all surface and groundwater sources and dependent ecosystems, within and adjacent to the mining operation area to provide confidence in predictions made on surface and ground water impacts by the proposal. This generally requires a baseline of at least two years surface and ground water data to form an adequate baseline.
8. Mitigation strategies to address unavoidable impacts on surface and groundwater sources and dependent ecosystems, for the operational and post mining phases of the project, and final landform hydrogeological regime.
9. Measures to maintain any identified groundwater-dependent ecosystems, including stygofauna assemblages within the groundwater drawdown area of the Namoi alluvium.
10. Detailed examination of options to remediate and rehabilitate any excavated and/or disturbed areas of watercourses draining to Native Dog and/or Watermark Creeks and any connected alluvium, and justification for criteria to completion of the project rehabilitation program.

To demonstrate the above, the following information is essential for inclusion in the EIS:

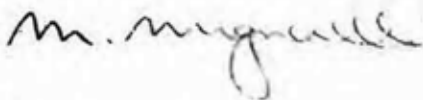
11. Identification of site water demands in terms of both volume and timing for the life of the project. This is to include details of any water reticulation infrastructure and alternate mechanisms (e.g. vehicles) that supply water to the site.
12. A description and assessment of any requirements (including potential requirements) to intercept groundwater, including predicted dewatering volumes, zone of drawdown and associated impact, and water quality and disposal methods.
13. Definition of the boundary limits to the Upper Namoi alluvium; and assessment and justification for the nominated alluvial boundary limits. Full geomorphic, hydrologic and salinity assessment of the surface and alluvial groundwater systems associated with the Upper Namoi alluvium should be provided.
14. Justification to nominated setback distance from the Upper Namoi alluvium in terms of existing and predicted changes in contribution, flux and migration of groundwater, and maintenance of existing groundwater quality ranges and zonations.
15. Salinity budgets for pre and post mining scenarios should be assessed in the EIS, including an evaluation of salt migration to any surface water sources and justification for any salinity discharge changes (i.e. pre to post mining).

16. Analysis of the water sources affected by the project and identification of which water sources are the subject of a water sharing plan.
17. Detailed assessment of the impact of the project on surface and groundwater sources, basic landholder rights to water, adjacent licensed water users and groundwater dependent ecosystems; and analysis of the effect of any predicted impacts on water sharing arrangements prescribed in any relevant water sharing plan which is in force. This must address the hierarchy of water source value and dependence, including but not limited to impacts on the following: yield or flow classes; quality; connectivity between porous/fractured rock, alluvial and surface water sources; environmental dependence and dependence for basic landholder rights; and environmental water established and maintained by the plan rules.
18. Analysis of options for the project in terms of achieving avoidance of impacts to surface and groundwater sources, basic landholder rights to water, adjacent licensed water users and groundwater dependent ecosystems. If the options analysis cannot demonstrate avoidance, then sufficient mitigation, remediation and rehabilitation options must be examined.
19. Detailed examination of options to remediate and rehabilitate any excavated and/or disturbed watercourses including Watermark Creek and any connected alluvium, and justification for criteria regarding completion of the project rehabilitation program.

An expanded list of key issues to be addressed in the EIS is provided in **Attachment A**.

If you require further information please contact Fergus Hancock on 4904 2532.

Yours sincerely



Mark Mignanelli
Manager Major Projects, Mines and Assessment
21 November 2011

ATTACHMENT A**Watermark Coal Project (SSD 4975)****NSW Office of Water Director-General's Requirements****1. Legislation**

The EIS is required to take into account the objects and regulatory requirements of the *Water Act 1912* and *Water Management Act 2000* (WMA 2000), as applicable.

2. Water Sharing Plans

Water sharing plans (WSP) which are prepared under the provisions of the WMA 2000, establish rules for access to and the sharing of water between the environment and water users.

The project is located within the plan area for the *Water Sharing Plan for the Upper and Lower Namoi Groundwater Sources 2003*, and the proposed *Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources 2011* (to commence early 2012).

The project is also located close to the Lake Goran, Dog Trap and Mooki zones of the Namoi alluvial groundwater system, for which the *Water Sharing Plan for the Upper Namoi and Lower Namoi Regulated River Water Sources 2003* is in force.

The EIS is required to demonstrate how the project is consistent with the relevant rules in these WSPs, including rules for access licences and rules for the management of local impacts. In particular, the EIS must demonstrate that rules governing access to water within the surface and groundwater sources affected by the project are appropriately incorporated into planning for the proposal, and that rules governing ecosystem protection, water quality and surface-groundwater connectivity are fully considered.

NOW requires this to be addressed in a separate section of the EIS, with a checklist of rules under these WSPs governing:

- planned and adaptive environmental water provisions;
- water supply work approvals (considering the mining excavation as forming a work that has, or could have, the effect of diverting water flowing to or from a water source, as defined in the WMA);
- long term average extraction limits and available water determinations for the life of the project, and final landform and post mining hydrologic configuration;
- water allocation account management rules;
- total daily extraction limits and rules governing environmental protection;
- rules governing surface and groundwater connectivity, constraints within the water source and local impacts; and
- access licence dealings.

3. State Government Technical and Policy Documents

The EA must address the NSW State Government natural resource management policies, as applicable. These policies include but are not limited to:

- NSW Inland Groundwater Shortage Zones Order No. 2 (2008)
- NSW State Groundwater Policy Framework Document (1997)
- NSW State Groundwater Quality Protection Policy (1998)
- NSW State Groundwater Dependent Ecosystems Policy (2002)
- Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)
- Australian and New Zealand Guidelines for Water Quality Monitoring and Reporting (2000)
- Guidelines for the Assessment and Management of Groundwater Contamination (2007)
- Guidelines for Groundwater Protection in Australia (1995)
- NSW Office of Water Guidelines for Controlled Activities (2008)

4. Groundwater

The NSW Office of Water is responsible for the sustainable and integrated management of the groundwater sources of NSW for the benefit of both present and future generations. To ensure the sustainable and integrated management of groundwater sources which may be affected by this project, the Office of Water requires the following:

4.1 Licensing

The EIS must identify all proposed groundwater extraction and all proposed water supply works which take groundwater, including bores and excavations for the purpose of investigation, extraction, dewatering, testing or monitoring. The EIS must provide analysis of the proposed water supply arrangements against the operating rules and other requirements of any relevant water sharing plan in force.

The EIS must provide details of the purpose, location and expected annual extraction volumes of all proposed groundwater extraction. The EIS must also provide details of the purpose, location, construction details and expected annual extraction volumes for all proposed water supply works which take groundwater. Although approved State Significant Developments are exempt from requiring a water supply work approval (s 89J of the *Environmental Planning and Assessment Act 1979*), the EIS must take into account the approval requirements of relevant water related legislation.

4.2 Groundwater Sources

The EIS is required to identify groundwater issues and potential degradation to groundwater sources and provide the following:

- Details on the groundwater sources which will be subjected to any of the following:
 - a) the penetration of an aquifer,
 - b) the interference with water in an aquifer,
 - c) the obstruction of the flow of water in an aquifer,

- d) the taking of water from an aquifer in the course of carrying out mining, or any other activity prescribed by the regulations,
- e) the disposal of water taken from an aquifer as referred to in paragraph (d).
- Baseline monitoring or data for a minimum of 2 years fortnightly sampling for groundwater quantity and quality for all aquifers within and adjacent to the mining operation area.
- Description of flow directions and rates, and the physical and chemical characteristics of the aquifers within the mine area and adjacent catchments.
- Details of the predicted highest groundwater table within the aquifers within the mine area and adjacent catchments.
- Extent of alluvium within the mine area and adjacent catchments, and details on connectivity of aquifers to these watercourses within the mine area and adjacent catchments.
- Details of any works likely to result in pollutants infiltrating into the groundwater sources.
- Details of proposed methods of the disposal of waste water and approval from the relevant authority.
- Assessment of salinity downstream of the site within the Mooki catchment within Zones 7, 8 and 3 of the Namoi alluvium.
- Assessment of the potential effects of mining operations on the quality of groundwater both in the short and long (post mining) term.
- Details of the existing groundwater users within the area (including the environment) and details of any potential impacts on these users.
- Details on preventing groundwater pollution so that remediation is not required.
- Details of the predicted impacts of any final landform on the groundwater regime.
- Details of critical thresholds for negligible impacts to groundwater sources.
- Details of the results of any models or predictive tools used to predict groundwater drawdown, inflows into the site and impacts on affected water sources within the mine area and adjacent catchments.

4.3 Groundwater Dependent Ecosystems

The NSW Groundwater Dependent Ecosystem Policy provides principles for the management of groundwater dependent ecosystems (GDEs). The EIS is required to demonstrate how the project is consistent with these principles, especially Principle 5, relate to protection of species and ecosystems which are dependent on maintenance and quality within adjacent groundwaters to the mining proposal.

The EIS must provide the following information:

- Identification of potential GDEs within the study area.
- Details of current GDE condition, and water quantity and quality required by the GDEs (based on minimum 2 year fortnightly baseline data).

- Details of a flora and fauna assessment for all GDEs, which includes, macroinvertebrate and macrophyte diversity and abundance assessments within all watercourses within and adjacent to the mining area.
- Stygofauna within any aquifer which will be potentially impacted during mining.
- Details of critical thresholds for negligible impacts.

The EIS must also demonstrate the following:

- That, where possible, natural patterns of groundwater flow will be maintained.
- That groundwater extraction will be managed within defined limits, so that groundwater levels which are critical for GDEs will not be disrupted and that there is sufficient flow to sustain ecological processes and maintain biodiversity.
- That the project will not cause adverse changes in groundwater quality, leading to degradation of existing beneficial use class(es) of groundwater and that sufficient groundwater of suitable quality is available to GDEs when needed.
- That the precautionary principle is applied in the protection of GDEs, particularly with regard to the dynamics of flow and availability, and the species reliant on these attributes.
- Protective measures will minimise any impacts on GDEs and potential offset areas will be monitored and protected.

4.4 Contingency Measures

Where potential impacts on a groundwater source, GDE or water users are identified, the EIS will need to identify threshold limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts. In particular, the EIS must provide the following:

- Details of any proposed monitoring programs, including water level and quality data.
- Reporting procedures for any monitoring program including mechanism for transfer of information to the Office of Water.
- Identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (this may entail water level triggers or a beneficial use category).
- Description of the remedial measures or contingency plans proposed.
- An assessment of any groundwater source/aquifer that may be sterilised as a consequence of the project.
- Any funding assurances covering the anticipated post development maintenance cost, for example, on-going groundwater monitoring for the nominated period.

5. Watercourse Protection

The Office of Water is responsible for the sustainable and integrated management of the surface water sources of NSW for the benefit of both present and future generations. The Office of Water is also responsible for protecting waterfront land from impacts arising from controlled activities. To ensure the sustainable and integrated management of surface water sources which may be

affected by this project, and to protect waterfront land from impacts arising from controlled activities which form part of this project, the Office of Water requires the following:

- Identification of watercourses which will be governed under the
- Remediation and rehabilitation requirements for the long term integrity of watercourses which are disturbed

5.1 Licensing

The EIS must identify all proposed surface water extraction and all proposed water supply works to take surface water. The EIS must provide details of the purpose, location and expected annual extraction volumes of all proposed surface water extraction. The EIS must also provide details of the purpose, location, construction details and expected annual extraction volumes for all existing and proposed water supply works which take surface water, including pumps, dams, diversions, cuttings and levees. Although consented State Significant Developments are exempt from requiring a water supply work approval (s 89J of the *Environmental Planning and Assessment Act 1979*), the EIS must take into account the requirements of relevant water related legislation.

5.2 Watercourses

The EA must include an assessment of the impact of the project on watercourses and associated riparian vegetation and provide the following:

- Identification of sources of surface water within and adjacent to the mining area.
- Baseline monitoring or data for a minimum of 2 years fortnightly sampling for surface water quantity and quality for all watercourses within and adjacent to the mining operation area.
- Geomorphic assessment of Dog Trap and Watermark Creeks and associated tributaries within the mining area, including details of stream order (using the Strahler System), river style and energy regimes both in channel and on any adjacent floodplains.
- Detailed description of any proposed development or diversion works including all construction, clearing, draining, excavation and filling.
- Detailed description of all potential environmental impacts of any proposed development in terms of vegetation, sediment movement, channel stability, water quality and hydraulic regime.
- For the proposed construction of any watercourse diversions, detailed design description and associated hydrologic and hydraulic modelling, impact assessment, and supporting stabilisation and rehabilitation measures. The impact assessment should also include consideration of the existing riparian and aquatic environments, associated impacts and rehabilitation requirements.
- Details of the existing surface water users within the area (including the environment) and details of any potential impacts on these users.
- Description of the design features and measures to be incorporated into the project to guard against long term actual and potential environmental disturbances, particularly in respect of maintaining the natural hydrological regime and sediment movement patterns and the identification of riparian buffers.

- Details of the impact on water quality and remedial measures proposed to address any possible adverse effects.
- Details of critical thresholds for negligible impacts to water sources

5.3 Riparian Protection

Riparian corridors form a transition zone between terrestrial and aquatic environments and perform a range of important environmental functions. The protection or restoration of vegetated riparian areas is important to maintain or improve the geomorphic form and ecological functions of watercourses through a range of hydrologic conditions.

5.4 Contingency Measures

Where potential impacts are identified, the EIS will need to identify threshold limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to the existing surface water resource and any dependent ecosystems or water users. In particular, the EIS must provide the following:

- Details of any proposed monitoring programs, including flow rates and quality data.
- Reporting procedures for any monitoring program including mechanism for transfer of information to the Office of Water.
- Identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (surface water energy and water quality limits and thresholds, and any ground water level triggers or a beneficial use category).
- Description of the remedial measures or contingency plans proposed.
- Assessment of both operational and long term (post project period) impacts to any surface and/or ground water source which may be detrimentally affected
- Any funding assurances covering the anticipated post development maintenance cost, for example, stream rehabilitation maintenance and performance monitoring and/or on-going groundwater monitoring for the nominated period.

7. Water Management Structures

The Office of Water is responsible for the management and licensing of water management structures. If the project includes existing or proposed water management structures, the EIS should provide information on the following:

- For existing structures:
 - Date of construction.
 - Details of the legal status/approval.
 - Details of any proposal to change the purpose of existing structures.
 - Details of any remedial work required to maintain the integrity of the existing structures.
- For existing and proposed structures:

- Clarification if the structures are on a watercourse.
- Details of the purpose, location and design specifications for the structures.
- Size and storage capacity of the structures.
- Calculation of the maximum harvestable right dam capacity for the site.
- Details if the structures are affected by flood flows and changes in hydrologic and/or energy regime occurring as a consequence of the proposed project.
- Details of any proposal for shared use, rights and entitlement of the structures.

8. Rehabilitation, Final Landform Management

The EIS must include:

- Justification of the proposed final landform with regard to minimising the impact on local and regional groundwater and surface water systems.
- The measures that would be established for the minimisation of impacts on local and regional groundwater and surface water systems, and for the ongoing management of the site following the cessation of the project.
- Detailed modelling of potential groundwater volume, flow and quality impacts associated with the presence of an inundated final void on identified receptors, specifically considering those environmental systems that are likely to be groundwater dependent.
- A detailed description of the measures to be put in place to ensure that sufficient resources are available to implement the proposed rehabilitation of water related impacts.

END ATTACHMENT A
21 November 2011



Trade &
Investment
Resources & Energy

OUT11/21351

Mr Paul Freeman
Planner, Mining Projects
Department of Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Mr Freeman

Director General Requirements for the Watermark Coal Project

I refer to your email of 7 November 2011 requesting input to the Director General Requirements (DGRs) for the Watermark Coal Project. NSW Trade & Investment, Regional Infrastructure & Services, Division of Resources & Energy (DRE) understands that the development is a State Significant Development under Part 4 of the *Environmental Planning and Assessment Act 1979*.

DRE has reviewed the *Watermark Coal Project Background Document* dated October 2011 and provides the following comments which are directed at specific areas of DRE's responsibility for this proposal:

MINING TITLE

As coal is a prescribed mineral under the *Mining Act 1992*, the proponent is required to hold appropriate mining titles from DRE in order to mine this mineral. The proponent should liaise with DRE regarding any proposed mining lease application.

Any Environmental Impact Statement (EIS) for this project should clearly identify existing coal titles, coal title applications and the final proposed mining lease area.

MINING ACTIVITIES AND INFRASTRUCTURE

The EIS must outline the interaction between the proposed mining activities and the existing environment and include a comprehensive description of the following activities and their impacts:

- Mine layout and scheduling
- Mine Infrastructure
- Coal preparation and coal handling activities
- Surface facilities and storage requirements
- Water management.

REHABILITATION

The proponent should include a Rehabilitation section in the EIS which addresses the following aspects:

- **Post Mining Land Use** – for the project area directly impacted (by mining facilities and infrastructure) the proponent must identify and assess post mining land use options and provide a statement of the preferred post mining land use outcome in the EIS. This should include a discussion of the benefits of the post mining land use to a subsequent landowner, the local community and the state of NSW.
- **Rehabilitation Objectives and Domains** – a set of project rehabilitation objectives must be included that clearly define the environmental outcomes required to achieve the post-mining land use. This should include identification of each rehabilitation domain and a description of rehabilitation objectives for each domain.
- **Rehabilitation Methodology** – outline general rehabilitation methods and procedures that will be employed by the project to ensure the rehabilitation objectives for each domain are met.

Strategic Rehabilitation Completion Criteria – nominate strategic completion criteria for the five phases of the rehabilitation process, namely

- (1) Decommissioning;
- (2) Landform Establishment;
- (3) Growth Media Development;
- (4) Ecosystem Establishment; and
- (5) Ecosystem Development.

If necessary, objective criteria may be presented as ranges rather than finite indicator levels. Subjective criteria may also apply where a gap in technical knowledge is experienced. It is expected that further refinement of these criteria will be undertaken and included in the Mining Operations Plan (MOP) or Rehabilitation and Environmental Management Plan (REMP).

- **Conceptual Final Landform Design** – a drawing at an appropriate scale with final landform contours should be provided. This drawing should identify, but not be limited to, the following attributes of the final landform; vegetation types, habitat features, contaminated areas, final voids, access and internal roads, fencing design and other remaining infrastructure such as sheds, dams, bores and pipelines.

Should you have any enquires regarding this matter please contact Tracey Godwin,
A/ Principal Adviser, Industry Coordination on (02) 4931 6465.

I understand that the Department of Primary Industries and the Office of Water will
provide separate responses to you.

Yours sincerely


William Hughes
A/Director Minerals Operation

17/4/11



Department of Primary Industries

Our Reference: OUT11/21786

Department of Planning & Infrastructure
GPO Box 39 SYDNEY 2001
SYDNEY 2001

Attention: Paul Freeman

Re: Shenhua - Watermark Coal Project Director General Requirements

The Department of Primary Industries wishes to draw the attention of the proponent to the imminent release of guidelines for the completion of Agricultural Impact Statements arising out of the Strategic Regional Landuse Policy. DPI provides the following comments to assist in the framing of Director-General's Requirements for the preparation of an Environmental Impact Statement for this proposal.

The comments provided do not override or seek to reduce or refine the Agricultural Impact Statement to only address the below points. These comments are provided to guide the proponent to particular areas in which they should provide greater attention.

This proposal should also be referred to the Office of Water for separate comment.

The Development needs to pay particular attention to:

- The impact on surrounding Agriculture from the disturbance to surface and ground water flow, pressure, recharge and quality is critical. The productive potential of the Liverpool plains is limited primarily by water availability. Irrigation industry has significant investment and dependence based on the present water resource. Also the importance of ground water for livestock must not be overlooked.
The loss of water from the irrigation sector needs to be considered. The accumulated impact of water moving from the irrigation sector to the mining sector over the long term will also have an impact that needs to be assessed.
- The impact on rural labour and rural communities. eg. what will the development mean for the maintenance of rural communities and rural fire service membership etc. will a farming community be displaced or significantly weakened as a result of the development
- How will the development increase competition for rural sector to attract labour, particularly the irrigation industry which requires higher labour inputs.
- How much competition and capacity is there for access to rail for the transport of grain out of Gunnedah, Narrabri, Moree, Weemelah.

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- The accumulated effect of mining changing the rural nature in the region. The presence of another mine is changing a predominately rural area to that with a high mining presence. Regionally there is a greater presence of mining due to the numerous mines operated by Whitehaven, Idemitsu and, Ashton Resources. This not only refers to the visual impact of the site and greater presence of mining related vehicles laden with coal fines and warning flags commuting to and from the site and in towns but, the accumulative effect of dust particles below the PM10 on the rural community and rural landscape values. The initiative to monitor dust at the 2.5 level is noted and commended.
- The plans on how the sharing of Environmental Data will lead to less impact on the rural environment should be expanded. The commitment to date to share data is commended
- The use of biodiversity offsets on Agricultural land needs to be explored. The tying up of current and future productive agricultural land under biodiversity offsets is not in the interest of the agricultural community.
- Significant weed species and risks within the proposed development footprint and develop weed suppression, management and containment strategies to ensure they are not spread. Particular attention should be paid to soil stockpiles, roadsides and disturbed areas.
- Post mining landuse and land capability and agricultural land capability
- The strategic approach to how the development is to be staged so as to minimise the placement of over burden on agricultural land is noted and commended. The commitment to placement of over burden on/in pre mined areas is commended. This staging of the development could be further highlighted along with any other initiatives to minimise the impact of final voids.
- Mine Rehabilitation. The standard of mine rehabilitation being demanded by the community is to a higher standard. The significance of agricultural production of the area will also draw greater attention to the rehabilitation standard with particular focus on its productive potential component, including but not limited to subsoil constraints and soil fertility.

Should you or the proponent wish to seek further comment or advice please contact Andrew Scott at the Tamworth Office on 02 67631142 or e-mail andrew.scott@industry.nsw.gov.au

Thank you,



 Andrew Scott
 Resource Management Officer
 North West Region

18th November 2011

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Page 2 of 2



Primary Industries

V11/2430
OUT11/21810

21st November 2011
Paul Freeman
Mining Projects
NSW Planning & Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Paul

RE: Watermark Coal Project Director General Requirements – NSW DPI Fisheries

NSW DPI Aquaculture, Conservation & Marine Parks Branch (AC&MP) are responsible for ensuring that fish stocks are conserved and that there is "no net loss" of key fish habitats upon which they depend. To achieve this, the Department ensures that developments comply with the requirements of the *Fisheries Management Act 1994* (namely the aquatic habitat protection and threatened species conservation provisions in Parts 7 and 7A of the Act respectively) and the associated *Policy and Guidelines for Aquatic Habitat Management and Fish Conservation (1999)*. NSW DPI Fisheries offer the following comments.

GENERAL AQUATIC ECOLOGICAL ASSESSMENT

An aquatic ecological assessment should be made of the impacts of the pipeline on the Mooki River & Native Dog Gully & include the following information;

- Area which may be affected either directly or indirectly should be identified and shown on a map (and aerial photographs) including the proposed location of all pipelines to waterways within the project area.
- Description and quantification of aquatic and riparian vegetation in this area should be presented and mapped. This should include an assessment of the extent and condition of riparian vegetation and the extent and condition of freshwater aquatic vegetation including the presence of significant habitat features (e.g. gravel beds, snags, reed beds, etc)
- Quantification of the extent of aquatic and riparian habitat removal or modification which will result from the proposed development.

HYDROLOGICAL IMPACTS

- The impacts of altered hydrology on associated aquatic & riparian ecosystems such as floodplain wetlands & riparian vegetation. Changes in flow patterns may result in the death of aquatic and riparian vegetation that relies on surface water/shallow ground water flows.
- Monitoring of groundwater and surface water interactions to ensure that no negative impacts on surface water quantity or quality.

FISHERIES AQUACULTURE, CONSERVATION & MARINE PARKS' BRANCH
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PUMP EXTRACTION SCREEN TECHNOLOGY

The department has been collaboratively working with the irrigation industry for several years to reduce the impacts of irrigation infrastructure removing and damaging juvenile/adult fish from river systems through the use of extraction screen technology on irrigation pump inlet valves. The EA should address the use of pump extraction screen technology for water extraction from the Mooki River to minimise the impacts of fish mortality.

THREATENED SPECIES, POPULATIONS AND ECOLOGICAL COMMUNITIES— FISHERIES MANAGEMENT ACT 1994

The proposal should include a threatened aquatic species assessment (as per part 7A *Fisheries Management Act 1994*) to address whether there are likely to be any significant impacts on listed threatened species, populations or ecological communities listed under the *Fisheries Management Act 1994*. Species, populations and ecological communities likely to be present within this catchment include:

- The olive perchlet *Ambassis agassizii* listed under Schedule 4, (Endangered populations) of the *FM Act*.
- The silver perch *Bidyanus bidyanus* listed under Schedule 5 (Vulnerable species) of the *FM Act*.
- The eel tail catfish *Tandanus tandanus* listed under Schedule 4 (Endangered population within the Murray-Darling Basin) of the *FM Act*.
- The purple-spotted gudgeon *Mogurnda adspersa* is listed under Schedule 4, (Endangered species) of the *FM Act*.
- The Murray cod *Maccullochella peelii peellii* are nationally listed as vulnerable under the *EPBC Act*.
- The aquatic ecological community in the natural drainage system of the lowland catchment of the Darling River is listed as an *Endangered Ecological Community* under Schedule 4, of the *FM Act* and includes all tributaries under 500 m altitude such as the Mooki River.

Should you have any queries regarding this correspondence please contact me on (02) 6763 1255 or 0429 908 856.

D. Ward

David Ward
Fisheries Conservation Manager (Greater Darling)

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File No. 180NTH11/00154, 11/1717
 Your Ref: Watermark Coal Project - DGRs
 Matt Adams



Transport
 Roads & Maritime
 Services

21 November 2011

Mining Projects
 Department of Planning & Infrastructure
 GPO Box 39
 SYDNEY NSW 2001

Attn: Mr Paul Freeman

Dear Sir,

Director-General's Environmental Assessment Requirements for the Environmental Impact Statement relating to the Watermark Coal Project, Gunnedah NSW

I refer to your email correspondence dated 7 November 2011 requesting comments relating to the abovementioned matter.

On 1 November 2011 a new organisation called Roads and Maritime Services (RMS) was formed to replace the Roads and Traffic Authority and NSW Maritime. RMS will focus solely on delivering quality services to the customer.

The location of the proposed new road access and intended rail loop overpass is of concern to the RMS as it has the potential to impact upon a classified state road, the Kamilaroi Highway (HW29).

RMS requires that the following issues be addressed in any Environmental Impact Statement (EIS);

A detailed traffic study should be undertaken that takes into account the key issues relevant to the scale of this proposal as set out in Table 2.1 of the Roads and Traffic Authority's current 'Guide to Traffic Generating Developments' (copy attached). This should include information relating to:

- Total impact of existing and proposed development on the state road network.
- Intersection sight distances
- Existing and proposed access conditions
- Improvements for road junctions / intersections
- Detail of servicing and parking arrangements
- Connectivity to existing developments
- Impact on Transport (Public and School Bus Routes)
- Provisions for pedestrians, alternative transport modes such as bicycles
- Road Traffic Noise

Roads & Maritime Services

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In particular, the traffic study should identify the design options for grade separation of the proposed rail loop to the Kamilaroi Highway. This should justify options for road-over-rail or rail-over-road including a cost-benefit analysis of potential impacts upon the state road network to ensure minimal impact upon the traffic flows, including construction delays to the state road, options for removal or retention of infrastructure on project closure, and whole-of-life maintenance planning for any bridge/s and/or road/s to be constructed.

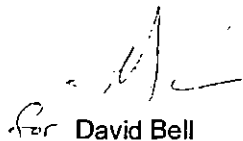
To ensure that the proposed access and rail overpass meet the necessary requirements the RMS will assist the consultants during the preliminary design stages if required.

Current AUSTROADS standards should be adopted for any necessary upgrading of the surrounding road infrastructure.

As road works are required on a State road, the Kamilaroi Highway, the developer will be required to enter into a Works Authorisation Deed (WAD) with RMS, who will exercise its powers under Section 87 of the Roads Act 1993 (the Act) and/or the functions of the roads authority, to undertake road works in accordance with Sections 64 and 71 of the Act, as applicable, for all works under the WAD. The developer shall enter into the WAD with RMS for all road works on the Kamilaroi Highway prior to the construction of any access for the proposed development. The developer shall complete all road works required under the WAD to practical completion, as determined by RMS prior to commencement of the proposed development. All works shall be undertaken at full cost to the developer to the satisfaction of the RTA.

If your Department has any further enquiries please contact Matt Adams of RMS Land Use Northern on 6640 1344 or by email: land_use_northern@rta.nsw.gov.au.

Yours faithfully,



David Bell 21 NOV 2011
Regional Manager, Northern Region



**Transport
for NSW**



PCU028352

Paul Freeman
Planner, Mining Projects
NSW Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Department of Planning
Received
25 NOV 2011
Scanning Room

Dear Mr Freeman

**REQUEST FOR INPUT INTO DIRECTOR-GENERAL'S REQUIREMENTS
SHENHUA WATERMARK COAL PROJECT**

I refer to your email dated 7 November 2011 seeking advice on the draft Director-General's Requirements (DGRs) for the above proposal.

Transport for NSW (TfNSW) recognises the importance of coal production and export to the NSW economy, and the important role this proposal could play in the creation of jobs and economic benefits for the Gunnedah region. The large amounts of coal to be extracted is likely to result in significant additional freight movements on the Main Northern Line through the Lower Hunter Region into Port of Newcastle.

This line services outer Newcastle suburban passenger services, CountryLink passenger services, trains traversing the strategic north – south freight corridor between Melbourne, Sydney and Brisbane, and intrastate services for commodities such as steel. The Hunter Valley Network also services local intrastate freight movements (eg. cotton and grain).

Freight demands on this rail corridor are anticipated to grow, such as from existing Government commitments from 2015 to 2032 in relation to the transport of coal from the Cobbora Mine to the Central Coast power stations. In addition, there may be requirements for the expansion of passenger services to meet population growth in the Lower Hunter. It will be important for a strategic rail impact assessment to be undertaken for these existing, committed and forecast competing freight and passenger traffics.

As such, there are issues regarding the freight tasks from the proposal impacting on the road network and on capacity of the rail line that will need to be substantially addressed in the EA.

TfNSW also notes that the January 2011 *Coal Case Study Working Paper*, produced for the RTA, found that the inbound logistics support task associated with coal production is significant, amounting to 3%-5% of the outbound flows, with the supplier sources being largely Newcastle and Sydney. Fuel supplies represent more than a quarter of this task.

An additional issue is the large numbers of employee movements, concentrated at shift change times. These will need to be considered in the assessment of traffic impacts, in particular, safe access via the proposed intersection upgrade on the Kamilaroi Highway.

Given the above issues, the quantities of coal and timeframes proposed, TfNSW ask that a staged approach to development be considered, such that the output from mine operations are matched with the capacity of the local and regional transport network over time.

TfNSW provides the attached draft Director General's Requirements. TfNSW would also request that the following agencies be consulted by the Proponent during preparation of the Environmental Assessment: TfNSW (Freight and Regional Development Division and Planning and Programs Division), NSW Roads and Maritime Services (RMS), RailCorp, the ARTC, Newcastle Ports Corporation (NPC) and the Hunter Valley Coal Chain Coordinator (HVCCC). The relevant officer for this matter is Catherine Barlow, who can be contacted on 8202 2467 or catherine.barlow@transport.nsw.gov.au.

Yours sincerely

per.  21/11/11

Mohini Nair
**Principal Manager, Integrated Transport Planning and Land Use
Planning and Programs**

Attachment – Proposed Draft Director-General's Requirements

CD11/14465

ATTACHMENT**PROPOSED DIRECTOR-GENERAL'S REQUIREMENTS
SHENHUA WATERMARK COAL PROJECT**

Based on other similar mining DGRs, Transport for NSW requests that the following matters be added (shown in *italics*):

General requirements

1. Under 'a detailed description of the project, including the:
 - need for the project;
 - alternatives considered, including detailed justification for the proposed mine plan/s;
 - *forecast coal volumes and train movements*
 - *likely capacity and staging of the project;*
 - plans of any proposed building works.

Noise and Vibration

TfNSW requests that the following matters be addressed within the 'Key issues' (Noise and Vibration) section of the draft DGRs:

2. Under '— including quantitative assessments of the potential construction, operation, and off-site road and rail noise impacts of the project on existing and proposed development in the vicinity of the site.
and
- *quantitative assessments of the potential construction, operation, and off-site rail noise impacts including noise and vibration from rail track and rail rolling stock, including an indication of rolling stock types and steps to mitigate wheel/rail interface noise.*

Air

TfNSW requests that the following matters be addressed within the 'Key issues' (Air) section of the draft DGRs:

3. Under '— including a quantitative assessment of the potential air quality impacts of the project, that explicitly includes consideration of both potential PM10, PM2.5 and silica emissions of the project;'
 - Add: *and measures to mitigate dust from loaded rail wagons.*

Transport

TfNSW requests that the following matters be addressed within the 'Key issues' (Transport) section of the draft DGRs:

4. Under '— including a detailed assessment of the project on the capacity, safety and efficiency of the:
 - surrounding rail network, having regard to the strategic objectives *and cumulative impacts* for the passenger and freight rail network.

- i. *Add: The assessment should include: a strategic impact assessment; and forecasts for train movements (paths) required for the proposal, including timeframes, both in and out of the destination site/s;*
- *Demonstration of:*
 - i. *proposed train lengths and proposed pathing,*
 - ii. *impact on other stakeholders' operations;*
 - iii. *any specific rail infrastructure required.*
- *And including a detailed assessment of the project on the capacity, safety and efficiency of the:*
- *surrounding road network, with particular regard to:*
 - i. *a cumulative traffic impact assessment;*
 - ii. *a condition assessment of the existing network, including pavements, and adequacy of overtaking and turning lanes, particularly on the Kamilaroi Highway, and*
 - iii. *any proposed new road infrastructure.*
 - iv. *the impact of train consists on level crossing operations, and*
 - v. *proposed mitigation of impacts of concentrated employee movements to ensure the safe movement of vehicles to/from the site.*

TfNSW requests that the following matter be added:

"Costs and funding

1. *Proponent to provide indicative costs of all project-specific infrastructure development (rail, road, utilities along with any land acquisition costs), and*
2. *Identification of how and when any required infrastructure and service improvements or management measures will be delivered, including parties responsible for the funding and implementation of the works."*



22nd November 2011

Department of Planning
GPO Box 39
Sydney NSW 2001

Attention: Mr Stephen O'Donoghue, Senior Planner

Dear Stephen

Re: Watermark Coal Project – Director General's Environmental Assessment Requirements

Thank you for the opportunity to provide input into the Director General's EA Requirements (DGRs) for the Watermark Coal Project.

Namoi CMA is primarily interested in major developments such as the Watermark Coal Project from the perspective of catchment impacts and benefits especially in the areas of protection of biodiversity, management of riparian areas, sustainability of agricultural soils and enhancement of social and economic values. Namoi CMA advocates the protection, maintenance and improvement of the Catchment for the community.

Namoi CMA has three documents which guide developments and activities, including mining, in the Catchment:

- Namoi Catchment Action Plan 2010 - 2020 (Namoi CAP 2010-2020),
- Extractive Industries Policy (NCMA EIP 2009) for the Namoi Catchment, and
- Namoi CMA Biodiversity Offsets Policy (BOP 2011)

Namoi Catchment Action Plan 2010 - 2020

The Namoi CAP 2010-2020 is a strategic statutory plan which guides sustainable natural resource management in the Namoi Catchment. The Namoi CAP 2010-2020 was developed following a review of the Namoi CAP 2007 and is based on 'resilience thinking' and environmental thresholds in determining the Catchment Targets. The revised Namoi CAP 2010-2020 was developed in consultation with the community and government and is currently awaiting ministerial approval. The CAP 2010-2020

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complements other natural resource plans including water sharing plans, regional strategies and conservation plans. The CAP 2010–2020 has a key role in addressing the environmental, social and economic priorities of the NSW State Plan and the Australian Government's Caring for our Country plan.

The CAP 2010-2020 identifies the major natural resource management assets of the Catchment, which are categorised into 4 themes: Biodiversity, Land, Water and People. Within each theme the critical thresholds are identified, along with the related targets and actions. Each of the thresholds and targets will be further highlighted in the relevant sections of this response. The CAP 2010-2020 can be downloaded from our website (www.namoi.cma.nsw.gov.au)

Extractive Industries Policy for the Namoi Catchment

The NCMA EIP 2009 details our position on mining in the Namoi Catchment. The policy contains 10 statements which we request that the proponent to consider when preparing the EIS. The NCMA EIP 2009 can be downloaded from our website (www.namoi.cma.nsw.gov.au). Within the policy there is a strong requirement for risk management, assessment of the cumulative impacts, monitoring and evaluation and consideration of the Namoi CAP 2010-2020.

Namoi CMA Biodiversity Offsets Policy 2011

Namoi CMA has recently ratified a 'Biodiversity Offset Policy' for the Namoi Catchment. The policy highlights some of the inadequate biodiversity outcomes that are contained with the current NSW State and Commonwealth Governments approaches to biodiversity offsets. The policy provides guidance for developers to enable achievement of beneficial biodiversity offsets. The current Government approaches have significant implications on Namoi CMA's ability to meet the biodiversity targets under the CAP 2010-2020 for the following reasons:

- **Insufficient Gain** – the amount of land apportioned for offset to compensate for loss of native vegetation is insufficient. Simply setting aside an area that already exists and only changing its conservation status still results in net loss of vegetation and can result in critical vegetation extent thresholds being crossed.
- **Equivalence** - even when the same vegetation types are replanted or regenerated as part of an offset, planted or restored vegetation will take many generations to achieve biodiversity richness when compared to the natural vegetation communities that are removed.
- **Time Lags** - timeframes for biodiversity increments to occur in assisted regeneration or new plantings are long. It may take hundreds of year to achieve the biodiversity richness of the natural vegetation that is removed.

Consequently, the offsets proposed by the proponent need to compensate for the predicted impacts, ensure that there is no net loss of native vegetation, ensure that the development does not cross any critical ecological thresholds, and be consistent with the existing NSW Government and Commonwealth legislative biodiversity offset requirements, as a minimum standard.

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As such, the Watermark Biodiversity Offset Strategy must also meet the following principles:

- Offsets should be considered as a last resort, after consideration of alternatives to avoid and/or mitigate impacts.
- Offsets must be based on sound ecological principles and deliver on priorities identified in the draft Namoi Biodiversity Conservation Plan.
- Offset areas must be within the Namoi Catchment boundaries (either wholly or in part – as a contiguous area of native vegetation).
- Offsets must be beneficial and of the same vegetation type and be at least the size, equivalent biodiversity value & configuration of the vegetation lost and additional to existing native vegetation areas.
- Offsets must be in perpetuity and be registered on title.
- Offset conditions must be monitored, enforceable, clearly mapped, recorded and publicly available.
- An offset area, once designated, cannot be used for further offsetting of subsequent developments in future.

The NCMA Biodiversity Offsets Policy 2011 can be downloaded from our website (www.namoi.cma.nsw.gov.au).

Namoi CMA requests that the appropriate Namoi CAP 2010-2020 Targets and all the Extractive Industries and Biodiversity Offset Policy Statements be seriously considered and addressed by the proponent in the EIS when assessing the impacts, mitigation measures and risks associated with each environmental and community issue. Namoi CMA requests that the Namoi CAP 2010-2020, the NCMA EIP 2009 and the BOP 2011 be listed in the DGRs in the Policies, Guidelines and Plans Section for inclusion in the EIS.

The principal consultant for the proponent in previous EA's for other local mining developments have referred to 3rd party obscure documents when considering and addressing the Namoi CMA Catchment Targets. Namoi CMA considers this approach inadequate and requests that the principal consultant and the proponent make a more credible and serious attempt to address the Namoi Catchment Targets and policy statements in the Watermark Coal Project EIS.

1. Specific Requirements

1.1 Ecology

The EIS should address and consider the following:

Project Area

- Identification of all vegetation communities along with condition assessments of communities in accordance with a recognised methodology. Details of methodology to be included in EIS;

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- Maps to be included in EIS depicting vegetation communities with various condition ratings. Maps to depict non vegetated areas;
- Potential impacts on both fauna and flora from clearing, specifically impacts resulting from fragmentation of vegetation, destruction of habitat, corridor loss, edge effects, increased predation and weed introduction;
- An alignment of the mapped vegetation communities with Regional Vegetation Communities (RVC) (NCMA 2009) and assessment against RVC ecological condition benchmarks and CAP 2010-2020 critical thresholds;
- All riparian areas need to be identified, terrestrial and aquatic impacts assessed and mitigation measures and safeguards addressed;
- Significant natural features including threatened species, geological features and aboriginal cultural heritage issues.

Biodiversity Offset Areas

- Biodiversity offset areas need to comply with requirements contained within the NSW and Commonwealth Government's approaches to biodiversity offsets along with the Namoi CMA Biodiversity Offset Policy;
- Vegetation communities within offset areas need to be identified, mapped and assessed for condition, ranked against ecological benchmarks and assessed against critical thresholds;
- Agricultural suitability needs to be undertaken for offset areas to identify any prime agricultural land and any other areas not suitable or not to be used for replanting;
- Details need to be provided for revegetation measures, management actions and security arrangements for offset areas.

The EIS needs to consider the ecological impacts, safeguards and contributions especially in consideration of the Catchment Targets within the Namoi CAP (2010-2020):

- Biodiv 1:** By 2020 there is an increase in native vegetation extent and vegetation does not decrease to less than 70% in less cleared sub catchments and 30% in over cleared sub catchments and no further Regional Vegetation Community decreases to less than 30% extent as identified by 2010 baseline.
- Biodiv 2:** By 2020 maintain sustainable populations of a range of fauna species by ensuring that no further Regional Vegetation Community decreases to less than 30% extent as identified by 2010 baseline.
- Biodiv 3:** By 2020 contribute to the recovery of priority viable threatened species, populations and communities.
- Biodiv 4:** By 2020 no new invasive species are established in the Catchment and the spread of key emerging invasive plants and animals is limited.

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The EIS needs to undertake a thorough and rigorous pre and post mining risk assessment with respect to long term site specific and cumulative impacts on the ecology both within the project area, the Breeza to Curlewis area and within the Catchment. The EIS also needs to provide details on clearing and offset ratios and balances based on both extent and condition.

1.2 Groundwater

The EIS should consider and address the potential impacts of the development on both the deep groundwater systems as well as the very shallow groundwater systems. Soil salinity is known to occur in the southern parts of the project area adjacent to the floodplain. The soil salinity issue is driven by shallow groundwater systems recharging from the Watermark Hills and from the floodplains east of Goran Lake. The EIS should consider mitigation measures and safeguards to ensure this issue is not exacerbated during and post mining operations.

The EIS needs to consider and address the potential impacts on groundwater, especially with regard to likely quantities and qualities of groundwater intercepted, treatment and disposal methods, likely impacts on the availability of groundwater to other uses including river systems and GDE's.

The EIS needs to consider the groundwater impacts, safeguards and contributions especially in consideration of the Catchment Targets within the Namoi CAP (2010-2020):

Water 2: By 2020 there is an improvement in the ability of groundwater systems to support groundwater dependent ecosystems and designated beneficial uses.

1.3 Surface Water

The EIS needs to provide details on the following:

- Changes to catchments, long term yield losses, changes to runoff volumes, velocities and discharges;
- Any potential impacts on creeks and watercourses that may result in changes to hydrology, water quality and vegetation communities;
- Proposed water sources and management of water from within the project disturbance area. Water treatment proposals, uses and disposal methods need to be completely and thoroughly addressed;
- Operational characteristics of the final void and its impact on surface water flows
- An assessment of local, regional and cumulative impacts of catchment changes and surface water balance.

The EIS needs to consider the surface water impacts, safeguards and contributions especially in consideration of the Catchment Targets within the Namoi CAP (2010-2020):

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Water 1: By 2020 there is an improvement in the condition of those riverine ecosystems that have not crossed defined geomorphic thresholds as at the 2010 baseline.

1.4 Aboriginal Archaeology and Cultural Heritage

The EIS should address and consider the potential impacts on aboriginal archaeology and cultural heritage especially with regard to clearing and potential loss of significant aboriginal cultural sites. Mitigation measures and safeguards need to be addressed and assessed.

1.5 Noise and Blasting, Air Quality and Greenhouse Gas, Traffic and Transport, Visual Amenity, Social Impact Assessment and Economics,

The EIS should address and consider the potential impacts, mitigation measures and safeguards on all of the above issues especially with regard to impacts on both the local and broader catchment community.

The EIS needs to consider the impacts, safeguards and contributions especially in consideration of the Catchment Targets within the Namoi CAP (2010-2020):

People 1: Natural resource management decisions contribute to social wellbeing.

People 2: There is an increase in the adaptive capacity of the Catchment Community.

The EIS needs to undertake a thorough and rigorous pre and post mining risk assessment with respect to long term site specific and cumulative impacts of the above issues on local and catchment communities.

1.6 Agricultural Impact Statement

Namoi CMA awaits the assessment of the agricultural impact for the Watermark Coal project. If the proponent covers all the prescribed scope of assessment as detailed in the background document then it is expected that the impact of the project on agricultural resources and industries will be thoroughly assessed.

1.7 Soils and Land Capability

The EIS should address and consider the following:

- Potential impacts on the soils within the development area. Issues that need to be addressed are the potential for soil degradation, soil salinity, soil characteristics and quality, and potential erosion, soil biology and chemistry impacts;
- Soils (topsoils and subsoils) need to be characterised, mapped and assessed for topdressing suitability using Australian standards and the most recent assessment methodologies;

All Correspondence - PO Box 546 GUNNEDAH NSW 2380
Tel: 02 6742 9220 - Fax: 02 6742 4022 - Email: glenn.bailey@cma.nsw.gov.au

- Measures to manage soils to prevent degradation and methods to monitor and evaluate soils need to be thoroughly addressed in the EIS;
- Pre and post mining and long term land use, land capability and agricultural suitability;
- A complete and thorough soil balance detailing depths and extents of subsoil and topsoil;
- Soil and land capability assessments need to be integrated with rehabilitation and final landforms, agricultural impact and ecological impacts.

The EIS needs to consider the impacts, safeguards and contributions especially in consideration of the Catchment Targets within the Namoi CAP (2010-2020):

Land 1: By 2020 there is an improvement in soil health as measured by an increase in groundcover at the paddock, sub-catchment and catchment scales.

1.8 Rehabilitation, Land Use and Final Landform

The EIS needs to consider and address the following:

- Proposed methods of rehabilitation, land uses and final landforms which should be similar to current land uses and landforms. Detailed plans of proposed landforms including the location and specifications of emplacements and voids should be included in the EIS;
- Impacts of clearing, access and rehabilitation on the current and proposed long-term land uses. These activities have the potential to result in soil degradation and erosion and off site sedimentation, reduced water quality, weed invasion and changes to vegetation communities and therefore altered land use and management;
- Reject disposal and the methods for rehabilitation and long term land uses, especially with regards to the potential for salinity and pH impacts on soils, surface and groundwater;
- Measures to mitigate impacts and safeguard against impacts need to be addressed in the EA.

The EIS needs to consider the impacts, safeguards and contributions especially in consideration of the Catchment Targets within the Namoi CAP (2010-2020):

Land 1: By 2020 there is an improvement in soil health as measured by an increase in groundcover at the paddock, sub-catchment and catchment scales.

2. Data Resources

Namoi CMA has available a number of data resources that can assist the proponent to develop a more comprehensive EA. Data resources include:

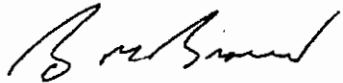
- Namoi Catchment Action Plan 2007 (Namoi CAP);

All Correspondence - PO Box 546 GUNNEDAH NSW 2380
Tel: 02 6742 9220 - Fax: 02 6742 4022 - Email: glenn.bailey@cma.nsw.gov.au

- Extractive Industries Policy (NCMA EIP 2009) for the Namoi Catchment;
- Namoi CMA Biodiversity Offsets Policy 2011;
- Namoi CMA draft Biodiversity Conservation Plan;
- Regional Vegetation Communities in the Namoi Catchment which includes information about vegetation benchmarks, priorities for restoration, areas of woody vegetation, biodiversity strategies, species hotspots, etc
- Soil landscape mapping including soil constraints, land management unit mapping and Best Management Practices;
- Surface and groundwater resources including riparian resilience, valuing of water resources, groundwater dependent terrestrial vegetation, wetlands extent.

If you need to discuss this matter further, please do not hesitate to contact Glenn Bailey on (02) 6742 9204.

Yours Sincerely



Bruce Brown
General Manager
Namoi Catchment Management Authority

All Correspondence - PO Box 546 GUNNEDAH NSW 2380
Tel: 02 6742 9220 - Fax: 02 6742 4022 - Email: glenn.bailey@cma.nsw.gov.au



Heritage Council
 of New South Wales

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 DX 8225 PARRAMATTA

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www.heritage.nsw.gov.au

Contact: Katrina Stankowski
 Phone: (02) 9873 8569
 Fax: (02) 9873 8550
 Email: Katrina.Stankowski@heritage.nsw.gov.au



PCU028090

Stephen O'Donoghue
 Team Leader – Mining Projects
 Department of Planning & Infrastructure
 GPO Box 39
 SYDNEY NSW 2001

Dear Mr Donoghue

RE: Request for input into Director Generals Requirements – Watermark Coal Project, Kamilaroi Highway, Breeza - Gunnedah LGA.

I refer to your letter (no date) received on the 10th of November requesting Heritage council requirements for inclusion into the Environmental Impact Statement for the development. It is noted that draft Director Generals Requirements (DGRs) were attached for our reference and that a copy of the 'Watermark Coal Project Background Document' (October 2011) was forwarded by Hansen Bailey under separate cover.

Accordingly, the Heritage Council has considered the attached documents and provides the following comments:

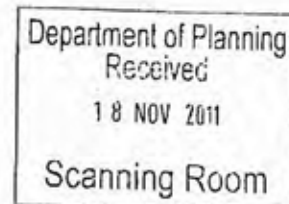
1. The proposed draft DGR for Heritage is considered generally appropriate; however, the Heritage Council would like to specify that the Historic Heritage Assessment should contain a detailed history and a land use summary of the site.
2. If a likelihood for non-Indigenous archaeology is established as part of the EIS and it is required to be excavated as part of the project works, the Historic Heritage Assessment must contain an appropriate research design and excavation methodology for its management/mitigation.

Inquiries on this matter may be directed to Katrina Stankowski on 98738569 or via email at Katrina.Stankowski@heritage.nsw.gov.au.

Yours sincerely

16/11/2011

Vincent Sicari
 Manager
 Conservation Team
 Heritage Branch, Environment and Heritage, Policy and Programs Group
 Office of Environment & Heritage
AS DELEGATE OF THE NSW HERITAGE COUNCIL



Helping the community conserve our heritage



Reference: RVK:da 11/566

Contact: Donna Ausling

21 November 2011

Attention: Mr Paul Freeman
 Planner – Mining Projects
 NSW Department of Planning & Infrastructure
 GPO Box 39
 SYDNEY NSW 2001

Dear Sir

Re: Director General's Requirements for the Watermark Coal Project EIS

Reference is made to the abovementioned project as discussed at the recent Planning Focus Meeting held in Gunnedah and subsequent email inviting comment.

In the formulation of this document it is acknowledged that a broad ambit of environmental issues will be addressed in detail by the proponent in line with the Department's best practice guidelines and any prevailing technical and policy documents. As a consequence, the following generic feedback is provided to assist the Department in formulating DGR requirements in relation to this development proposal:

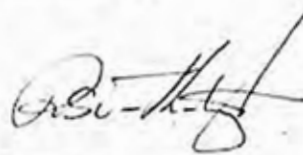
- **Community consultation & engagement** – given the historical and current level of interest expressed in the project by the Liverpool Plains community it is expected that a high level of communication would be conducted with community stakeholders and Liverpool Plains Shire Council in the EIS preparation process. The adopted consultation processes should be both meaningful and transparent and should also sufficiently underpin the required economic and social impact analysis required as part of the assessment process;
- **Social and Economic Impacts** – Council's experience is that social and economic impact analyses conducted for these types of development proposals has been historically deficient and not representative of actual and anticipated impacts on communities. Consequently, given the potential level of impact of this project on surrounding rural and regional communities, it is expected that a robust and high level assessment of potential impacts will be undertaken for this project. The assessment should extend beyond that of a desk-top review, shall use appropriate and accepted methodologies, be conducted by suitably experienced and qualified consultants and be prepared in accordance with recognised best practice guidelines using locally available data collated from both primary and secondary research (wherever practicable);
- **Impact on community infrastructure & assets** – It is anticipated that this project will create significant additional demands on community infrastructure (including local halls, libraries and health facilities) within a number of LPSC communities including Quirindi, Werris Creek and Currabubula. Due regard should be given to these additional demands and their corresponding impacts in the EIS preparation process. It would be also useful if any proposed community enhancement funding (CEF) process could be clearly articulated as part of the EIS. CEF offered by the company is not currently available to the Liverpool Plains Shire Council local government area;

LIVERPOOL PLAINS SHIRE COUNCIL
 60 Station Street PO Box 152 QUIRINDI NSW 2343 TEL 02 6746 1755 FAX 02 6746 3255
 EMAIL lpssc@lpssc.nsw.gov.au WEBSITE www.lpssc.nsw.gov.au ABN 97 810 717 370

- **Traffic & Transport** – The proposal is likely to have significant impacts on the surrounding road networks, particularly given workforce commuting requirements. Following a preliminary review, Council's Works Department has identified key areas for consideration, including (but not limited to):
 - (i) Werris Creek Gap Road upgrade (including the Kamilaroi Highway intersection and associated rail interface)
 - (ii) Breeza – Currabubula Road
 - (iii) Werris Creek – Tamworth Road
 - (iv) Impacts on existing rail level crossings given increased rail movements, particularly on the Werris Creek and Quirindi communities
- **Community water supplies & sewer infrastructure** – potential impacts on community water supplies and sewer infrastructure arising from the operation of the development and additional demand created as a result of workforce housing requirements should be duly considered;
- **Voluntary Planning Agreement for regional infrastructure** – should be considered in detail and appropriate liaison with Council should be undertaken;
- **Cumulative impacts** – like traditional social and economic assessment models applied for mining developments, cumulative impact assessments have also been traditionally deficient and have considerably underplayed impacts on regional communities. As a consequence, a scientifically robust assessment of the range of cumulative impacts should be undertaken.
- **Ongoing consultation with Council** – Council staff would be pleased to assist the proponent in the provision of local strategies (including copies of the LPSC Community Strategic Plan, Social Plan and other planning documentation) as deemed appropriate. It would also be prudent to request that the proponent conduct further detailed consultations with Council throughout the EIS preparation phase.

Council trusts that the above provides assistance and should you require any additional information or clarification in relation to this matter you are invited to contact Council's Manager of Planning and Development, Ms Donna Ausling on (02) 6746 1755 or email lpssc@lpssc.nsw.gov.au.

Yours faithfully



R S (Ron) Van Katwyk
DIRECTOR ENVIRONMENTAL SERVICES



Shire of
Gunnedah
Land of Opportunity


PCU028403

Manager
NSW Planning & Infrastructure
Mining Projects
PO Box 39
SYDNEY NSW 2000

Attention: Paul Freeman
Email: paul.freeman@planning.nsw.gov.au

25 November 2011

Dear Sir

**Director General Requirements
Watermark Coal Project (SSD_4975)**

Council requests that the following matters be considered in the preparation of the Director General requirements for the project.

- **SOCIO-ECONOMIC IMPACTS**

The Social Impact Analysis must specifically address the impacts of the project on the Gunnedah Shire.

This must analyse the following

- **Employment**

The proponent should analyse the cumulative impact of coal mining development in the Gunnedah Basin in terms of introduced employees and the demands placed on the local labour force to satisfy the 600 direct employees.

The analysis shall also assess the potential multipliers relative to the direct workforce having regard in particular to ancillary and service support workers.

- **Education and Training**

The proponent shall review the capability of the existing education and training network within the region to support the proposed development as well as address demands from other industries and employers in the region impacted by the movement of employees to this development.

The proponent shall provide clear and pro-active mechanisms by which impacts in education and training of the workforce in the region will be overcome.

- **Housing Strategy**

The implications for housing both the direct workforce and the multiplier population as a consequence of the development shall be reviewed in detail.

Department of Planning
Received
28 NOV 2011
Scanning Room

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Tel: (07) 6740 2100 Fax: (07) 6740 2119
Email: enquiries@gunnedah.com.au
Web: www.info.gunnedah.com.au

This analysis must assess regional impacts in the major urban centres of Quirindi, Tamworth and Gunnedah as well as the smaller centres and villages within the region. A review of potential fly in fly out and drive in drive out workforce should also be undertaken on a scenario basis of high, medium and low probability

Particular attention is to be given to residential accommodation demands in Gunnedah having regard to available residential housing and land zoned and capable of supporting residential development. The proponent should clearly outline its preferred approach to housing its workforce and mechanisms by which it will implement this approach.

It is requested that the proponent enter into discussions with Council on this matter.

- **Accommodation Village Location**

It is noted that an accommodation village within the Gunnedah LGA is proposed as part of the start up of the project to deal with the construction workforce and the inception of mining operation.

The proposed location and nature and timeframe for establishment of this village should be clearly articulated. It is requested that the proponent be required to liaise with Council in respect of this proposition.

- **Economic Analysis**

The proponent shall provide a complete economic assessment of the implications of the development.

Particular attention shall focus on the town of Gunnedah and villages of Curlew and Breeza and the implications for local business and the associated demands/benefits the project may have on the community. The analysis shall review consequential development that will flow from the project and the requirements such development will have on the local economy, infrastructure and services.

The analysis should assess the impacts on lower socio-economic groups through increases in accommodation and cost of living expenses. Similarly, methods by which potential two speed or three speed local economies can be mitigated shall be articulated.

- **Social Impacts**

The introduction of up to 600 workers (5% of the current Shire population) and the consequential population increase will require a review of demands on law and order provision as well as community support infrastructure.

The demands of the labour force and support workers on Council services such as recreation and community facilities must also be addressed.

The potential change in demographic and social attitude must be closely examined, having regard to the immediate impact on the community and the potential longer term issues which may result from such a significant population increase.

- **Health service Demands**

This matter requires a regional overview to be undertaken as well as a specific analysis of the implications on Gunnedah medical and allied services.

The proponent should be required to establish specific methods by which it will support medical services to meet the inevitable demand from its workforce and their families as well as those linked to associated support industries.

- **Child Care**

Given the proponent's advice of a preference for employees to reside in the region on a permanent basis, the demand for child care and other infant support services requires detailed examination given that current facilities are operating at or near capacity.

- **Population Impacts**

A full population projection assessment should be required. This should consider where employees and support workers will reside and implications for transport, schools and training facilities, social and recreational demands, law and order, community services, housing and local roads. An assessment of the cost to local government should also form a part of this review.

- **Transport and Access**

The proponent should review all existing transport networks that support the community and evaluate the increased demands that the project and its direct and indirect workforce will have on these networks.

- **ENVIRONMENTAL**

The following impacts are of particular concern and require detailed analysis and benchmarking against known or imminently available study data, such as the Namoi Water Study.

- **Groundwater**

The environmental assessment must give detailed consideration to the impact of the development on ground water and particularly the alluvial aquifer.

The implications on ground water quantity and quality must be rigorously analysed. The analysis must take account of interference during the mining process and the outcomes post mining.

The analysis must take account of the findings of the Namoi Water Study.

- **Surface Water**

Potential issues associated with the Watermark floodway have already been highlighted by the community as part of the exploration process. This matter requires detailed and robust study to ensure the rural community, likely to be adversely effected, can be satisfied as to the measures to overcome any impact.

- **Dust Monitoring**

Council is concerned at the cumulative impacts of dust within the region as a consequence of the increasing number of coal mining developments. The potential environmental, economic and health implications from significant increases in dust are considerable.

The proponent should be required to provide a detailed dust analysis and monitoring program in respect of the proposal.

It is also strongly suggested that implementation of a valley wide monitoring and response program be expedited as a priority by the NSW Government and the proponent be required to support and outline how it can contribute to this program.

- **Noise and Vibration Impacts**

The proposed development will significantly change the tone and amenity of the rural environment north of the village of Breeza.

The noise analysis associated with the project must consider the rural dwellings within proximity of the development site as well as the village of Breeza.

In particular the increased rail movements through the village of Breeza will be a major concern for the village community with consequential environmental impacts particularly in terms of noise and vibration.

- **Lighting Impacts**

Similar to the noise issue, the proponent should be required to address the impacts of lighting associated with the development in respect of all rural properties and particularly the villages of Breeza and Curlewis.

Lighting associated with the proposed development will have a significant amenity impact on the rural landscape.

- **Agricultural Impacts**

A full review of agricultural impacts relative to the area subject of the proposal and the surrounding rural lands is required. The assessment must particularly analyse the potential impacts on livestock and crops on properties in the vicinity of the development of dust residual which could have significant financial implication for farmers.

Methods by which such impacts can be mitigated or compensated should be produced.

- **Ecology**

Council is concerned at how the loss of biodiversity and impacts on flora and fauna habitats will be managed.

The proponent should be required to provide a sustainable offset strategy for the development. The analysis must consider the cumulative impacts of mining on biodiversity in the Namoi Valley as a consequence of coal mining and the catchment's long term health and sustainability.

- **Road Matters**

Road Closures

The proposed road closures require further consideration in collaboration with Council. Detailed analysis of implications for provision of public road access to each property must be undertaken together with development of a long term plan with alternatives for reinstatement of roads post mining.

GUNNEDAH SHIRE COUNCIL
NSW Planning & Infrastructure
Mining Projects – 25 November 2011

Page 5

Road Network

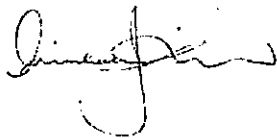
Consideration of overall implications of the development on Council's local road network. Particular attention is to be given to the potential impact on Bulunbulun Road relative to a thoroughfare to Tamworth. A full analysis of all road intersection treatments associated with the project is to be undertaken by the proponent. It is requested that discussion proceed with Council on this issue.

- **Voluntary Planning Agreement**

It is essential that there is recognition by the proponent of the impact of this development on community facilities and services within Gunnedah Shire. Hence, it is requested that the proponent enter into discussions with Council regarding a Voluntary Planning Agreement (VPA).

If you have any questions regarding this matter, please contact Council's Manager Development & Planning, Carolyn Hunt on 6740 2122.

Yours faithfully



Michael J Silver
DIRECTOR PLANNING & ENVIRONMENTAL SERVICES

Contact: C Hunt 6740 2122
Reference: 578644



ABN: 52 631 074 450

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Department of Planning and Infrastructure
Mining Projects
GPO Box 39
SYDNEY NSW 2001

Attention: Paul Freeman

Dear Mr Freeman,

Shenhua Watermark Coal Pty Ltd - Watermark Coal Project - Director-General's Requirements

Thank you for inviting Tamworth Regional Council to the Planning Focus Meeting for Watermark Coal Project, which was held in Gunnedah on Friday 4 November 2011.

During the course of the meeting, the proponent advised that the proposal will also be the subject of a Voluntary Planning Agreement (VPA). However, no further information regarding the content of the VPA was provided at the meeting.

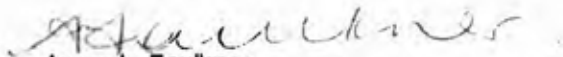
I write to request that the VPA not only apply wholly to the Gunnedah Local Government Area, but also include the neighbouring areas, such as Tamworth, which significantly contribute to, and support the mining industry.

The VPA should also be prepared and exhibited before, or concurrently with, the Development Application for the Watermark Coal Project.

With regard to the Director-General's Requirements, Council requests that given the potential social and economic impacts, not only on the Gunnedah LGA, but also on the adjoining LGA's, such as Tamworth, particular emphasis be placed upon providing very robust and realistic Economic and Social Impact Assessments, which respect to the Gunnedah LGA and surrounding LGA's.

In addition, as infrastructure demand impacts are not limited to the Gunnedah LGA, any Community Enhancement Funds should also allocate funding to adjoining LGA's for the provision of soft infrastructure, as well as regional infrastructure.

Yours faithfully


Amanda Faulkner
Senior Development Assessment Planner

Contact: Amanda Faulkner (02) 6767 5553

17 November 2011

All correspondence should be addressed to the General Manager:

Telephone: 6767 5555

PO Box 555 (DX 6125)

trc@tamworth.nsw.gov.au

Facsimile: 6767 5499

Tamworth NSW 2340

www.tamworth.nsw.gov.au

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Stephen O'Donoghue - RE: Watermark Coal Project Director Generals Requirements

From: Charles Thomas <thomasc@nswfarmers.org.au>
To: Stephen O'Donoghue <Stephen.O'Donoghue@planning.nsw.gov.au>
Date: Friday, 9 December 2011 2:23 PM
Subject: RE: Watermark Coal Project Director Generals Requirements
CC: Brianna Casey <caseyb@nswfarmers.org.au>, Fiona Simson <simsonf@nswfarmers.org.au>
Attachments: Charles Thomas.vcf

Hi Stephen

Thanks for your e-mail and sorry for the late response, I've been off for most of this week.

Some points we would really like to see Shenhua address are:

- The projected impacts on short and long term agricultural productivity (based on expert third party assessment);
- The extent to which their activities will interfere (or potentially interfere) with below and above ground water sources, what the impact on water quality and quantity will be, and what buffer distances they intend to use, and what the basis is for those buffers;
- The anticipated quantity and quality of produced water, and strategies for safely dealing with waste water;
- Whether and how their water management plans account for local flooding events;
- The systems they intend to use to prevent flood water coming into contact with hazardous solid waste potentially found in tailings;
- Their purchasing strategy for water licences, noting their requirement to comply with water sharing plans where extraction exceeds 3 megalitres;
- What the projected air quality, noise, vibration and subsidence impacts will be, and their systems for monitoring, mitigating and compensating for those effects;
- How their proposal has been informed by the Namoi Catchment Water Study and how it might be amended following the release of those findings;
- What processes for community engagement and dispute resolution will be in place if the proposal is approved – both at a landholder and community level;
- The extent to which mine employment may lead to labour shortages elsewhere in the community and any strategies to minimise that impact;
- What the impacts will be on local infrastructure and how Shenhua intends to offset those impacts;
- How the above impacts would compare to a proposal for an underground coal mine at the same

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location;

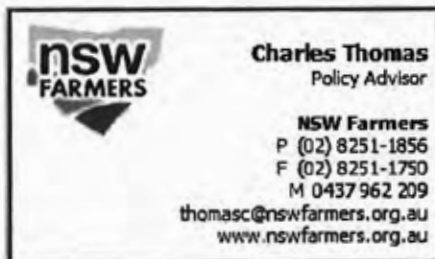
- What the cumulative impacts of the proposal will be across the region, taking into account other current and proposed developments and their impacts on the above criteria.

I appreciate you taking our input on board and I'm sure many of those points are already reflected in what you have.

If you have any queries please don't hesitate to get in touch.

Kind regards

Charlie



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From: Stephen O'Donoghue [mailto:Stephen.O'Donoghue@planning.nsw.gov.au]
Sent: Monday, 5 December 2011 3:30 PM
To: Charles Thomas
Subject: Watermark Coal Project Director Generals Requirements

Charlie

Dan Keary forwarded me some correspondence that you had with him on 22 November regarding input into Director General's Requirements for the Watermark Coal project. In your response to Dan you indicated that you would provide a response to Dan by the end of that week (25 November). I am currently in the process of finalising these and was wondering if you had forwarded any advice to the Department already? If so could you send it through to me directly. I will be finalising these tomorrow and send up the line for approval within the Department so any input by tomorrow afternoon would be appreciated.

Regards

Steve

Stephen O'Donoghue
A/ Team Leader

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*Mining and Industry Projects
NSW Department of Planning & Infrastructure
GPO Box 39 Sydney NSW 2001
23-33 Bridge Street SYDNEY NSW 2000
Phone 02 9228 6393; Fax 02 9228 6466
stephen.o'donoghue@planning.nsw.gov.au*



**Planning &
Infrastructure**

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22 November 2011

Mr David Kitto
 Director Mining & Industry
 Department of Planning
 GPO Box 39
 Sydney NSW 2001

Dear Mr Kitto,

Thank you for making a presentation to the Shenhua Watermark Coal Project Community Consultative Committee in Gunnedah on 16th November and extending an invitation to the committee to write to you directly should we have any concerns we would like to raise with the Department regarding the Watermark Coal Project application for Director General requirements.

Since the meeting I have reviewed the background document from the Departments website, considered the issues that you raised in your presentation regarding the new integrated assessment process for major projects, the status of new policy developments for the Strategic Regional Land Use Policy (SRLUP), Aquifer Interference Policy (AIP) and Agricultural Impact Statements (AIS); and would like to draw attention to the following points

1. Legislative Changes & their application to the Watermark Coal Project

It is uncertain at this stage if the new policies for the SRLUP, AIP & AIS, once developed, will apply to the Watermark Coal Project application. The uncertainty arises due to Shenhua Watermark Coal Pty Ltd aggressively pursuing their timeline to lodge an application with the Department in the hope that their approval may be assessed prior to any legislative changes.

It should be noted that this development has identified high levels of risk (refer Appendix A – Background Document Watermark Coal Project); its location is in the prime agricultural land of the Liverpool Plains; and the project is surrounded by high yielding alluvium aquifers of the Upper Namoi Valley on the Western, Southern and Eastern side of the project. These factors are exactly the reason the government is formulating their new policies and is the reason why this project should NOT be assessed under any circumstances without the new policies applying.

It is recommended that the government advise the proponent that their application will be assessed under the new policies when they are finalised to avoid any confusion. The community expects these new policies and standards to be applied to the Watermark Coal Project and will not accept a rushed approach to avoid the new planning initiatives of the government.

2. Potential for Cumulative Impacts

The Watermark Coal Project will be in the middle of a number of mines and coal seam gas operations that are either currently operating or under exploration. This project site and surrounding areas (refer Section 2.5 Land Use) will be a 'hot spot' of mining and coal seam gas activity in a concentrated area should all projects be successful. It should also be noted that the consultants have not included the Preston & Preston Extended Mining Lease in the surrounding operations which is adjacent to the project area near Curlewis. This mine is approved but not currently operating.

Despite open cut mining not being undertaken within the Breeza State Forest or on the Black Soil Plains, the proximity and sheer size of the project to these important areas is a major concern.

The cumulative impacts of the mining and coal seam gas operations must be considered and scientifically addressed by the government. We have seen some adverse and devastating long term impacts to the environment and the community of the Hunter Valley as a result of projects being considered in isolation of any other activities in the area.

It is also noted in Section 3.1- Mining Operations that the proponent has flagged that deeper resources are present in the EL and that they may "seek approval for the extraction of further coal resources by underground mining methods" and may not fill the final void should this occur. This possible extension should also be included in the deliberations of the cumulative impact assessment. The combined impact of an open cut and underground mine in this 'hot spot' area could have large impacts on the groundwater systems.

It is recommended that the Watermark Coal Project, models and addresses the cumulative impacts, especially at a biodiversity, ecological, surface water, groundwater, agronomical, social and economic level.

3. Potential Contaminated Run Off From The Site

As noted in the background document, the project area has a range of watercourses including numerous first and second order streams. This area frequently has large rain events and flooding events with the run off from the area draining onto the prime agricultural black soil plains and the Mooki River system which is part of the Murray Darling Basin. The name for the area "Watermark" has been aptly assigned!

Section 3.2.1- Coal Handling and Preparation Plant, outlines that the direct coarse rejects and fine tailings (after dewatering) will be co-disposed with the overburden. This is seen as an ineffective way of dealing with the waste due to the high risk of run off contamination from the site affecting the nearby fertile and high value cropping areas on the floodplains. In the November 2000 flood, the watermark area received approx. 6-7 inches of rain in one night with a major flood in the valley occurring. This type of rain event is common due to the impact of the higher ridge country on the weather system.

It is recommended that the proponent examines other methods of tailings disposal to minimise these risks and adverse environmental impacts.

4. Possible Open Cut Pit Flooding

As noted in the previous section the Watermark Coal Project area is cyclically subjected to high rainfall events and flooding. Given that this is an open cut mine operation there is a risk that these high rainfall events could cause the open cut pits to flood with water. The mine life is 30 years, it is therefore highly probable that a number of flooding events will occur in this time period. Open cut pit flooding has occurred in Queensland in similar floodplain cropping areas such as Emerald and Theodore with regional contamination occurring.

It is noted in Section 3.2.6 – Mine Water Management System that the proponent is developing a suitable system for the project. It is also noted in Figure 5 that there are proposed pumping stations and pipelines going to/from the Mooki River system.

It would be unacceptable for the mine to be allowed to return any water from the Mine into the unregulated Mooki River system, especially in the event of the pit flooding. This practice has occurred in Queensland, however the river system that received the polluted mine water was flushed with a discharge from a regulated dam on the river system. The Mooki river has no dam regulation and is an ephemeral river that has high flow events and periods of no flow when the system is a series of pools and ponds. It is unsuitable to be used as a waste disposal or flushing system for any mine water due to the high environmental risks of mine water.

In addition, there are 27,449ML of irrigation extraction licences on the Mooki River water source which is used for intensive cropping on the fertile black soil plains to grow cereal, grain, oilseeds and fibre crops. These licences are only allowed to extract water when a high flow event > 100ML/day occurs. The timeframe for pumping is opportunistic and time limited. Most of the extraction occurs downstream of the proposed pipelines and these licence holders would be adversely impacted should the Watermark Coal Project be allowed to discharge any mine water into the system. If they were permitted to dispose of water into the river, it's probable that they could only do it in high flow events to dilute the pollution. This is the same time as the irrigators opportunity to extract could occur. The economic loss would be huge to these irrigators especially since most of them grow the high value intensive crop of cotton.

The Water Sharing Plan for the Mooki River also has a number of performance indicators for ecological condition and water quality that could be breached if mine water is discharged into the river system.

It is recommended that the government prohibits any disposal of mine water into the Mooki River system and the proponent examines other methods of mine water disposal to minimise these risks and adverse environmental and economic impacts.

5. Project Alternatives To Be Examined Thoroughly

Section 3.7 – Project Alternatives is an interesting section to say the least. Understandably the proponents' consultant has considered 5 alternatives, 4 of which are designed to maximise the profits of the project by maximising resource extraction in an efficient and least environmentally invasive manner. However, Alternative 1 – Do Nothing has not been objectively explored on an environmental, economic or social level to satisfy the consultants' conclusion. The analysis and rationale developed in this Alternative warrants further detailed examination and scientific/economic rigour, especially given that so many issues of the Watermark Coal Project are at an "almost certain" and "High" risk assessment in Appendix A.

It is recommended that the government and the proponent objectively model Alternative 1 – Do Nothing on an environmental, social and economic level.

6. Regulatory Framework

This section has highlighted what the proponent believes to be the regulatory framework for the Watermark Coal Project. However, the Department is still formulating new policies that will apply to future developments and these policies may be finalised by Cabinet in December 2011 and go out for public exhibition in January/February 2012 (as noted by yourself at our CCC meeting).

To avoid any uncertainty - It is recommended that the government take this opportunity to flag the future policies that they will uphold for the Watermark Coal Project and consider when assessing the final Development Application.

7. Preliminary Environmental Risk Assessment

It is hard to accept the Risk Assessments given in this background document as it is based on "Shenhua Watermark Risk Assessment Tools" rather than the accepted AUS/NZ ISO 31000 Risk Assessment Standard. In addition, the proponent claims that any high risks will be reduced to medium or low through appropriate controls and mitigation measures. These statements do not provide a measure of objectivity or scientific robustness by the consultants and the risk of adversarial science being submitted by the consultants to get the Watermark Coal Project Application approved is high.

The community has grave concerns regarding the White box community, the Koala Colonies, the archaeological and cultural heritage, the birdlife, the surface water systems, the groundwater systems, the greenhouse gas emissions, soil and erosion (to name a few). These areas of high environmental risk need independent analysis that is not paid for nor controlled by the proponent.

The current process for the EIS to be completed does not have the confidence of the community nor is the objectivity and partiality of the proponents' consultants. This has been highlighted by some of the information conveyed in this background document not being complete - for example section 7.2.1, the description of the surrounding land area specifically omits 2 large land uses in

the immediate vicinity of the project - cotton production and grazing. Both of these industries will have to declare to the quality assessors of their primary products that they are near a coal mine and discounts may apply to their produce.

It is also noted that in Section 7.4 Air Quality and Greenhouse Gas, there is no mention of the high potential for fugitive gas emissions from the coal seams that will be accessed (Appendix A – air quality section doesn't even have fugitive emissions listed as an issue for risk assessment.) This is in direct contrast to Santos providing reference maps that show the target area for the Watermark Coal Project to have high concentration (saturated) gas in the underlying coal seams. The risk of fugitive emissions which cannot be controlled once the open cut occurs is concerning and the reality of which science is right – Santos or Shenhua should be explored thoroughly.

In Section 7.10 – Social Impact Assessment it appears that the information quoted for the Gunnedah LGA is out dated (quoting 2001 – 2006) and negatively distorts the current local social conditions. The reality however since 2006 is very different and more recent data should be taken into consideration in the social impact assessment. In addition, the proponent has stated that they will be using temporary accommodation facilities for their labour forces. This would be based predominantly on fly in fly out personnel that would be based in Werris Creek (the MAC Village DA was recently approved) which is outside the Gunnedah LGA and is based in the Liverpool Plains LGA. These factors must be taken into account when the social impact assessment is done as the flow on effects of fly in fly out labour forces are much less than utilising permanent local labour forces within the LGA.

It is recommended that the government fund and appoint independent scientific analysis of these high risk areas of the Watermark Coal Project separately from the proponents consultants.

8. Renewal of Exploration Licence

EL 7223 was authorised until 28 February 2011 and is now due for renewal. It is a known fact that mining exploration is a risky business and even though a proponent may invest millions of dollars there is no guarantee of success or a return on investment.

It is noted that when Shenhua Watermark Coal Pty Ltd became the successful applicant for the EL a considerable sum of money was paid to the government up front and if a mining lease is granted another lump sum of \$300 million is payable to the government by Shenhua Watermark Coal Pty Ltd. This condition of the original EL is a major concern to the community as it *considerably erodes the partiality of the decision by the government to deny the approval of a mining lease and forego a considerable sum of money.* **There is however, an opportunity for the government to remove this condition on the renewal of the EL and avoid this murky shadow that exists and improves the ability of the government to make an independent decision on any development application.**

It is also known that Shenhua Watermark Coal Pty Ltd has just received amended approval for their Phase 4 drilling program to continue exploring the resources of the EL despite the renewal not being issued. The Phase 4 drilling program is designed to explore the underground resource potential of the area. There are another 2 phases that will be proposed to complete the underground resource exploration. It appears that if the government continues to allow the proponent to expend further capital for a different underground mine there is an implication that they believe there is a capacity for them to mine that resource in the future. This will make it increasingly difficult for the government to decline the applicant in the future.

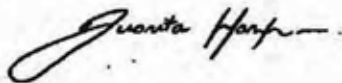
Given that the resource is not going anywhere and there is no pressing need to rip the resource out of the ground, it is recommended that the government use the opportunity of the EL renewal to change the conditions and prohibit the proponent doing further underground resource exploration at least until the development assessment for the open cut is complete and the Namoi Water Study is finalised.

I trust that the points I have raised for the Department of Planning's consideration have been useful and I would like to convey my appreciation for allowing me as a member of the Community Consultative Committee to make this submission.

It is very important that the planning assessment process is refined so that the government can ensure the impacts of the Shenhua Watermark Coal Project does not socialise the cost to the community and privatise the profits of the project to the company.

If you have any questions or would like to discuss this further, please do not hesitate to contact me.

Yours sincerely,



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ATTACHMENT 4

**Commonwealth Department of Sustainability, Environment, Water, Population
and Communities Requirements for Environmental Assessment**

Refer to separate file Attachment

Department of the Sustainability, Environment, Water, Population and Communities – requirements for environmental assessment

Section 75F(3) of the NSW *Environmental Planning and Assessment Act 1979*

The Commonwealth Minister for Sustainability, Environment, Water, Population and Communities has determined the Watermark Coal Project (EPBC 2011/6201), involving the proposed construction and operation of an open cut coal mine approximately 35 km south east of Gunnedah in New South Wales, to be a controlled action under section 75 of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The controlled action is likely to have a significant impact on the EPBC Act listed critically endangered ecological community White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Box-Gum Woodland) and EPBC Act listed migratory and threatened species including the Regent Honeyeater (*Anthochaera phrygia*). Significant impacts are also considered possible for a number of other species and communities protected by the EPBC Act including, but not limited to, those listed in Appendix A.

In accordance with the one-off accredited assessment process for this project, the environmental assessment of the impacts of the controlled action must be assessed under the *Environmental Planning and Assessment Act 1979* (EP&A Act). Pursuant to section 75F(3) of part 3A of the EP&A Act the Director-General is required to notify the proponent of these requirements.

The assessment should include enough information about the controlled action and its relevant impacts to allow the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities to make an informed decision whether or not to approve the controlled action under the EPBC Act.

The following assessment requirements are to be integrated into the assessment requirements of the EP&A Act. The following matters in the EPBC Act and schedule 4 of the *Environment Protection and Biodiversity Conservation Regulations 2000* should be considered.

General information

1. The background of the action, including:

- a. the title of the action;
- b. the full name and postal address of the designated proponent;
- c. a clear outline of the objective of the action;
- d. the location of the action;
- e. the background to the development of the action;
- f. how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action;
- g. the current status of the action; and
- h. the consequences of not proceeding with the action.

Description of the controlled action**2. A description of the action, including:**

- a. all the components of the action;
- b. the precise location of any works to be undertaken, structures to be built or elements of the action that may have relevant impacts;
- c. how the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts;
- d. the timing and duration of the works to be undertaken; and
- e. to the extent reasonably practicable, a description of any feasible alternatives to the controlled action that have been identified through the assessment, and their likely impact, including:
 - i. if relevant, the alternative of taking no action;
 - ii. a comparative description of the impacts of each alternative on the matters protected by the controlling provisions for the action;
 - iii. sufficient detail to clarify why any alternative is preferred to another.

Description of the existing environment**3. A description of the existing environment of the proposal location and the surrounding areas that may be affected by the action, including:**

- a. surveys using accepted methodology for targeting listed threatened species, ecological communities and their respective habitat, including but not limited to OEH's *Survey and assessment guidelines* (2009), available at: <http://www.environment.nsw.gov.au/threatenedspecies/surveymethodsfauna.htm> and the Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) species-specific survey guidelines for nationally threatened species, available at: <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>

In addition to the requirements outlined in OEH's *Survey and assessment guidelines* (2009) and DSEWPaC survey guidelines for relevant species, the following must also be included:

- b. a description of the distribution and abundance of threatened species and ecological communities, as well as suitable habitat (including breeding, foraging, roosting habitat, habitat critical to the survival of threatened species) within the site and in surrounding areas that may be impacted by the proposal; and
- c. the regional distribution and abundance of suitable and potential habitat surrounding the site.

Description of the relevant impacts of the controlled action

- 4. An assessment of all relevant impacts³ with reference to the *EPBC Act Policy Statement 1.1 Significant Impact Guidelines Matters of National Environmental Significance* (2009) that the controlled action has, will have or is likely to have on relevant threatened species and/or threatened ecological communities (s18 and s18A), and migratory species (s20 and s20A). Information must include:

³ The term "relevant impact" is defined in section 82 of the EPBC Act.

- a. a description of the relevant impacts of the action on matters of national environmental significance;
 - b. a detailed assessment of the nature and extent of the likely short term and long term relevant impacts;
 - c. a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;
 - d. analysis of the significance of the relevant impacts;
 - e. notwithstanding mitigation and offset, details on the cumulative impacts on matters of National Environmental Significance at a regional scale; and,
 - f. any technical data and other information used or needed to make a detailed assessment of the relevant impacts.
5. A description of the relevant impacts on the ecological communities should include an analysis of the vegetation condition on the site, as well as the methods by which this was determined. It should also include direct, indirect, cumulative and facilitative impacts on the:
- a. extent of the ecological community, including connectivity with other areas of the ecological communities;
 - b. quality or integrity of the ecological community including, but not limited to, assisting invasive species, that are harmful to the ecological communities to become established; or causing regular mobilisation of fertilisers, herbicides or other chemicals or pollutants into the communities which kill or inhibit the growth of species in the ecological community;
 - c. EPBC Act listed species in, or in any way dependent upon, the ecological community;
 - d. composition of the ecological community;
 - e. habitat present on site critical to the survival of the ecological community⁴; and
 - f. abiotic (non-living) factors (such as water, nutrients or soil) necessary for the ecological community survival, for example increasing groundwater levels or making the site wetter, soil disturbance or substantial alteration of surface water drainage patterns.

These impacts should be described for the construction and operation phases of the controlled action.

This information should be provided with reference to the ecological community as it is defined and listed under the EPBC Act.

6. Where there is a potential habitat for EPBC Act listed species (Appendix A), surveys must be undertaken. These surveys must be timed appropriately and undertaken for a suitable period of time by a qualified person⁵. A subsequent description of the relevant impacts on such EPBC Act listed species should include, inter alia, direct, indirect, cumulative and facilitative impacts on the:

⁴ "habitat critical to the survival of a species or ecological community" refers to areas that are necessary:

- for activities such as foraging, breeding, roosting, or dispersal;
- for the long-term maintenance of the species or ecological community (including the maintenance of species essential to the survival of the species or ecological community, such as pollinators);
- to maintain genetic diversity and long term evolutionary development; or
- for the reintroduction of population or recovery of the species or ecological community.

Such habitat may be, but is not limited to: habitat identified in a recovery plan for the species or ecological community as habitat critical for that species or ecological community; and/or habitat listed on the register of Critical Habitat maintained by the Minister under the EPBC Act.

⁵ Where available, species-specific survey guidelines can be obtained on the department's *Species Profile and Threats Database*: <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>.

- a. population of the species at the site;
- b. area of occupancy of the species;
- c. habitat critical to the survival of the species;
- d. breeding cycle of the population; and
- e. availability or quality of habitat for the species.

If an endangered ecological community, threatened or migratory species listed at Appendix A is not believed to be present on the proposed site, detailed information must be included in the Environmental Assessment Report to provide certainty that this community will not be impacted.

Information relating to water

The Environmental Assessment Report must consider any water related impacts associated with the proposed project on MNES.

7. How the proponent will comply with all relevant Commonwealth, state and local government environment laws and policies pertaining (either directly or indirectly) to water quality management;
8. A description and maps of all surface water and groundwater sources relevant to the Project, and a delineation of their associated NWQMS environmental values;
9. The results of surface water and groundwater hydrological assessments, including an assessment of hydrological interactions where water sources are connected;
10. Hydro-geological reports;
11. A geological map showing fault lines;
12. A topographical map;
13. Hydrological modelling information;
14. Baseline data and information on current water quality, including reference and test site data. Where this information does not exist, there should be an undertaking to carry out the necessary investigations in order to provide the required baseline data, including a description of how these investigations will be carried out (methodology and timeframe);
15. Data and information on proposed discharge water quality, including timing of discharges, concentrations, and loads of toxicants and stressors;
16. Water quality issues, including planning, monitoring and management informed by the National Water Quality Management Strategy (<http://www.environment.gov.au/water/policy-programs/nwqms>):
 - a. Sewage treatment; and,
 - b. Water way crossings;
17. Modelling showing the cumulative environmental impacts of the action; and
18. A comprehensive water quality risk management and monitoring plan for the project, including management triggers to detect potential issues in a timely manner and to avoid, minimise or ameliorate adverse impacts. This should include:
 - a. Identification and description of all potential water quality hazards;
 - b. Water quality risks should be considered and, where possible, quantified;
 - c. Cumulative effects, including environmental impacts, should be considered;

- d. Threshold trigger and/or guideline values that protect MNES should be considered;
 - e. Biological as well as chemical monitoring and assessment;
 - f. Statistical analysis such as data averages, standard deviation and number of samples;
 - g. Test and reference site locations;
 - h. Sampling and analytical methods; and,
 - i. Quality control and quality assurance data
19. Some of the main water quality issues the proponent should consider include:
- a. Salinity;
 - b. Sedimentation;
 - c. Nutrients;
 - d. Stressors such as pH, EC, turbidity
 - e. Heavy metals and metalloids;
 - f. Macroinvertebrate species assemblages, compositions and assessment results
 - g. Disturbed/exposed acid sulfate soils;
 - h. Hydrocarbons, hydrocarbon derivatives and PAHs.

Proposed safeguards and mitigation measures

20. A description of feasible mitigation measures, changes to the controlled action or procedures, which have been proposed by the proponent or suggested in public submissions, and which are intended to prevent or minimise relevant impacts. Information must include:
- a. a description of the mitigation measures that will be undertaken to prevent or minimise the relevant impacts of the action. These mitigation measure should be substantiated and based on best available practices;
 - b. an assessment of the expected or predicted effectiveness of the mitigation measures including the effect on abundance and condition of species, suitable habitat and ecological communities;
 - c. any statutory or policy basis for the mitigation measures;
 - d. the cost of the mitigation measures;
 - e. an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs (including any relevant thresholds for corrective actions) for the relevant impacts of the action. Include the person or agency responsible for implementing these programs and the effectiveness of all mitigation measures, including any provisions for independent environmental auditing;
 - f. the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program;
 - g. identification of mitigation measures proposed to be undertaken by State governments, local governments or the proponent;
 - h. any changes to the controlled action which prevent or minimise relevant impacts on listed threatened species and communities.

Offsets

21. Should any residual impact exist that cannot be mitigated it may be necessary for offset measures to be considered in order to ensure the protection of matters of national environmental significance in perpetuity. If required, the department may negotiate offsets with you during the assessment phase. Reference should be made to the Department's draft

policy statement, including any revisions to this statement, at :

<http://www.environment.gov.au/epbc/publications/draft-environmental-offsets.html>

- a. the description of any offset package should include how the offset compensates for the residual impacts, when the offset will be delivered and how the offset will be managed;
- b. an assessment of the impact of the offsets on other matters of environmental, economic, or social significance; and
- c. analysis of cost, both financial and other, related to offsets.

Other approvals and conditions

22. Any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action. Information must include:

- a. details of any local or State government planning scheme, or plan or policy under any local or State government planning system that deals with the proposed action, including:
 - i. what environmental assessment of the proposed action has been, or is being, carried out under the scheme, plan or policy; and
 - ii. how the scheme provides for the prevention, minimisation and management of any relevant impacts;
- b. a description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the Act), including any conditions that apply to the action;
- c. a statement identifying any additional approval that is required;
- d. a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

Economic and social matters

23. A description of the short-term and long-term social and economic implications and/or impacts of the project.

Environmental record of person proposing to take the action

24. Details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

- a. the proponent; and
- b. for an action for which a person has applied for a permit, the person making the application.

25. Details of the proponent's environmental policy and planning framework.

Information sources

26. For information given in an environment assessment, the draft must state:

- a. the source of the information;
- b. how recent the information is;
- c. how the reliability of the information was tested; and
- d. what uncertainties (if any) are in the information.

Consultation

27. Any consultation about the action, including:

- a. any consultation that has already taken place;
- b. proposed consultation about relevant impacts of the action;
- c. if there has been consultation about the proposed action — any documented response to, or result of, the consultation.

28. Identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.

Appendix A**Threatened Ecological Communities**

- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland (Box-Gum Woodland)
- The Weeping Myall Woodlands
- Grey Box (*Eucalyptus macrocarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia
- Weeping Myall Woodlands ecological community

Threatened Flora

- *Prasaophyllum* sp. Wybong (C.Phelps ORG 5269)
- *Pterostylis cobarensis*
- *Swainsona murrayana*
- *Thesium austral*
- *Tylophora lineraris*

Threatened Fauna

- *Anthochaera phrygia* (Regent Honeyeater), also Migratory
- *Lathamus discolor* (Swift Parrot)
- *Polytelis swainsonii* (Superb Parrot)
- *Chalinolobus dwyeri* (Large-eared Pied Bat)
- *Petrogale penicillata* (Brush-tailed Rock-Wallaby)
- *Pseudomys novaehollandiae* (New Holland Mouse)
- *Pteropus poliocephalis* (Grey-headed Flying-fox)
- *Rostratula australis* (Painted Snipe), also Migratory
- *Maccullochella peelii peelii* (Murray Cod)
- *Nyctophilus corbeni* (South-eastern Long-eared Bat)
- *Dasyurus maculatus maculatus* (Spotted-tailed Quoll)
- *Underwoodisaurus sphyrurus* (Border Thick-tailed Gecko)