

CONSULTATION

INCLUDING:

AWABA COLLIERY PROJECT NEWSLETTER

LAKES MAIL – PEA ADVERTISEMENT

ENERGY AUSTRALIA LETTER

TELSTRA LETTER

DoP DIRECTOR-GENERAL'S REQUIREMENTS

HCRCMA DGR COMMENT

DECCW DGR COMMENT

NOW DGR COMMENT

I&I DGR COMMENT

LMCC DGR COMMENT

RTA DGR COMMENT





For information on Centennial Coal visit: www.centennialcoal.com.au

Jeff Dunwoodie
Environment and Community Co-ordinator
(02) 4956 0206

For further information on this project please contact:

Awaba Public School's little green thumbs looking after their veggie gardens



This project has given Awaba the opportunity to actively engage with the local school to deliver practical and tangible educational outcomes.
garden to learn the value of healthy food and recycling waste and water.

Awaba recently worked with the local Awaba Public School to install a rainwater tank, construct a fenced in vegetable garden and establish a compost bin.
The school has planted tomatoes, corn, cucumbers, herbs, chilies and spinach. While they have become experts at growing herbs, they are still working toward a successful vegetable patch. The garden is used to teach the students the natural process of how plants grow, while the fruits of their labour are used in class to learn the benefits of eating healthy foods.
The compost bin is a practical tool teaching recycling and waste reduction with food scraps now being composted rather than being thrown in the rubbish. The installation of a water tank which collects rainwater from one of the buildings is being used in the garden rather than going to storm water.
Awaba Public School has 31 students who now have a school

COMMUNITY SUPPORT

AWABACOLLIERY

MINE LIFE CONTINUATION PROJECT

THE PROJECT

Awaba Colliery (Awaba) is a coal mine operated by Centennial Newstan Pty Ltd (Newstan), a wholly owned subsidiary of Centennial Coal Company Ltd (Centennial). The mine is located within the Newcastle Coalfield, south of the Awaba village on the western side of Lake Macquarie.

An application for a Part 3A Project Approval has been lodged by Centennial for the Awaba Colliery Continuation of Mining Project (the "Project"), which will seek approval from the Minister for Planning to allow ongoing underground mining and associated surface operations.

Whilst it is well known that Awaba has almost reached the end of its coal reserves and has been slated for closure, a development approval under Part 3A of the NSW EP&A Act (1979) is required. A renewal of the current planning consent will ensure Awaba is in a position to finalise its operations at the site in the most productive and effective manner.

With a history in the local area spanning over 75 years, Awaba is a small operation, with approximately 100 employees, producing approximately 850,000 tonnes of thermal coal annually.

ABOUT CENTENNIAL

Centennial is an Australian owned and operated coal mining and marketing company listed on the Australian stock exchange in 1994. Centennial supplies thermal coal to domestic and export markets.

As the major fuel supplier to the New South Wales energy industry, Centennial helps fuel approximately 46% of the State's coal-fired electricity.

Centennial is the largest underground coal producer in NSW, and has a workforce of 1,700 people with over 800 employees at the four Lake Macquarie operations (Mandalong, Mannering, Myuna and Awaba).



Centennial Coal

APPROVAL PROCESS

On the 4th of March 2010, Awaba submitted a Preliminary Environmental Assessment (PEA) to the Department of Planning seeking a continuation of mining and approval from the Minister of Planning under the provisions of Part 3A of the EP&A Act to:

- Undertake bord and pillar development and pillar extraction within the narrow panels by continuous miners within the proposed East B Area
- Produce approximately 880,000 tonnes of Run of Mine coal per annum (financial year)
- Expand the final pollution control dam

An Environmental Assessment (EA) is being prepared to support this application. The EA is being prepared by GSS Environmental and will include detailed environmental impact assessments from relevant specialists on surface and groundwater, air quality, traffic generation, subsidence, ecology, archaeology and heritage.

Detailed and conservative mine planning considerations have been undertaken in the preparation of mine designs including:

- Providing for pillar supports to remain in place under surface infrastructure
- No secondary extraction under creeks of 2nd order or higher
- Providing minimum depths of cover exceeding 20m (first workings) and 25m (secondary workings) to avoid potential for surface impacts
- Specialist subsidence assessment
- A risk-based approach to subsidence impact assessment and management

The PEA will be made available on the Department of Planning's website. The flow chart below provides a summary of the process.

Prepare community consultation strategy

Proponent lodges a project application
Commence community consultation

We are here

Director-General provides requirements to be addressed in an environmental assessment of the proposal

Preparation and submission of an environmental assessment

Public exhibition of environmental assessment

Review of environmental assessment and submissions

Minister decides to approve or disapprove the project

CONSULTATION

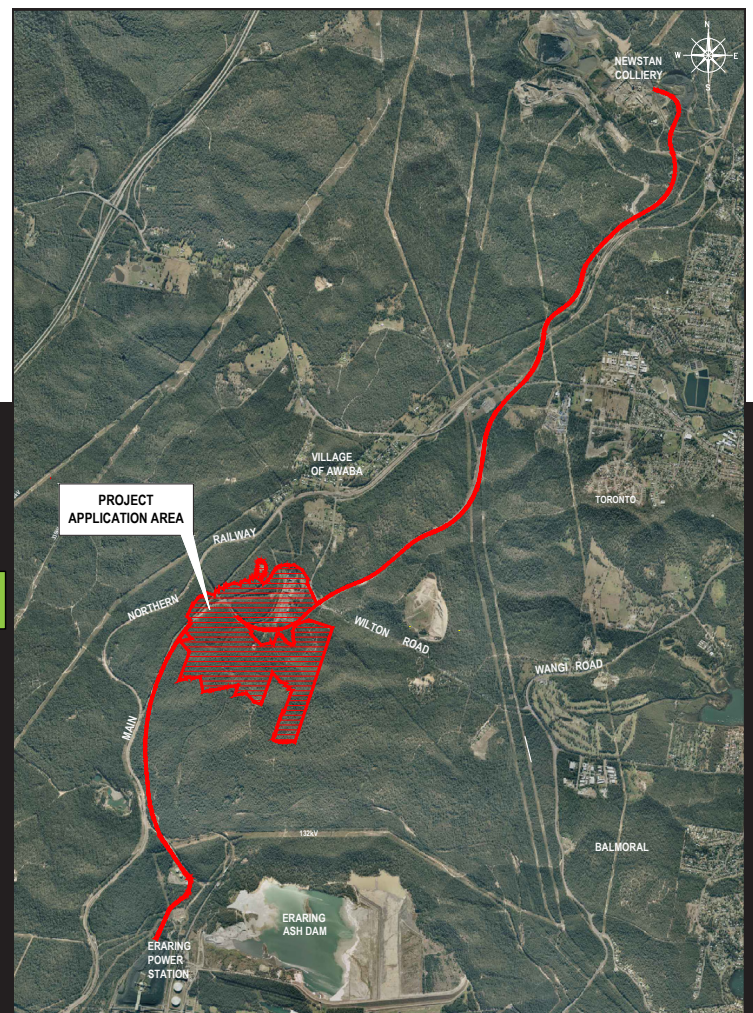
Centennial is committed to establishing and maintaining open and two-way communication with neighbours and stakeholders. There will be opportunities for the community to provide input into the Environmental Assessment (EA) process.

These opportunities include:

- Individual meetings with adjacent neighbours as required;
- Public exhibition of the EA (following finalisation) where any individual or group is able to make a formal submission to the Minister on the proposal.

A primary purpose of the community consultation is to provide the local community with an opportunity to comment on the proposal, so that Awaba can consider community opinions in the planning and assessment process.

LOCATION



CONTACT

For further information on this project further please contact:

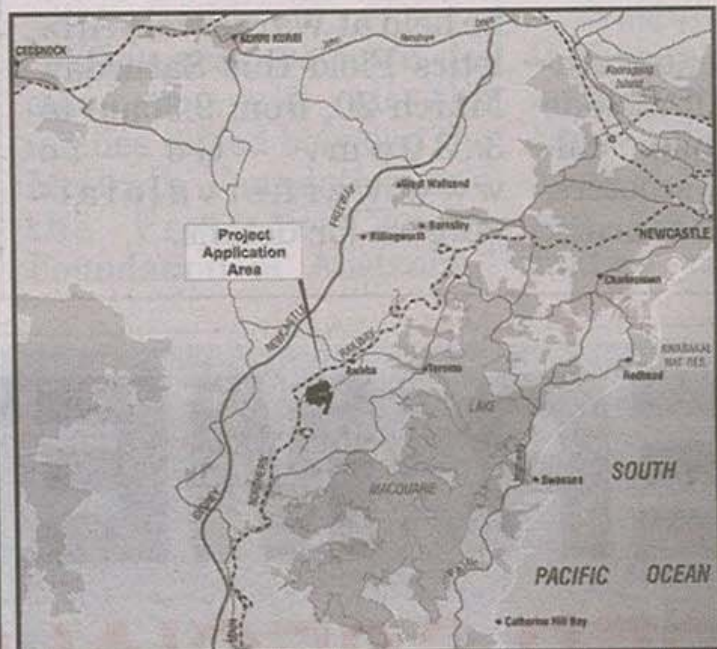
Jeff Dunwoodie
Environment and Community Co-ordinator
(02) 4956 0206

Public Notice
Notice of Application for Project Approval under
Part 3A of the Environmental Planning & Assessment
Act 1979
by
Centennial Coal Company Limited
ABN 30003714538
for the Awaba Colliery Continuation of Mining Project

Centennial Coal Company Limited ("Centennial") has made an application for Project Approval under Part 3A of the Environmental Planning & Assessment Act 1979 (EP&A Act) to the Minister for Planning for the Awaba Colliery Continuation of Mining Project ("The Project").

Pursuant to clause 8F(3) of the EP&A Regulation 2000, Centennial hereby notifies that the Application has been made.

Site Description: The site of the proposed Project is located approximately one kilometre south of the Awaba township and five kilometers west of Toronto within the Lake Macquarie LGA.



Project Description: Awaba Colliery Continuation of Mining
Project Environmental Assessment

The Project comprises the following elements:

- Undertaking bord and pillar development and pillar extraction within narrow panels by continuous miners within the East B Area
- Produce approximately 880,000 tonnes of run of mine coal per financial year
- Expand the final pollution control dam
- Include current mining and surface operations within the Part 3A approval

The Application for the Project may be inspected via:

1. the DoP website www.planning.nsw.gov.au; or
2. the Centennial Coal website www.centennialcoal.com.au
3. by contacting Awaba Colliery

The Project will be subject to an Environmental Assessment (EA) and public consultation requirements under Division 2, Part 3A of the EP&A Act.

Contact Details: Mary-Anne Crawford
Group Environment Manager
0400 403 550



Awaba Colliery



28 April 2010

BY MAIL

Mr David Eccles
Manager, Overhead Mains
Design Engineering Branch,
ET&T Division
Energy Australia
PO Box 1000
Toronto NSW, 2283

Dear David,

Re: Awaba Colliery Continuation of Mining Project

Background

Awaba Colliery is a small underground coal mine operated by Centennial Newstan Pty Limited ('Centennial'), a wholly owned subsidiary of Centennial Coal Company Limited. The mine is located within the Newcastle Coalfield, south of the Awaba village on the western side of Lake Macquarie.

Awaba Colliery is seeking a project approval from the Minister of Planning under the provisions of Part 3A of the Environmental Planning and Assessment Act 1979 for continued operations at the mine, and specifically to:

- Undertake bord and pillar development and pillar extraction within the proposed East B Area (note – there are **no** items of major infrastructure within this area, being predominantly bushland),
- Produce approximately 880,000 tonnes of run of mine coal per annum, and
- Expand the final pollution control dam located within the pit top area.

In addition, Awaba Colliery proposes to include its current mining and surface operations within the Part 3A approval.

Awaba Colliery has prepared and lodged a Project Application and a Preliminary Environmental Assessment (PEA) to the NSW Department of Planning. To support the application, Awaba Colliery is currently undertaking environmental investigations to support a complete Environmental Assessment (EA).

The Project Application Area and subsequent Study Areas are illustrated on the enclosed figures.

Stakeholder Consultation Process

In accordance with best practice, Centennial will be undertaking a comprehensive stakeholder engagement process for the EA. A Stakeholder Engagement Plan has been established for the project which will actively seek to identify and engage stakeholders for

consultation regarding the project. This is done via correspondence to particular groups and generic media advertising including:

- Letters
- Newsletters
- Face to face meetings (including toolbox talks for employees)
- Local newspapers (Lakes Mail): and
- Centennial Coal website.

As you are aware, Centennial recently consulted with your organisation in late 2009 regarding a separate Subsidence Management Application under the NSW Mining Act (1992) to the Department of Industry & Investment (formerly DPI-MR) regarding an existing mining area known as Main South Area – Revised Stage 3 Area (illustrated on the enclosed figures), for which Centennial is currently awaiting approval. As mentioned earlier above, *existing* mining areas (including all remaining mining in the Main South Area) will be included in the project application for continued operations of Awaba Colliery. Accordingly, whilst there are no items of major infrastructure in the new mining area (and consultation was undertaken for all other existing mining areas where infrastructure does occur), as a previously registered stakeholder, Centennial is prudently writing to your organisation to inform you of the project and invite registration of any interest for further consultation for the EA or to confirm if existing consultation to date has been sufficient.

Centennial is seeking interested stakeholders to register their interest in the project by notifying the undersigned by Friday 14th May 2010;

Jeffrey Dunwoodie
Environment and Community Coordinator
Phone: (02) 4956 0206
Email: Jeffrey.Dunwoodie@centennialcoal.com.au

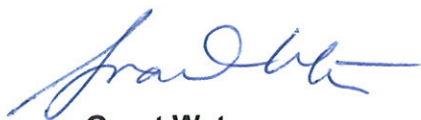
The following information has been provided to support this notification:

Attachment 1 – Map detailing the Awaba Colliery Continuation of Mining Project Application boundary (for consultation purposes during the Project)

Attachment 2 – Map showing project application study areas

Attachment 3 – Map showing detailed project application study areas

Yours sincerely



Grant Watson
Mine Manager, Awaba Colliery



Awaba Colliery



28 April 2010

BY MAIL

Mr Mark Schneider
Telstra Network Integrity Services
Level 9, 18 Smith St
Parramatta NSW, 2150

Dear Mark,

Re: Awaba Colliery Continuation of Mining Project

Background

Awaba Colliery is a small underground coal mine operated by Centennial Newstan Pty Limited ('Centennial'), a wholly owned subsidiary of Centennial Coal Company Limited. The mine is located within the Newcastle Coalfield, south of the Awaba village on the western side of Lake Macquarie.

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Jeffrey Dunwoodie
Environment and Community Coordinator
Phone: (02) 4956 0206
Email: Jeffrey.Dunwoodie@centennialcoal.com.au

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Yours sincerely



Grant Watson
Mine Manager, Awaba Colliery



Planning

**Major Projects Assessment
Mining & Industry Projects**

Phone: 02 9228 6587

Fax: 02 9228 6466

Email: paul.freeman@planning.nsw.gov.au

Mr Steve Bracken
General Manager – Northern Operations
Centennial Newstan Pty Limited
242 Wilton Road
AWABA NSW 2283

Our Ref: 10/06672

Dear Mr Bracken,

**Awaba Coal Project (10_0038)
Director-General's Requirements**

The Department has received your application for the Awaba Coal Project.

The Director-General's requirements for the project are attached. These requirements have been prepared in consultation with relevant agencies, based on the information you have provided to date. I have also attached a copy of the agencies' comments for your information.

Please note that the Director-General may alter these requirements at any time.

If your proposal is likely to have a significant impact on matters of National Environmental Significance, it will require an approval under the Commonwealth *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act). This approval is in addition to any approvals required under NSW legislation. It is your responsibility to contact the Department of Environment, Water, Heritage and the Arts in Canberra (6274 1111 or <http://www.environment.gov.au>) to determine if the proposal requires an approval under the EPBC Act. If it is subsequently determined that an approval is required under the EPBC Act, please contact the Department of Planning immediately as supplementary Director-General's requirements may need to be issued.

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

- confirm the applicable fee (see Division 1A, Part 15 of the *Environmental Planning and Assessment Regulation 2000*); and
- determine the number of copies (hard-copy and CD-ROM) of the Environmental Assessment (EA) that will be required for exhibition purposes.

Once it receives the EA, the Department will review it in consultation with the relevant agencies to determine if it adequately addresses the Director-General's requirements, and may require you to revise it prior to public exhibition.

The Department is required to make all the relevant information associated with the project publicly available on its website. Consequently, I would appreciate it if you would ensure that all the documents you subsequently submit to the Department are in a suitable format for the web, and arrange for an electronic version of the EA to be hosted on a suitable website.

If you have any enquiries about these requirements, please contact Paul Freeman.

Yours sincerely

David Kitto 22/4/10

David Kitto
Director
Mining & Industry Projects
As delegate for the Director-General

Director-General's Requirements

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

Application Number	10_0038
Project	The Awaba Coal Project, including: • extending the life of the Awaba Colliery until 2015; • extracting coal from existing approved mining areas, extending the Stage 3 mining area and developing the East B mining area to produce up to a total of 880,000 tonnes of run-of-mine coal per annum; • continued coal delivery to the Eraring Power Station and Newstan Colliery; • continued use of the mine's surface infrastructure, including processing and transport systems; • expanding the mine's existing pollution control dam; and • rehabilitating the site.
Location	1.5 kilometres south of Awaba, in the Lake Macquarie City LGA
Proponent	Centennial Awaba Pty Limited
Date of Issue	22 April 2010
General Requirements	The Environmental Assessment of the project must include: • an executive summary; • a detailed description of the project, including: – need for the project; – alternatives considered, including justification for the proposed mine plan; and – various stages of the project. • a risk assessment of the potential environmental impacts of the project, identifying the key issues for further assessment; • a detailed assessment of the key issues specified below, and any other significant issues identified in the risk assessment (see above), which includes: – a description of the existing environment, <u>using sufficient baseline data</u>; – an assessment of the potential impacts of the project, including any cumulative impacts, taking into consideration any relevant guidelines, policies, plans and statutory provisions (see below); and – a description of the measures that would be implemented to avoid, minimise and if necessary, offset the potential impacts of the project, including detailed contingency plans for managing any significant risks to the environment; • a statement of commitments, outlining all the proposed environmental management and monitoring measures; • a conclusion justifying the project on economic, social and environmental grounds, taking into consideration whether the project is consistent with the objects of the <i>Environmental Planning & Assessment Act 1979</i>; and • a signed statement from the author of the Environmental Assessment, certifying that the information contained within the document is neither false nor misleading.
Key Issues	• Subsidence – including: – accurate predictions of potential subsidence effects (both systematic and non-systematic, paying particular attention to the long term

	stability of final pillars and the avoidance of pillar runs and to areas of limited cover depth) including potential cumulative effects and a sensitivity analysis; – identification of sensitive receptors potentially affected by subsidence (such as environmental features, and infrastructure) and an assessment of significance and sensitivity of those receptors; – assessment of the potential impacts of subsidence effects on the natural and built environment, with particular reference to sensitive receptors; – identification of how mine design has been or will be used or adapted to manage and mitigate subsidence impacts; – identification of how predicted and unpredicted subsidence impacts would be rehabilitated, including methodologies and response times; and – identification of further research required to address any uncertainties or information gaps. • Soil and Water – including: – a detailed site water balance, including a description of site water demands, water supply and disposal methods; – detailed modelling and assessment of potential impacts on: - o the quality and quantity of existing surface water and groundwater resources; - o groundwater dependent ecosystems; - o affected licensed water users and basic landholder rights; and - o the riparian, ecological, geomorphological and hydrological values of watercourses; – a detailed description of the proposed water management system (including all infrastructure and storages) and water monitoring program; – a detailed description of measures to minimise all water discharges, and – a detailed description of measures to mitigate surface water and groundwater impacts. • Biodiversity – including: – a detailed assessment of the potential impacts on any terrestrial and aquatic threatened species, populations, ecological communities or their habitats; and – a detailed description of the measures that would be implemented to avoid or mitigate impacts on biodiversity. • Noise & Vibration – including a quantitative assessment of potential operational and transport noise impacts. • Air Quality – including a quantitative assessment of potential air quality impacts. • Traffic & Transport – including a detailed assessment of potential impacts on the safety and performance of both the road and rail network, and any railway crossings. • Rehabilitation & Mine Closure - a detailed description of the proposed rehabilitation and mine closure strategies for the project, having regard to the key principles in <i>Strategic Framework for Mine Closure</i>, including: – rehabilitation objectives, methodology, monitoring programs, performance standards and proposed completion criteria; – decommissioning and management of surface infrastructure; – nominated final land uses, having regard to any relevant strategic land use planning or resource management plans or policies; and – the potential for integrating the rehabilitation strategy with any other offset strategies in the region. • Heritage – both Aboriginal and non-Aboriginal; • Greenhouse Gases – including:
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	– a quantitative assessment of the potential scope 1, 2 and 3 greenhouse gas emissions of the project; – a qualitative assessment of the potential impacts of these emissions on the environment; and – an assessment of all reasonable and feasible measures that could be implemented on site to minimise greenhouse gas emissions and ensure the project is energy efficient. • Hazards - including bushfires. • Waste - including: – accurate estimates of the quantity and nature of the potential waste streams of the project; and – a detailed description of the measures that would be implemented to minimise, handle and dispose of waste on site. • Social & Economic – including a detailed assessment of the costs and benefits of the project as a whole, and whether it would result in a net benefit for the NSW community.
References	The environmental assessment of the key issues listed above must take into account relevant guidelines, policies, and plans. While not exhaustive, the following attachment contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this project.
Consultation	During the preparation of the Environmental Assessment, you should consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups and affected landowners. In particular you must consult with the: • Department of Environment, Climate Change and Water, including the NSW Office of Water; • Industry and Investment NSW; • Mine Subsidence Board; • Land and Property Management Authority; • Department of Transport and Infrastructure; • Lake Macquarie City Council; and • Hunter-Central Rivers Catchment Management Authority. The consultation process and the issues raised must be described in the Environmental Assessment.
Deemed Refusal Period	90 days

Policies, Guidelines & Plans

Risk Assessment	
	AS/NZS 4360:2004 Risk Management (Standards Australia)
	HB 203: 203:2006 Environmental Risk Management – Principles & Process (Standards Australia)
Soil & Water	
Soil	Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC)
	Rural Land Capability Mapping (DLWC)
	Agricultural Land Classification (DPI)
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
	NSW Government Water Quality and River Flow Objectives (DECC)
	Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC)
	Hunter-Central Rivers Catchment Action Plan (Hunter-Central Rivers CMA)
	Managing Urban Stormwater: Soils & Construction (Landcom)
	Managing Urban Stormwater: Treatment Techniques (DECC)
	Managing Urban Stormwater: Source Control (DECC)
	A Rehabilitation Manual for Australian Streams (LWRRDC and CRCCH)
	Technical Guidelines: Bunding & Spill Management (DECC)
	Environmental Guidelines: Use of Effluent by Irrigation (DECC)
Groundwater	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)
	Guidelines for the Assessment & Management of Groundwater Contamination (DECC, 2007)
	Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources 2009
Biodiversity	
	Draft Guidelines for Threatened Species Assessment under Part 3A of the <i>Environmental Planning and Assessment Act 1979</i> (EP&A Act) (DEC)
	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
Noise & Vibration	
	NSW Industrial Noise Policy (DECC)
	Environmental Noise Management – Assessing Vibration: a technical guide (DEC)

	Environmental Criteria for Road Traffic Noise (NSW EPA)
	Interim Construction Noise Guideline (DECC)
	DIN 4150 Part 3 - Structural Vibration: effects of vibration on structures (ISO, 1999)
Air Quality	
	Protection of the Environment Operations (Clean Air) Regulation 2002
	Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (DEC)
	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC)
Rehabilitation & Mine Closure	
	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)
Traffic & Transport	
	Guide to Traffic Generating Development (RTA)
Heritage	
<i>Aboriginal</i>	Draft Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation (DoP and DEC)
<i>Non-Aboriginal</i>	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)
Hazards	
	State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
	Applying SEPP 33 – Hazardous and Offensive Development Application Guidelines (DUAP)
	Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis
Waste	
	Waste Classification Guidelines (DECC)
Social & 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)

Contact: Anna Ferguson
Phone: 4337 1213
Fax: 4323 3960
Email: anna.ferguson@cma.nsw.gov.au

File: DGEARs Awaba Coal Project.doc

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



Your Ref: S04/01377
Our Ref: A351991

Dear Mr Reed

Subject: Request for provision of details of key issues and assessment requirements – Awaba Coal Project.

I refer to your request seeking endorsement or addition to the Director-General requirements for the full Environmental Assessment for the above project, under Part 3A of the *Environmental Planning and Assessment Act, 1979* (EP&A Act). The Hunter-Central Rivers Catchment Management Authority (CMA) has reviewed the preliminary environmental assessment and provides the following comments for consideration.

Biodiversity

Whilst it is acknowledged that there is not likely to be any significant impacts to native vegetation or fauna, the second point under "Biodiversity" could be expanded to read;
- 'a detailed description of the measures that would be implemented to avoid or mitigate impacts on biodiversity, including a strategy to ensure that the project will maintain or improve the biodiversity conservation value of the region.'

Cultural Heritage

This section of the draft DGRs does not give a lot of detail. It is suggested that an assessment of cultural heritage be required including the potential impacts and avoidance and mitigation measures.

References

It is recommended that the Hunter-Central Rivers Catchment Action Plan (CAP) be included in the list of references. The CAP is a whole-of government approach to natural resource management which has been endorsed by the NSW Government. It is a regional plan that provides a roadmap to ensure that natural resources are protected and enhanced for the enjoyment and viability of future generations.

The CAP includes management targets and guiding principles. The guiding principles are statements that outline how natural resources should be managed in the Hunter-Central Rivers region. They provide direction for all natural resource managers to achieve ecologically sustainable development and allow organisations to align their activities so that they are compatible with the CAP. This will ensure that the whole community (including government) can work towards a common goal.

The CAP is available at <http://www.hcr.cma.nsw.gov.au> and can be referenced as

"Hunter-Central Rivers Catchment Action Plan, (2007), Hunter-Central Rivers Catchment Management Authority, Paterson."

The most relevant section of the CAP for this project the mining and extractive industries guiding principles (see page 68). The following is a list of those guiding principles with particular relevance to this proposal. These appear to be covered by the draft DGRs, and are included here for your information.

1. Every precaution should be taken to ensure that surface water flows are not lost or diverted due to subsidence or geological cracking caused by extraction. Where surface water is lost or diverted, offsets or mitigating actions should be provided.
2. A water management plan should be completed and approved before the commencement of mining operations. This plan should apply to the full lifespan of the mine including after closure. The plan would show how mining will be conducted so that water resources are managed sustainably. Development and approval of the water management plan should be open and transparent.
3. Monitoring should occur throughout the life of the project (planning, operation, and post closure). Environmental monitoring procedures should be open and transparent and reporting to the relevant stakeholders should be part of any extraction activity. Water management audits should be regularly undertaken and results made available to the community.
4. Rehabilitation of sites should occur progressively and before environmental degradation of temporary landforms develop, particularly with regard to stability and ability to intercept water (runoff and ground water) which can potentially impact on the volumes of salt transferred from sites to surface and ground water.
5. Current best practice of mine rehabilitation should ensure that land affected by mining is progressively returned to at least its former productive condition so that it can support appropriate vegetation cover. An appropriate balance of agricultural landuse, a healthy native vegetation community structure or a sustainable ecosystem that is consistent with pre-European historical vegetation in the area should be achieved.
6. Landscape plans (e.g. mine synoptic plans) should be used to guide rehabilitation of the biodiversity values and ecosystem services that can be provided by former mine sites.
7. Mining should be undertaken so as to minimise the destruction of culture and heritage sites and impacts on culturally significant landscapes.
8. Off-site impacts of the mining proposal should be considered in the environmental assessment and approval process.
9. Cumulative impact of mining should be considered during the approval processes.

If you require any further information please do not hesitate to contact Anna Ferguson, the CMA's Regional Catchment Coordinator on 4337 1213.

Yours faithfully



David Green
for Fiona Marshall
General Manager
26 March 2010



**Environment,
Climate Change
& Water**

Our reference: DOC09/52184;
LIC09/28; Part 3A
Contact: Peter Hughes
(02) 4908 6819

Mr Howard Reed
Manager – Mining Projects
NSW Department of Planning
GPO Box 39
SYDNEY NSW 2000

Attention: Mr Paul Freeman

Dear Mr Reed

**Proposed Awaba Coal Project (10_0038) –
Director General's Environmental Assessment Requirements**

Reference is made to the above proposal, and the request for the Department of Environment, Climate Change and Water's (DECCWs) Director-General's Environmental Assessment Requirements (DG EAR's) for preparation of the Environmental Assessment (EA).

DECCW has considered the details of the proposal as provided in the Preliminary Environmental Assessment and identified the information it requires to assess the proposal in Attachment A. The proponent should ensure that the EA is sufficiently comprehensive and detailed to allow DECCW to determine the extent of the impacts of the proposal. In particular, the requirements of Section 45 of the *Protection of the Environment Operations Act 1997* (POEO Act) must be addressed.

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

- the impacts on water quality;
- the impacts on quantity in water resources;
- subsidence impacts; and
- the impacts on threatened species and their habitat;

In carrying out the assessment the applicant should refer to the relevant guidelines in Attachment B and also any industry codes of practice and best environmental management practice guidelines. The proponent should be aware that any commitments made in the EA may be formalised as licence or 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.

DECCW requests that the applicant provide three hard copies of the EA for review. These documents should be lodged with the Regional Manager – Hunter, Department of Environment, Climate Change and Water, PO Box 488G, Newcastle NSW 2300.

If you require any further information regarding this matter please contact Peter Hughes on (02) 4908 6819.

Yours sincerely



6-4-10

PETER JAMIESON
Head Regional Operations Unit Coastal
Environment Protection and Regulation

Encl: Attachment "A" – DECCW's Director-General Requirements; and
Attachment "B" – Guidance Material.

ATTACHMENT A - DECCW'S DIRECTOR-GENERAL REQUIREMENTS

Environmental Impacts of the Project

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

1. The Proposal

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

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

2. The Premises

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

- The location of the proposed facility and details of the surrounding environment;
- The proposed layout of the site;
- Appropriate land use zoning;
- Ownership details of any residence and/or land likely to be affected by the proposed facility;
- Maps/diagrams showing the location of residences and properties likely to be affected and other industrial developments, conservation areas, wetlands, etc in the locality that may be affected by the facility;
- All equipment proposed for use at the site;
- Chemicals, including fuel, used on the site and proposed methods for their transportation, storage, use and emergency management;
- Waste generation and disposal;
- Methods to mitigate any expected environmental impacts of the development;
- Site rehabilitation following termination of the development.

3. Subsidence

The EA needs to assess and describe the predicted impacts of underground mining in detail. Particular emphasis should be given to sensitive areas such as Crown Lands, waterways, wetlands, threatened species and endangered ecological communities. The subsidence assessment should include, but be limited to, the following:

- a. Review and assessment of the historical environmental impacts of subsidence from Awaba Colliery operations over the past 40 years. This review should include the impacts on water resource quality and quantity, groundwater systems, vegetation communities, landscape and habitat values;
- b. Detailed assessment and prediction of subsidence impacts, including the cumulative impacts of past and proposed operations;
- c. Detailed assessment of predicted subsidence impacts on all water resources. Likely and worst case scenario impacts should be detailed for all stream orders, including the potential impacts on water quality and quantity.

- d. Detailed assessment of predicted subsidence impacts on all flora and fauna habitat values, threatened species, landscape values and ecological processes; and
- e. Details of all proposals to mitigate the potential impacts of subsidence.

4. Air

The EA must include a detailed Air Quality Impact Assessment (AQIA). The AQIA must identify and describe in detail the significant sources of air pollution and activities/processes with the potential to cause fugitive dust emissions and odour emissions beyond the boundary of the development site. The AQIA should take into account cumulative impacts associated with existing developments and any developments having been granted development consent but which have not commenced.

The EA should demonstrate that the facility will operate within the DECCWs objectives which are to minimise adverse effects on the amenity of local residents and sensitive land uses and to limit the effects of emissions on local, regional and inter-regional air quality.

The AQIA must also include, but not be limited to, the following:

- Provide a description of existing air quality, using existing information and site representative ambient monitoring data. This description should include the following parameters:
 - dust deposition;
 - total suspended particulates;
 - PM₁₀ particulate matter;
- Identification and location of all fixed and mobile sources of dust/air emissions from the development including rehabilitation. The location of all emission sources should be clearly marked on a plan for key years of the mine development. Identify all pollutants of concern and estimate emissions by quantity (and size for particles), source(s) and discharge point(s).
- Details of the project that are essential for predicting and assessing impacts on air quality including:
 - the quantity and physio-chemical characteristics of materials to be handled, stored or transported;
 - an outline of the procedures for material handling, storage and transport;
 - the management of activities and areas with potential for impacts on air quality.

Note: emissions can be classed as either:

- point (eg emissions from stack or vent) or
- fugitive (from wind erosion, leakages or spillages associated with loading or unloading, crushing/screening, conveyors, storage facilities, plant and yard operation, vehicle movements (dust from road, exhausts, loss from load), land clearing and construction works).
- A description of the topography and surrounding land uses.
- Details of the exact locations of dwellings, schools and hospitals etc. Where appropriate provide a perspective view of the study area such as the terrain file used in dispersion and/or subsidence prediction models.
- Estimate the resulting ground level concentrations of all pollutants. Use an appropriate dispersion model to predict ambient TSP and PM₁₀ dust concentrations and dust deposition levels. Refer to Appendix B for appropriate guidelines.

- A detailed description of the methodology used to assess the air quality impacts of the development. The use of a particular dispersion model and model parameters used should be justified and discussed. The dispersion model input/output files should be included.
- Air quality impact predictions should include plans showing projected incremental levels of 24-hour average PM₁₀ concentrations, annual average dust deposition rates and annual average total suspended particulate concentrations throughout the life of the operation.
- An assessment of cumulative air quality impacts and a description of the methodology used.
- An assessment of the potential impacts on air quality other than by dust, for example nitrogen oxide emissions from diesel equipment and/or odour emissions arising from mine ventilation and/or spontaneous combustion.
- Describe the effects and significance of pollutant concentration on the environment, human health, amenity and regional ambient air quality standards or goals.
- Describe the contribution (if any) that the development will make to regional pollution, particularly in sensitive locations.
- Describe control measures to be implemented to minimise pollutants including dust generation during any construction activities, and coal handling and stockpiles.
- Outline specifications of pollution control equipment (including manufacturer's performance guarantees where available) and management protocols for both point and fugitive emissions. Where possible, this should include cleaner production processes.
- Include details of an air quality monitoring program to determine effectiveness of mitigation and to verify predictions, including provision for investigations in response to complaints.

5. 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 guidelines attached),
- 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 attached).

The EA should identify which emissions would be covered by the Federal Government's proposed Carbon Pollution Reduction Scheme (CPRS) once commenced.

The proponent should also evaluate and report on the feasibility of measures to reduce greenhouse gas emissions associated with the project, concentrating on emissions not covered by the CPRS.

For emissions covered by the CPRS, any evaluation should include a consideration of expected price increases due to CPRS. 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).

6. Noise

The EA must include a comprehensive noise assessment of the existing environment, potential impacts and proposed noise amelioration measures in accordance with the guidelines and methodologies detailed in Appendix B. The EA must determine the rating background noise level and ambient ($L_{Aeq(period)}$) noise levels in accordance with the NSW Industrial Noise Policy.

The evaluation should take into account any construction and the operational phases of the development over the "operating" hours proposed and take into account adverse weather conditions including temperature inversions. The assessment must identify any noise sensitive locations likely to be affected by activities at the site, such as residential properties, schools, churches, and hospitals.

The project specific noise levels for the site must be determined. For each identified potentially affected receiver, this should include:

- determination of the intrusive criterion for each identified potentially affected receiver,
- selection and justification of the appropriate amenity category for each identified potentially affected receiver,
- determination of the amenity criterion for each receiver,
- determination of the appropriate sleep disturbance limit.

The noise and vibration levels likely to be received at the most sensitive locations (these may vary for different activities at each phase of the development) should be determined. Potential impacts should be determined for any identified significant adverse meteorological conditions. Predicted noise levels under calm conditions may also aid in quantifying the extent of impact where this is not the most adverse condition.

The EA should include an assessment of cumulative noise impacts, having regard to existing developments and developments which have received development consent in the area but which have not commenced.

The EA should include noise amelioration measures proposed to address any noise issues identified.

6. Water

The EA must provide sufficient information to demonstrate that the proposed development can be operated whilst complying with the *Protection of the Environment Operations (POEO) Act 1997*, in particular, the protection of water quality, including ground water, during operation and following mine closure.

Potential impacts on water quality and quantity must be assessed, and mitigating measures proposed, for all on site water resources, all receiving waters downstream, and Lake Macquarie. The EA must assess:

- Details of all proposed water discharges including locations, water volumes, water quality and under what conditions;
- The expected water quality of all proposed discharges assessed in accordance with the Guidelines for Fresh and Marine Water Quality (ANZECC 2000);
- DECCW is especially concerned with heavy metal and salt discharges from the premises. The concentrations of metals and salinity in discharge waters should be directly compared with those in the receiving waters and Lake Macquarie using the Guidelines for Fresh and Marine Water Quality (ANZECC 2000). All impacts on receiving waters should then be assessed;
- Quality of runoff from exposed soils, roads and coal handling areas;

- Design and location of all sediment and erosion control structures;
- Methods proposed to deal with pollutants other than sediments that may be in the water;
- Spillage controls and bunding;
- Sealing, kerbing and guttering of trafficable areas;
- Provision of truck washing facilities capable of washing wheels and under body of vehicles leaving the premises;
- Potential impacts on water quality and quantity for receiving waters downstream of the mine; and
- Potential long terms impacts on Lake Macquarie and its tributaries.

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

The EA must include a detailed Water Management Plan and site water balance which includes cumulative water balance modelling and assessment incorporating the following matters:

- Maximum on-site reuse of wastewater together with adequate water storages to minimise discharge of pollutants from the premises at any time. This must include correct installation and sizing of the wastewater collection and recycling systems;
- Details of all measures employed to minimise all water discharges from the premises at all times;
- Prevention of wet weather overflows of contaminated stormwater by collection and reuse or treatment of contaminated first flush stormwater;
- Segregation of contaminated from non-contaminated water to minimise the volume of polluted water to be dealt with;
- Management of groundwater and surface waters; and
- Detailed design and management of all proposed water storages.

7. Waste and Chemicals

The EA should provide full details and classification of wastes generated from the process and their disposal options.

The EA must identify any fuel or chemical storage areas on the site/s and describe the measures proposed to minimise the potential for leakage or the migration of pollutants into the soil/waters or from the site.

8. Monitoring Programs

The EA should include a detailed assessment of any noise, air quality, water quality or waste monitoring required during the operation of the facility to ensure that the development achieves a satisfactory level of environmental performance. The evaluation should include a detailed description of the monitoring locations, sample analysis methods and the level of reporting proposed.

9. Threatened Species, Populations and Ecological Communities (including their Habitat)

The EA must:

- document all the known and likely threatened species, their habitats, populations and ecological communities of the site / study area (including any adjacent areas that may be indirectly impacted upon by the proposal). The accompanying report must provide details of the survey methodologies used (both flora and fauna) and / or techniques utilised;
- provide a detailed assessment of the direct and indirect impacts (e.g. subsidence, changes to hydrology, fragmentation etc) of the proposal, including any impacts associated with ancillary activities, such as asset protection zones (APZ) on such species, habitats, populations and ecological communities;
- provide a general baseline flora and fauna survey for the subject site, describing the vegetation communities, habitat types and species assemblages present;
- detail the actions that will be taken to avoid or mitigate impacts on threatened species, their habitats, populations and ecological communities; and in instances where impacts can not be avoided provide appropriate details on offset / compensatory habitat packages or strategies; and
- detail any impacts on adjacent or nearby DECCW conservation estate and provide mitigation or avoidance measures for any adverse impacts.

To address likely impacts (both direct and indirect) on threatened species, populations and ecological communities (including their habitat), the proponent will need to engage a qualified and experienced environmental consultant to conduct an appropriate flora and fauna survey of the subject site / study area, and provide an assessment report.

Surveys

Survey procedures and assessment of results should be consistent with those procedures and assessment approaches contained within the DECCW publications shown at Attachment B.

A general baseline fauna and flora survey must be conducted on the subject site and/or study area to provide details of the vegetation communities, habitat types and species assemblages present. Additional targeted surveys will be required for all likely threatened species, populations and/or communities that are not easily detected using general survey methodologies.

Surveys must be undertaken at the time of year when the subject species are most likely to be detected (e.g. targeted threatened flora should be carried out when a species is flowering and/or fruiting, as these features are typically required to positively identify species).

If a proposed survey methodology is likely to vary significantly from widely accepted methods, the proponent should discuss the proposed methodology with the DECCW prior to undertaking the EA, to determine whether DECCW considers that it is appropriate.

Previous Surveys

Recent (less than 5 years old) surveys and assessments may be used. However, previous surveys should not be used if they have:

- been undertaken in seasons, weather conditions or following extensive disturbance events when the target subject species are unlikely to be detected or present (e.g. outside known flowering / fruiting periods, adverse drought conditions, flooding, bushfire, slashing and overgrazing etc.); or
- utilised methodologies, survey sampling intensities, timeframes or baits that are not the most appropriate ones for detecting the target subject species;

unless these differences can be clearly demonstrated to have had an insignificant impact upon the outcomes of the surveys.

Biobanking Assessment Methodology

If the proponent is proposing to conduct a biodiversity assessment using BioBanking Assessment Methodology, as outlined in the 'BioBanking Assessment Methodology and Credit Calculator

Operational Manual (DECC 2009b), then it is advantageous that during the survey component of the EA that the relevant data is collected in the appropriate format for the Biometric tool (i.e. BioBanking Credit Calculator) (*Note: this may reduce duplication or further surveying at a later date). Under this scenario all vegetation types in the study area should be identified and matched to a DECCW BioMetric vegetation type. Please note there is no formal requirement to use BioBanking under Part 3A of the *EP&A Act 1979*, but the process can, if the proponent wishes, provide guidance in determining the level and adequacy of an offset required to compensate the loss of vegetation / habitat. Furthermore, conducting a biodiversity assessment does not negate the need to comply with the full survey requirements.

For details on the use of Biometric, see <http://www.environment.nsw.gov.au/biobanking/>

Subject Species

In determining potential threatened species (the subject species) for the site, consideration shall be given to the habitat types present within the study area, recent and historic records of threatened species or populations in the locality and the known distribution of threatened species.

Databases such as DECCW *Atlas of NSW Wildlife*, *BioBanking Credit Calculator*, *Australian Museum and Royal Botanic Gardens* should be consulted to assist in compiling the list. Other databases must also be consulted to create a comprehensive list of subject species.

DECCW notes the following known threatened species, populations and ecological communities (based on DECCW *Atlas of NSW Wildlife* database), which have broad habitat matches to that of the site occur on or nearby (10 km radius) to the proposal and these should be targeted during surveying (but not be limited to just these):

Flora:

Bynoe's Wattle (*Acacia byoneana*)*
 Charmhaven Apple (*Angophora inopina*)*
 Netted Bottle Brush (*Callistemon linearifolius*)
 Leafless Tongue Orchid (*Cryptostylis hunteriana*)*
 Small-flowered Grevillea (*Grevillea parviflora* subsp. *parviflora*)*
 Biconvex Paperbark (*Melaleuca biconvexa*)*
 Heath Wrinklewort (*Rutidosis heterogama*)*
 Black-eyed Susan (*Tetratheca juncea*)*

Fauna:

Amphibians:

Wallum Froglet (*Crinia tinnula*)
 Giant Burrowing Frog (*Heleioporus australiacus*)*
 Green And Golden Bell Frog (*Litoria aurea*)*
 Green-thighed Frog (*Litoria brevipalmata*)
 Stuttering Barred Frog (*Mixophyes balbus*)*
 Giant Barred Frog (*Mixophyes iteratus*)*
 Red-crowned Toadlet (*Pseudophryne australis*)

Reptiles:

Pale-headed Snake (*Hoplocephalus bitorquatus*)
 Stephen's Banded Snake (*Hoplocephalus stephensi*)
 Rosenberg's Goanna (*Varanus rosenbergi*)

Birds:

Australian Bittern (*Botaurus poiciloptilus*)
 Bush Stone-curlew (*Burhinus grallarius*)
 Gang-gang Cockatoo (*Callocephalon fimbriatum*)
 Glossy Black Cockatoo (*Calyptorhynchus lathami*)
 Brown Treecreeper (*Climacteris picumnus* ssp. *victoriae*)
 Varied Sittella (*Daphoenositta chrysoptera*)

Black-necked Stork (*Ephippiorhynchus asiaticus*)
 Little Lorikeet (*Glossopsitta pusilla*)
 Black Bittern (*Ixobrychus flavicollis*)
 Comb-crested Jacana (*Irediparra gallinacea*)
 Swift Parrot (*Lathamus discolor*)*
 Square-tailed Kite (*Lophoictinia isura*)
 Black-chinned Honeyeater (eastern subspecies) (*Melithreptus gularis* ssp. *gularis*)
 Powerful Owl (*Ninox strenua*)
 Osprey (*Pandion haliaetus*)
 Grey-crowned Babbler (eastern subspecies) (*Pomatostomus temporalis* ssp. *temporalis*)
 Superb Fruit-dove (*Ptilinopus superb*)
 Speckled Warbler (*Pyrrholaemus sagittatus*)
 Masked Owl (*Tyto novaehollandiae*)
 Sooty Owl (*Tyto tenebricosa*)
 Regent Honeyeater (*Xanthomyza phrygia*)*

Mammals:

Eastern Pygmy-possum (*Cercartetus nanus*)
 Large-eared Pied Bat (*Chalinolobus dwyeri*)*
 Spotted-tailed Quoll (*Dasyurus maculatus*) *
 Eastern False Pipistrelle (*Falsistrellus tasmaniensis*)
 Golden-tipped Bat (*Kerivoula papuensis*)
 Parma Wallaby (*Macropus parma*)
 Little Bentwing-bat (*Miniopterus australis*)
 Eastern Bent-wing Bat (*Miniopterus schreibersii* subsp. *oceanensis*)
 Eastern Freetail bat (*Mormopterus norfolkensis*)
 Large-footed Myotis (*Myotis adversus*)
 Squirrel Glider (*Petaurus norfolcensis*)
 Koala (*Phascolarctos cinereus*)
 Yellow-bellied Glider (*Petaurus australis*)
 Brush-tailed Rock-wallaby (*Petrogale penicillata*)*
 Long-nosed Potoroo (*Potorous tridactylus*)*
 Grey-headed Flying-fox (*Pteropus poliocephalus*)*
 Yellow-bellied Sheath-tail-bat (*Saccolaimus flaviventris*)
 Greater Broad-nosed Bat (*Scoteanax rueppellii*)
 Eastern Cave Bat (*Vespadelus troungtoni*)

Endangered Populations

- *Eucalyptus parramattensis* subsp. *parramattensis* population in the Wyong and Lake Macquarie LGAs.

Endangered Ecological Communities

- Freshwater wetlands on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions.
- Hunter Lowland Redgum Forest in the Sydney Basin and NSW North Coast Bioregions.
- Lower Hunter Spotted Gum - Ironbark Forest in the Sydney Basin Bioregion.
- Lowland Rainforest in NSW North Coast and Sydney Basin Bioregion.
- River-flat eucalypt forest on coastal floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions.
- Swamp Sclerophyll Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin and South East Corner Bioregions.
- Swamp Oak Floodplain Forest of the NSW North Coast, Sydney Basin and South East Corner Bioregions.

* indicates species that are listed on the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Habitat Corridors

The potential fragmentation of and/or indirect impacts on the various corridor links in which the proposal lies or is within close proximity to, needs to be assessed. These corridors include the following 'Regional Corridors':

- Awaba 2
- Eungala
- Lord's Creek
- Wangi Wangi Bay

Regional Corridors are landscape corridors designed to provide potential residential and dispersal habitat for threatened faunal assemblages (as described in Scotts 2003), and supplementary habitat for other taxa. Typically corridors are in the order of kilometres wide to maintain habitat and to facilitate movement between areas of significant intact habitat. Although they may be discontinuous, due to fragmentation by clearing or degraded through logging and/or agricultural activities, they must still maintain their overall landscape connectivity. DECCW is of the opinion regardless of the patchiness and discontinuous nature associated with parts of these corridors, they still represent an important habitat, nodes and movement linkage for locally occurring threatened species, of which some are highly mobile and can move across gaps in habitat. Fragmentation may impede the movement opportunities for some of the known threatened species of the subject site, and hence impacts on such corridors need to be carefully assessed and documented in the EA.

Compensatory strategies

DECCW's 'offset provision' principles state that impacts must be avoided first by using prevention and mitigation measures (DECC 2007). Where significant modification of the proposal to minimise impacts is not possible then compensatory strategies should be considered. These should include on or offsite proposals that contribute to long term conservation of affected threatened species, populations or ecological communities. If compensatory habitat is not considered appropriate, justification must be provided. Where a proposal involves the clearing of threatened species habitat then appropriate offsets which compensate for the clearing of the habitat should be provided.

Justification for any area(s) proposed as compensatory habitat / offsets must include an assessment of the threatened species / biodiversity values impacted on by the proposed works (i.e. those of the subject site) and a comparison of whether the proposed offset area(s) provides equivalent or greater values – "improve or maintain important biodiversity values".

Offsets must be considered for both direct and indirect impacts. In instances where an impact can not be conclusively ruled out (e.g. subsidence) an appropriate offset package must be provided in accordance with DECCW guidelines. DECCW notes that the EA states that subsidence is predicted or may occur. Under this scenario, DECCW would expect an appropriate offset / compensatory habitat package be provided for the indirect impacts of subsidence which damage vegetated landscapes and/or habitats. DECCW is unlikely to support significant indirect impact of subsidence to DECCW Estate, such as Sugarloaf State Conservation Area.

To determine the adequate biodiversity offset either one of the following methodologies are to be used as a guide:

- DECCW 'offsetting principles', as outlined in Appendix 2 – Principles for the use of biodiversity offsets in *NSW Draft Guidelines for Biodiversity Certification of Environmental Planning Instruments* (DECC 2007),
- 'BioBanking Assessment Methodology and Credit Calculator Operational Manual' (DECC 2009b). Please note that the use of Biobanking is voluntary.

Offsets will require the proponent to consider adequate conservation in perpetuity, appropriate management regimes, and financial security with respect to ongoing management.

DECCW would typically consider suitable measures to ensure conservation in perpetuity, such as (but not limited to) a Conservation Agreement under the *National Parks and Wildlife (NP&W) Act 1974*, a bio-banking agreement under the *Threatened Species Conservation Act 1995*, reservation of

land under Part 4 of the *NP&W Act 1974*, and/or Section 88B-E covenant of the *Conveyancing Act 1919* (Note: that a covenant under the *Conveyancing Act 1919* will require such an instrument to be lodged for registration under a new deposited plan or a plan of survey [refer to: <http://rgdirections.lands.nsw.gov.au/plans/easementsandcovenants>]).

To appropriately manage any proposed compensatory offsets, DECCW will require that an appropriate Management Plan (such as vegetation or habitat) be developed. These plans should be prepared prior to any potential approval of the development. Management plans should clearly document how any retained vegetated areas or habitat features will be managed with respect to long-term conservation and viability, including clear details on how they will be funded. They should cover, but not be limited to, the following issues:

- weed management (both control and suppression) and monitoring,
- management of retained native vegetation and habitat (including buffer zones),
- feral animal control,
- fire management (including asset protection zones [APZs]),
- public access (including increased traffic, and associated impacts, such as increased refuse and pets),
- minimisation of edge effects and fragmentation,
- stormwater control and changes to hydrology (including stormwater / runoff control and sediment / erosion control measures),
- management of specific habitat enhancement measures (e.g. hollow / habitat trees, animal fencing to facilitate movement [e.g. Koala 'floppy-top fencing'], artificial hollows and nest boxes etc.),
- fauna displacement and if appropriate translocation (including any licence requirements),
- proposed surveys, such as pre-extraction baseline, pre-clearance and rehabilitation surveys,
- details of long-term monitoring (including proposed timing),
- details of any rehabilitation program, including details of timing (including proposed staging details), rehabilitation measures (including details of proposed revegetation and species mix), and post-rehabilitation monitoring,
- measures to ensure conservation in perpetuity (e.g. transfer to DECCW estate, conservation agreements or covenants), and
- funding details of long-term financial commitment to any proposed conservation measures, including any mechanisms to be implemented to achieve this.

DECCW Conservation Estate

Likely impacts on any adjoining and/or nearby DECCW estate under the *National Parks and Wildlife Act 1974* must be assessed, evaluated and reported on. DECCW notes that Sugarloaf State Conservation Area occurs within the vicinity of the proposal.

The assessment should focus on impacts on threatened species, biodiversity in general and landscape / amenity values, but include indirect impacts such as subsidence, increased surface runoff, changes to hydrology, increased refuse, bushfire implications / management, fragmentation, loss of connectivity, and weed infestation, but not be limited to these.

The EA should describe mitigation and management options that will be used to prevent the identified impacts associated with the project. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

Report

The general report structure should be consistent with the information presented in Table 3.4 of DEC (2004). In addition the following is required:

- a geo-referenced map / aerial photograph (or equivalent) of the subject site and study area indicating their location and regional context;

- a detailed description of all vegetation communities / types (both undisturbed and disturbed) on the site and study area (and if applicable DECCW BioMetric vegetation types), including a geo-referenced map / aerial photograph (or equivalent) showing their location. The descriptions should include: a general description, characteristic features (e.g. lacks a mid-storey, restricted to a particular geomorphic / edaphic feature etc.), their distribution and size, their vegetation structure (including cover), their condition, key diagnostic species, relationship to other communities, species richness and any significant species present (e.g. threatened species, ROTAP [Briggs & Leigh 1996], regionally significant taxa);
- identification of the classification system used in the vegetation descriptions (e.g. Specht *et.al.* 1974, Walker & Hopkins 1998 [Note: the classification must have regard to both structural and floristic elements]),
- details of how the vegetation classification for the site was developed, including details and associated products (e.g. dendrograms / two-way tables) of any analyses used;
- a full floristic list in tabular format of all taxa (both native and exotic) recorded on the subject site, indicating which vegetation communities they occur in, their cover / abundance, and conservation (including taxa of conservation significance);
- a full list of fauna (both native and exotic) in tabular format recorded on the subject site, indicating which vegetation communities / habitat types they occurred in;
- a geo-referenced map / aerial photograph (or equivalent) showing all threatened species, populations and ecological communities recorded on the site during surveying (*Note: records obtained from the "Atlas of NSW Wildlife" database can be used in determining likely habitat, but they are not to be schematically mapped in the EA, as this is considered a breach of licence conditions for such records);
- all habitat features / types should be detailed and mapped (where appropriate), such as frequency and location of stags, hollow bearing trees (including size), mature / old growth trees, culverts, rock shelters, rock outcrops, presence of feed tree / shrub / groundcover species (e.g. winter-flowering eucalypts, *Acacia* and *Banksia* trees, *Casuarina* / *Allocasuarina* and areas of native grasses), crevices, caves, drainage lines, soaks etc; and
- details of how the proposal will impact (both directly and indirectly) and affect known and potential threatened species, populations an ecological communities (including their habitat), including any assessment of significance.

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Walker, J. and Hopkins, M. S. (1998) Vegetation. In R. C. McDonald, R. F. Isbell, J. G. Speight, J. Walker, and M. S. Hopkins (eds.) *Australian Soil and Land Survey Field Handbook Second Edition*. Inkata Press, Melbourne.

10. Aboriginal Cultural Heritage Values

DECCW notes the existence of numerous registered Aboriginal sites in the immediate locality. These include open camp sites, artefact sites, axe grinding grooves, and a potential archaeological deposit (PAD). We recommend the proponent consider any potential impacts of the proposal on these known sites, the sensitivity and significance of these sites to the traditional Aboriginal custodians and any relationship that may exist between these sites and any Aboriginal cultural values of the project area.

Impacts of the project on Aboriginal Cultural Heritage values

Standard requirements

1. The Environmental Assessment (EA) should address and document the information requirements set out in the draft *"Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation"* (Department of Environment and Conservation 2005). This document is available from the DECCW and the Department of Planning upon request.
2. The EA should include surveys by suitably qualified archaeological consultants in consultation with traditional Aboriginal custodians.
3. The EA should identify the nature and extent of impacts on Aboriginal Cultural Heritage values across the project area and the strategies proposed to avoid / minimise these impacts. If impacts are proposed as part of the final development, clear justification for such impacts should be provided.
4. The EA should assess the archaeological and Aboriginal significance of the site's Aboriginal Cultural Heritage values.
5. Describe the actions that will be taken to avoid or mitigate impacts of the project on Aboriginal Cultural Heritage values. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.
6. The EA needs to clearly demonstrate that effective community consultation with Aboriginal communities has been undertaken in assessing impacts, developing options and making final recommendations. DECCW supports broad-based Aboriginal community consultation and as a guide the *'Interim Community Consultation Requirements for Applicants'* (DECCW 2005) provides a useful model to follow.
7. If impacts on Aboriginal cultural values are proposed as part of the final development, an assessment of the regional significance of the values to be impacted, the extent to which these values are protected elsewhere in the landscape and consideration of the proposed impacts in the context of 'inter generational equity' should be undertaken.

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

ATTACHMENT B: GUIDANCE MATERIAL

Assessing Environmental Impacts

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

Air Quality

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

Impacts on Greenhouse Gas Emissions

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

Noise and Vibration

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

Water

Water Quality

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

Stormwater

- Managing Urban Stormwater: Soils and Construction (Landcom, 2004).

- Managing Urban Stormwater: Source Control (EPA 1998).
- Managing Urban Stormwater: Treatment Techniques (EPA 1998).

Groundwater

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

Waste 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).

Waste and Chemicals

- Protection of the Environment Operations Act 1997 – Schedule 1
- Waste Classification Guidelines, Part 1: Classification of Waste (DECC, 2008)
- Environmental Compliance Report: Liquid Chemical Storage, Handling and Spill Management Part B Review of Best Practice and Regulation (DEC, 2005)
<http://www.environment.nsw.gov.au/resources/licensing/ecrchemicalsb05590.pdf>
- Storing and Handling Liquids: Environmental Protection Participants Manual (DECC, 2007)
<http://www.environment.nsw.gov.au/resources/sustainbus/2007210liquidsManual.pdf>
- Waste Exemption Guidelines <http://www.environment.nsw.gov.au/waste/RegulateWaste.htm>

Contaminated Land

- Contaminated Sites - Guidelines for Consultants Reporting on Contaminated Sites (EPA 1997);
- Contaminated Sites - Guidelines for the NSW Site Auditor Scheme (EPA 1998); and
- Contaminated Sites - Sampling Design Guidelines (EPA 1995).

Aboriginal Cultural Heritage Impacts

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

Threatened Species Impacts

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

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

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

(Note: DECC has recently produced new survey guidelines to cover Amphibians (frogs), which replaces the amphibian section in the DEC (2004) guidelines. However, the survey requirements for all other species (flora and fauna) are still found in the DEC (2004) guidelines).

- Threatened Species Assessment Guidelines – The Assessment of Significance (DECC 2007 and NSW DPI 2008)
- Principles for the use of Biodiversity Offsets in NSW (DECC October 2008).
<http://www.environment.nsw.gov.au/biocertification/offsets.htm>
- The BioBanking Assessment Methodology. Further information can be found on the DECC website at: <http://www.environment.nsw.gov.au/biobanking/assessmethodology.htm>.
- Consideration for assessment of the proposal through the NSW Government's Biodiversity Banking and Offset Scheme (BioBanking). BioBanking is a voluntary process which provides a systematic and consistent framework for counterbalancing (offsetting) the impacts of development to achieve an improve or maintain outcome for biodiversity values. Further information is available at: <http://www.environment.nsw.gov.au/biobanking/index.htm>

Department of Environment, Climate Change and Water (DECCW)
April 2010



Office of Water

Director – Major Projects Assessments
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Contact: Fergus Hancock
Phone: 02 4904 2532
Fax: 02 4904 2503
Email: Fergus.Hancock@dnr.nsw.gov.au

Attention Paul Freeman

19 April 2010

Our ref: ER20959
Your ref: S04/01377

Dear Paul

Subject: Awaba Coal life extension

I refer to your letter dated 19 March 2010, requesting input from the Department of Environment, Climate Change and Water, NSW Office of Water (NOW) on the proposed Awaba Coal life extension. NOW has reviewed the Preliminary Environmental Assessment (EA) for the proposal and identified a number of statutory issues that require consideration as part of Director General's Requirements to the proposal. NOW requires the following outcomes to be achieved for the project proposal:

- no hydraulic connection between the mining operation and surface water sources, including connected alluvium
- no impact on adjacent licensed water users, basic landholder rights, or minimum base flows in Stony or Kilaben Creeks, or groundwater-dependent ecosystems
- finalisation of mine operations which prevents ingress of surface water flows to mine workings

Assessment requirements for inclusion in the EA are included at Attachment A.

If you require any further information or clarification of information provided in this submission, please contact Fergus Hancock on (02) 4904 2532.

Yours sincerely

Mark Mignanelli
Manager, Major Projects Assessments
NSW Office of Water

Department of
Environment, Climate Change and Water NSW



NSW Office of Water

**General Assessment Requirements for Major Project Proposals
Under Part 3A of *Environmental Planning & Assessment Act 1979***

The NSW Office of Water (NOW) provides the following advice for consideration:

Relevant Legislation

The assessment is required to take into account the requirements of the following legislation (administered by NOW), as applicable:

- *Water Act 1912*
- *Water Management Act 2000 (WMA)*

In particular, proposals and management plans should be consistent with the Objects (s.3) and Water Management Principles (s.5) of the *WMA*.

Water Sharing Plans

Gazetted Water Sharing Plans (WSPs) prepared under the provisions of the *WMA* establish rules for access to, and the sharing of water between the environmental needs of the surface or groundwater source and water users. The Hunter Unregulated rivers and Alluvial Water Sharing Plan 2009 (HURAWSP) was proclaimed on 1 August 2009, and regulates access to, and flow management within, rivers and connected alluvial groundwaters within the Plan boundaries. As the proposal is within a gazetted WSP area the assessment is required to demonstrate consistency with the rules of the WSP.

Refer to: <http://www.water.nsw.gov.au/Water-Management/Water-sharing/default.aspx>

NOW requires the EA to include a template of regulatory limitations to mining access to and interference with flows within Stony and Kilaben Creeks, which are comprised within the Lake Macquarie Management Unit of the HURAWSP. This must include current levels of access to these watercourses both within and downstream of the proposal site, and any identified levels of environmental dependence, including any groundwater dependent ecosystems associated with them.

The EA must identify the location(s) and extent of alluvial deposits associated with either of these rivers, and the extent to which they contribute to maintenance of minimum baseflows. Any risk assessment for the proposal must address statutory obligations to avoid impacts exceeding minimal harm to any rivers or associated alluvial deposits. The EA must clearly demonstrate that the proposal will not lead to impacts on any rivers which interrupt or capture or divert minimum baseflows, or interrupt alluvial groundwater transmission to rivers.

Relevant Policies

The assessment is required to take into account the following NSW Government policies, as applicable:

- *NSW Groundwater Policy Framework Document - General*
- *NSW Groundwater Quantity Management Policy*
- *NSW Groundwater Quality Protection Policy*
- *NSW State Groundwater Dependent Ecosystem Policy*
- *NSW State Rivers and Estuaries Policy*
- *NSW Sand and Gravel Extraction Policy for Non-Tidal Rivers*
- *NSW Wetlands Management Policy*
- *NSW Farm Dams Policy*
- *NSW Weirs Policy*
- *NSW Coastal Policy*

In addition assessments should consider the following strategies:

- *NSW Salinity Strategy*
- *NSW Water Conservation Strategy*

The majority of these documents can be found at:

<http://www.water.nsw.gov.au/Water-Management/Law-and-Policy/Key-policies/default.aspx>

Guidelines

The assessment is required to take into account the following NOW Guidelines for Controlled Activities (February 2008), as applicable:

- Riparian corridors (and associated Vegetation Management Plans)
- Watercourse crossings
- Laying pipes and cables in watercourses
- Outlet structures
- In-stream works

Refer to: <http://www.water.nsw.gov.au/Water-Licensing/Approvals/Controlled-activities/default.aspx>

Groundwater

NOW is responsible for the management of groundwater resources so they can sustain environmental, social and economic uses for the people of New South Wales.

Groundwater Source

The assessment is required to identify groundwater issues and potential degradation to the groundwater source and provide the following:

- Details of any works likely to intercept, connect with or infiltrate the groundwater sources.
- Details of any proposed groundwater extraction, including purpose, location and construction details of all proposed bores and expected annual extraction volumes.
- Describe the flow directions and rates and the physical and chemical characteristics of the groundwater source.
- Details of the predicted impacts of any final landform on the groundwater regime.
- Details of the existing groundwater users within the area (including the environment) and include details of any potential impacts on these users.
- Assessment of the quality of the groundwater for the local groundwater catchment.
- Details of how the proposed development will not potentially diminish the current quality of groundwater, both in the short and long term.
- Details on preventing groundwater pollution so that remediation is not required.
- Details on protective measures for any groundwater dependent ecosystems (GDEs).
- Details of proposed methods of the disposal of waste water and approval from the relevant authority.
- Assessment of the potential for saline intrusion of any alluvial groundwaters and measures to prevent such intrusion into any alluvial aquifer.
- Details of the results of any models or predictive tools used.

Where potential impact/s are identified the assessment will need to identify limits to the level of impact and contingency measures that would remediate, reduce or manage potential impacts to the existing groundwater resource and any dependent groundwater environment or water users, including information on:

- Details of any proposed monitoring programs, including water levels and quality data.
- Reporting procedures for any monitoring program including mechanism for transfer of information.
- An assessment of any groundwater source/aquifer that may be sterilised as a consequence of the proposal.
- 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.
- Any funding assurances covering the anticipated post development maintenance cost, for example on-going groundwater monitoring for the nominated period.

Licensing

All proposed groundwater works, including bores for the purpose of investigation, extraction, dewatering, testing or monitoring must be identified in the proposal and an approval obtained from NOW prior to their installation.

Groundwater Dependent Ecosystems (GDEs)

The assessment is required to identify any impacts on GDEs. GDEs are ecosystems which have their species composition and natural ecological processes wholly or partially determined by groundwater. GDEs represent a vital component of the natural environment. GDEs can vary dramatically in how they depend on groundwater from having occasional or no apparent dependence through to being entirely dependent. GDEs occur across both the surface and subsurface landscapes ranging in area from a few metres to many kilometres. Increasingly, it is being recognised that surface and groundwaters are often interlinked and aquatic ecosystems may have a dependence on both.

Ecosystems that can depend on groundwater and that may support threatened or endangered species, communities and populations, include:

- Terrestrial vegetation that show seasonal or episodic reliance on groundwater.
- River base flow systems which are aquatic and riparian ecosystems in or adjacent to streams/rivers dependent on the input of groundwater to base flows.
- Aquifer and cave ecosystems.
- Wetlands.
- Estuarine and near-shore marine discharge ecosystems.
- Fauna which directly depend on groundwater as a source of drinking water or that live within water which provide a source.

The *NSW Groundwater Dependent Ecosystem Policy* provides guidance on the protection and management of GDEs. It sets out management objectives and principles to:

- Ensure the most vulnerable and valuable ecosystems are protected.
- Manage groundwater extraction within defined limits thereby providing flow sufficient to sustain ecological processes and maintain biodiversity.
- Ensure sufficient groundwater of suitable quality is available to ecosystems when needed.
- Ensure the *precautionary principle* is applied to protect GDEs, particularly the dynamics of flow and availability and the species reliant on these attributes.

A number of gazetted WSP list and map priority GDEs and set out the management strategies and actions for sharing and protecting groundwater quality, quantity and dependent ecosystems.

Surface Water

NOW is responsible for the sustainable management of rivers, estuaries, wetlands and adjacent riverine plains.

Watercourse/Riparian

The assessment is required to consider the impact of the proposal on the watercourses and associated riparian vegetation within the proposal footprint and provide the following:

- Identify the sources of surface water.
- Details of stream order (using the Strahler System).
- Details of any proposed surface water extraction, including purpose, location of existing pumps, dams, diversions, cuttings and levees.
- Detailed description of any proposed development or diversion works including all construction, clearing, draining, excavation and filling.

- An evaluation of the proposed methods of excavation, construction and material placement.
- A detailed description of all potential environmental impacts of any proposed development in terms of vegetation, sediment movement, water quality and hydraulic regime.
- A description of the design features and measures to be incorporated into any proposed development 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. (See note below)
- Details of the impact on water quality and remedial measures proposed to address any possible adverse effects.

Water Management Structures/Dams

NOW is responsible for the management and licensing of these structures under water legislation. If the proposal includes existing or proposed water management structures/dams, the assessment is required to provide information on the following:

- Date of construction (for existing structure/s).
- Details of the legal status/approval for existing structure/s.
- Details of any proposal to change the purpose of existing structure/s.
- Details if any remedial work is required to maintain the integrity of the existing structure/s.
- Clarification if the structure/s is on a watercourse.
- Details of the purpose, location and design specifications for the structure/s.
- Size and storage capacity of the structure/s.
- Calculation of the Maximum Harvestable Right Dam Capacity (MHRDC).
- Details if the structure/s is affected by flood flows.
- Details of any proposal for shared use, rights and entitlement of the structure/s.
- Details if the proposed development/subdivision has the potential to bisect the structure/s.

NOW's Farm Dams Assessment Guide provides details on harvestable rights and the calculation of the MHRDC. Refer to: <http://www.water.nsw.gov.au/Water-Licensing/Basic-water-rights/Harvesting-runoff/Harvesting-runoff/default.aspx>

Sustainable Water Supply

Many gazetted WSPs to-date have identified particular surface and groundwater systems that are currently over-allocated (that is, water licence volumes issued to landholders operating in these catchments exceed the sustainable volumes/flows within these systems). In the case of over-allocation, the systems have subsequently been embargoed and no new water licences are to be issued within these catchments. Any new or expanded development within such catchments will therefore be unable to obtain any new water entitlements directly and will have to enter the water trading market (if available within that catchment) to seek additional water. Therefore, there can be no guarantees of obtaining additional water via this mechanism and there is the potential of restrictions on further development within such catchments. Whilst there is provision in the WMA to allow for limited growth in Town Water Supplies (TWS) this could still impact subsequently on other water users.

The assessment is required to address the issue of provision of a sustainable water supply for any project proposal. The assessment should include Water Management Plans detailing how a sustainable and efficient water supply can be sourced and implemented with minimal reliance on accessing valuable surface and groundwater resources. Through the implementation of BASIX, Integrated Water Cycle Management and Water Sensitive Urban Design, any proposed development must also be able to exhibit high water use efficiency.



OUT10/4885

9 April 2010

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

Dear Mr Reed

**Awaba Coal Project (10_0038)
Director General Requirements for EA**

I refer to your letter dated 18 March 2010 requesting input into the Director General Requirements (DGRs) for the above project.

Industry & Investment NSW (I&I NSW) provide the following comments which are directed at specific areas of responsibility to assist in the framing of Director-General's requirements for an Environmental Assessment report (EA) for this proposal.

MINING TITLES

As coal is a prescribed mineral under the *Mining Act 1992*, the proponent is required to hold appropriate mining titles from I&I NSW in order to mine this mineral. I&I NSW understand that the project proposal is within existing coal titles held by the proponent.

**REHABILITATION, SUBSIDENCE MANAGEMENT, MINE WATER
MANAGEMENT AND MINE CLOSURE**

The proponent has referred to rehabilitation systems and procedures that currently apply to the Awaba mine and current I&I NSW approvals for Subsidence Management Plan (SMP) and Mining Operation Plan (MOP).

The project is generally consistent with I&I NSW expectations of the Awaba mine development and rehabilitation in current MOP and SMP approvals, however I&I NSW recommends the following issues require clarification in any DGRs issues for the project:

Proposed East B mining area:

I&I NSW has identified particular constraints to secondary extraction development in this area including; decreasing shallow cover < 30m in parts, thinning of the Great Northern seam, and potentially deteriorating mining conditions in previously unmined area with little geological / geotechnical information. These mining constraints may require further preliminary assessment of subsidence predictions and surface impacts prior to I&I NSW

supporting the Conceptual Mine Development as outlined in the Preliminary Environmental Assessment (PEA) for this area. Further consultation with the proponent is requested on this matter.

General Requirements:

I&I NSW recommend that the DGRs specifically seek a statement of commitment for subsidence monitoring and rehabilitation post mining under the I&I NSW MOP and SMP approvals process or equivalents.

Key issues:

Subsidence Prediction, Management and Mitigation of Impacts.

I&I NSW has in current Awaba SMP approvals conditionally required avoidance and mitigation of subsidence impacts upon 2nd & 3rd order streams due to shallow cover. I&I NSW have in current Awaba SMP approvals conditionally required preparation of a Spontaneous Combustion Management Plan arising from the risk of subsidence cracking in shallow cover. These matters should specifically feature in the DGRs.

Rehabilitation.

The proponent anticipates completion of mining within 5 years therefore I&I NSW requires that mine closure planning must be at an advanced stage. However, the PEA states in Sections 4.7 & 4.8 states that Awaba mine will be placed into care and maintenance and that mine closure documentation will be deferred until mining is completed. The EA should include post mining land use and landforms, rehabilitation objectives based upon operational domains and mine closure completion criteria consistent with the MOP requirements of the mining lease (CCL746). Attached for information is a copy of I&I NSW approval for Awaba's Mine Closure Plan dated June 2008 and I&I NSW response to Awaba's AEMR dated June 2009.

I&I NSW request the following specific information be addressed in the EA;

- Decommissioning and management of pit top buildings which may potentially be listed as having local heritage significance. This requires further stakeholder consultation (Department of Planning, I&I NSW, Lake Macquarie Council, Community),
- Documentation of site contamination assessment and remediation according to Department of Environment, Climate Change and Water (DECCW) standards, particularly assessment of Awaba's underground fuel tank,
- A Gantt chart of mine closure activities for Awaba mine,
- Subsidence management commitments post closure (monitoring, inspection and remediation) documented as a matrix of SMP condition requirements.

Water.

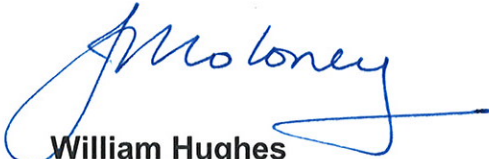
I&I NSW acknowledge that the proposed expansion of the Pollution Control Dam will improve water management and is to be included in the EA. I&I NSW notes however that Awaba's water management infrastructure includes six underground dewatering bores located within the colliery but outside the Project Application Area. The management of such facilities during mine life and decommissioning at mine closure must be addressed in the EA and the approval process.

Consultation requirements:

The proponent has to date initiated no specific consultation with I&I NSW for this project. Such consultation is requested prior to the completion of the EA.

Should you have any enquires regarding this matter please contact Julie Moloney, Principal Adviser, Development Coordination on (02) 4931 6549.

Yours sincerely



William Hughes
Director
Industry Coordination

for



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

9 June 2009

Mr Roger Davis
The Mine Manager
Awaba Colliery
Wilton Rd
AWABA NSW 2283

Our Ref: M76/1782

AWABA COLLIERY MINE CLOSURE PLAN

Dear Sir,

I refer to your letter of 28 November 2008 to the Department of Primary Industries (DPI) presenting the Colliery's Mine Closure Plan.

I attended a meeting with yourself and Jeff Dunwoodie on 3 June 2009 to review the document and plans. It is noted that mine planning at Awaba anticipates mining within approved SMP areas until late 2010 when all available resources have been exhausted. It is also noted that Centennial Coal will during this time review potential for Awaba mine infrastructure to be applied to future coal projects within the Newstan colliery holdings.

The Mine Closure Plan's documented objectives, staged rehabilitation and decommissioning actions are accepted as preliminary planning for closure. The Mine Closure Plan is hereby conditionally approved subject to the provision of the following supplementary information / plans;

- 1) Management of buildings which may be potentially LEP listed as local heritage significance. This is to be subject to further stakeholder consultation (DPI, Lake Macquarie Council, Community),
- 2) The documentation of site contamination assessment and remediation according to DEC standards, particularly assessment of Awaba's underground fuel tank,
- 3) A Gant chart of mine closure activities for Awaba mine,
- 4) Subsidence management commitments post closure (monitoring, inspection, remediation) documented as a matrix of SMP condition requirements,
- 5) The Awaba Mine Record Tracing with the notation of mine entry seals and borehole seals,
- 6) These items 1 to 5 are to be presented as annexure after the cessation of mining at Awaba.

For clarification or further information on any matter, please contact me at the Department on (02) 49316705. Enclosed for retention is an endorsed copy of the approved Plan; ***Centennial Awaba Mine Closure Plan, December 2008.***

Yours faithfully

G. SUMMERHAYES
Principal Environmental Officer, Manager Northern Region
Environmental Sustainability Branch

ENVIRONMENTAL SUSTAINABILITY BRANCH

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

ABN 51 734 124 190
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Tel: (02) 4931 6666
Fax: (02) 4931 6790



NSW DEPARTMENT OF
PRIMARY INDUSTRIES

10 June 2009

Mr Roger Davis
The Mine Manager
Awaba Colliery
Wilton Rd
AWABA NSW 2283

Our Ref: M76/1782

Attention: Jeff Dunwoodie

Dear Sir,

AWABA COLLIERY - AEMR 2008

I refer to Awaba's AEMR for the period January 2008 to December 2008 presented to DPI in May 2009.

The AEMR has been assessed by DPI's Environmental Sustainability Branch which included a mine site inspection on 3 June 2009. The mine pit top inspection was attended by Awaba's Roger Davis, Jeff Dunwoodie and Veronica Waite. The AEMR has been prepared generally in accordance with the DPI current 'Guidelines to the Mining, Rehabilitation and Environmental Management Process' EDG03. The AEMR 2008 is accepted. The issues / observations listed in the following action plan require management and review in the next AEMR.

ACTION PLAN

No	Issue / Observation	Action	Responsibility	Due
1.	Location of licensed water discharge points	Provide a plan to DPI identifying the location of Awaba's licensed water discharge points.	Awaba	Within 30 days
		The next AEMR requires a plan showing the location of all environmental monitoring points.	Awaba	Next AEMR
2.	Contamination assessment	Noted that a Phase 1 assessment completed. A summary of results and Phase 2 actions to be reported next AEMR	Awaba	Next AEMR
3.	Subsidence sinkholes	Two incidences of subsidence sinkholes documented in the AEMR. Sinkhole remediation was inspected. It is requested that in future such incidents are promptly reported to DPI.	Awaba	As incidents occur

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4.	SMP environmental reporting	SMP environmental monitoring results are to be presented in AEMRs – documented as a matrix of SMP condition requirements – eg flora & fauna surveys.	Awaba	next AEMR
5.	Hydrocarbon management	Noted on inspection that the pit top primary oil separator was upgraded / installed. Such improvement initiatives arising from Awaba's hydrocarbon audit be reported in AEMR	Awaba	next AEMR

For clarification or further information on the above actions, please contact the undersigned on 49316705.

Yours faithfully

GREG SUMMERHAYES
Principal Environmental Officer, Manager Northern Region
Environmental Sustainability Branch

ENVIRONMENTAL SUSTAINABILITY BRANCH

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29 March 2010
NSW Department of Planning
Major Projects Assessment

Mining & Industry Projects

PO Box 39
SYDNEY NSW 2001
Attention: Mr Paul Freeman

Dear Sir,

Subject: Awaba Coal Project (Your Ref 10_0038)

Request for Council Comments on Draft Director General's Requirements

In response to your correspondence dated 18 March 2010 seeking Council input for the preparation of the Director General's Requirements (DGRs) for the proposed Awaba Coal Project, the following information is provided.

Council thanks the Department for the opportunity to provide comment on Draft DGRs. In addition to those matters identified in the Draft DGRs, Council submits that the following be included:

Planning Considerations

The Environmental Assessment shall consider the following planning documents:

Lower Hunter Regional Strategy 2006.
the Draft Newcastle- Lake Macquarie Western Corridor Planning Strategy.
the Draft Lake Macquarie Aboriginal Heritage Management Strategy.
Lake Macquarie City Council's Lifestyle 2020 Strategy.
Lake Macquarie Local Environmental Plan 2004.
Lake Macquarie Development Control Plan No. 1 – Principles of Development.
Lake Macquarie Guidelines Supporting Development Control Plan No. 1 – Principles of Development.
City of Lake Macquarie Heritage Study 1993.

Flora and Fauna Considerations

A flora and fauna survey and associated impact assessment shall be undertaken, having regard to the following:

The Lake Macquarie Flora and Fauna Survey Guideline;
The Lake Macquarie *Tetratheca juncea* Management Plan;
The Lake Macquarie Native Vegetation and Corridors Mapping;
The Lake Macquarie City Council Guidelines for Vegetation Management Plans and
Councils preferred approach to amelioration and offsetting as outlined in the Lake Macquarie Council Planning Policy & Guideline for LEP Rezoning.

Creeks and Watercourses

No additional DGRs are required with regard to creeks and watercourses, however it is requested that the 'sensitive receptors' referred to under the subsidence requirements include watercourses and drainage lines.

Greenhouse Gases

At present the DGRs require a qualitative assessment of greenhouse gases, however this assessment should be a quantitative in nature.

Heritage Conservation

Both impact on Aboriginal and non Aboriginal Heritage is required to be assessed.

The Preliminary Environmental Assessment correctly identifies provisional heritage item AW-07 Awaba Site Mine in the City of Lake Macquarie Heritage Study 1993.

Additional to the policies, guidelines and plans called for consideration in the Draft DGRs, the following additional planning documents relating to heritage need to be considered and should be used as a reference for this proposal:

Statements of Heritage Impact, Heritage Office and Department of Urban Affairs & Planning 1996, revised 2002

Assessing Heritage Significance, Heritage Office 2001

Heritage Interpretation Policy, Heritage Office, 2005

Interpreting Heritage Places and Items, Heritage Office, 2005

The above comments are made without the benefit of a detailed review of the Preliminary Environmental Assessment as this document was not received early enough to allow Council both to review the document and to respond to the Department in the allowed timeframe.

Council looks forward to the referral of any formal Part 3A application to enable input into the assessment of the proposal, at the local level.

Should you require further information, please contact the undersigned on 4921 0311 or by e-mail on cbdwyer@lakemac.nsw.gov.au.

Yours faithfully

Chris Dwyer

Principal Development Planner

Lake Macquarie City Council



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10/483, 10/481
AT

Director, Major Development Assessment
Mining and Extractive Industries
Department of Planning
GPO Box 39
SYDNEY NSW 2001

COPY

Howard

Attention: Mr Harold Reed

AWABA COAL PROJECT (10_0038) - DIRECTOR GENERAL'S REQUIREMENTS

Dear Mr Reed

I refer to your letter of 18 March 2010 (Your reference: S04/01377) regarding the subject proposal and the Department's request for key issues and environmental assessment requirements.

The Environmental Impact Assessment (EIA) should refer to the following guidelines with regard to the traffic impact of the proposed development:

- Roads and Traffic Authority's *Guide to Traffic Generating Developments*
 - *Section 2 Traffic Impact Studies*

The traffic study shall be prepared in accordance with the RTA's Guide to Traffic Generating Developments and is to include (but not limited to) the following:

- Assessment of all relevant vehicular traffic routes and intersections for access to/from the subject area during the construction and operational phases.
- Current traffic counts for all of the traffic routes and intersections.
- The anticipated additional vehicular traffic generated from the proposed development and associated trip distribution on the road network during both the construction and operational phases.
- Consideration of the traffic impacts on existing and proposed intersections and the capacity of the local and classified road network to safely and efficiently cater for the additional vehicular traffic generated by the proposed development. The traffic impact shall also include the cumulative traffic impact of other proposed developments in the area.
- Identify the necessary road network infrastructure upgrades that are required to maintain existing levels of service on both the local and classified road network. In this regard, concept drawings shall be submitted with the EIA for any identified road infrastructure upgrades. However, it should

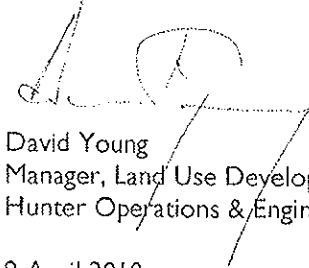
be noted that any identified road infrastructure upgrades will need to be to the satisfaction of Council/RTA.

- Intersection analysis (such as SIDRA) shall be submitted to determine the need for intersection and road capacity upgrades. The intersection analysis shall include (but not limited to) the following:
 - o Current traffic counts and 10 year traffic growth projections
 - o 95th percentile back of queue lengths
 - o Delays and level of service on all legs for the relevant intersections
 - o Electronic SIDRA files for RTA review.
- Impact of construction traffic on the road network in the vicinity of the development and measures to minimise any identified impact

Lake Macquarie City Council should also be consulted regarding requirements for assessment of traffic and transport requirements.

Should you require any further advice, please contact me on 4924 0420.

Yours sincerely



David Young
Manager, Land Use Development
Hunter Operations & Engineering Services

9 April 2010

CC Peter Mc Murray
Lake Macquarie City Council

CC Grant Watson
Awaba Colliery