# APPENDIX A

Appendix A - Secretary's Environmental Assessment Requirements

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# Secretary's Environmental Assessment Requirements
## State Significant Development

**Section 4.12(8) of the *Environmental Planning and Assessment Act 1979***
***Schedule 2 of the Environmental Planning and Assessment Regulation 2000***

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| **Application No.** | SSD 8445 |
| **Development** | The Tahmoor South Coal Project, which includes:<br>• developing a new underground mining operation to extract up to 5 million tonnes of coal a year for up to 15 years from 2021;<br>• upgrading and operating existing surface infrastructure including the materials handling facility, coal stockpile, rejects emplacement area and ancillary infrastructure;<br>• constructing and operating a new ventilation system, and a gas drainage and capture system;<br>• transporting coal by rail from the Tahmoor Coal Mine surface facilities using the existing rail spur; and<br>• rehabilitating the site. |
| **Location** | Approximately 7 kilometres south of Picton |
| **Applicant** | SIMEC Mining – Tahmoor Coking Coal |
| **Date of Issue** | 20 June 2018 |
| **General Requirements** | The Environmental Impact Statement (EIS) for the development must comply with the requirements of Schedule 2 of the *Environmental Planning and Assessment Regulation 2000.*<br><br>In particular, the EIS must include:<br>• an executive summary;<br>• a full description of the development, including:<br>- historical mining operations at the mine and in the region;<br>- the resource which would be extracted, demonstrating efficient resource recovery within environmental constraints;<br>- the proposed mine layout and development scheduling;<br>- coal processing and transportation;<br>- proposed infrastructure and facilities (including any existing or proposed infrastructure that would be required for the development, which is subject to a separate approvals process); and<br>- the likely interactions between the proposed development and the existing Tahmoor Coal Mine, and any other existing, approved or proposed mining-related development in the vicinity of the site (including any relevant statutory approvals, environmental management regime relating to these operations);<br>• a list of all approvals that must be obtained before the development can commence;<br>• a risk assessment of the potential environmental impacts of the development, identifying key assessment issues;<br>• an assessment of the likely impacts of the development on the environment, focusing on the specific issues identified below, and including:<br>- a description of the existing environment likely to be affected by the development, using sufficient baseline data;<br>- an assessment of the likely impacts of all stages of the development, including appropriate worst-case scenarios and consideration of any cumulative impacts, taking into consideration any relevant legislation, environmental planning instruments, guidelines, policies, plans and industry codes of practice;<br>- a description of the measures that would be implemented to avoid, mitigate and/or offset the likely impacts of the development, and an assessment of:<br>○ whether these measures are consistent with industry best practice, and represent the full range of reasonable and feasible mitigation measures that could be implemented; |

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| | ○ the likely effectiveness of these measures, including performance measures where relevant; and<br>○ whether contingency measures, (including Trigger Action Response Plans) would be necessary to manage any residual risks; and<br>- a description of the measures that would be implemented to monitor and report on the environmental performance of the development if it is approved;<br>• consideration of alternatives, including the development of a mine plan which avoids key sensitive surface features, and the 'do nothing' option;<br>• a consolidated summary of all the proposed environmental management and monitoring measures, identifying all the commitments in the EIS;<br>• consideration of the development against all relevant environmental planning instruments (including Part 3 of the *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*); and<br>• a conclusion justifying why the development should be approved, taking into consideration:<br>- alternatives;<br>- the suitability of the site for the development;<br>- the economic, social, biophysical and environmental impacts of the project as a whole; and<br>- whether the project is consistent with the objects (as amended on 1 March 2018) of the Environmental Planning *and Assessment Act 1979*; and<br>• a signed statement from the author of the EIS, certifying that the information contained within the document is neither false nor misleading.<br><br>While not exhaustive, Attachment 1 lists some of the environmental planning instruments, guidelines, policies, and plans that may be relevant to the environmental assessment of this development.<br><br>In addition to the matters set out in Schedule 1 of the *Environmental Planning and Assessment Regulation 2000*, the development application must be accompanied by a signed report from a suitably qualified independent person that includes an accurate estimate of the:<br>• capital investment value of the development (as defined in Clause 3 of the *Environmental Planning and Assessment Regulation 2000*), including details of all the assumptions and components from which the capital investment value calculation is derived; and<br>• jobs that would be created during each stage of the development. |
| **Specific Issues** | The EIS must address the following specific issues:<br>• **Subsidence** – including a detailed assessment of the potential conventional and non-conventional subsidence effects, subsidence impacts and environmental consequences of the development on the natural and built environments, paying particular attention to features that are considered to have significant ecological, economic, social, cultural and environmental value, taking into consideration:<br>- recorded regional and historic subsidence levels, impacts and environmental consequences;<br>- the potential extent of fracturing of the strata above the longwall panels; and<br>- the implementation of a comprehensive subsidence monitoring program which is capable of detecting vertical, horizontal and far-field subsidence movements;<br>• **Water** – including:<br>- an assessment of the likely impacts of the development on the quantity and quality of surface and groundwater resources, having regard to EPA's, DPI Water's and WaterNSW's requirements and recommendations (see Attachment 2);<br>- an assessment of the likely impacts of the development on aquifers, watercourses, swamps, riparian land, water supply infrastructure and systems and other water users;<br>- an assessment of any drinking water catchment losses from mining, and whether the development can be operated to achieve a neutral or beneficial effect on water quality in the Sydney Drinking Water Catchment, consistent |

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| | with the provisions of *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011*;<br>- a detailed site water balance, including a description of site water demands, water disposal methods (inclusive of volume and frequency of any water discharges), water supply and transfer infrastructure and water storage structures;<br>- a detailed description of the proposed water management system (including sewerage), beneficial water re-use program and all other proposed measures to mitigate surface water and groundwater impacts;<br>- the proposed surface water and groundwater monitoring regime, which should include a comprehensive array of shallow and deep piezometers and extensometers across the underground mining area which are capable of detecting fluctuations in groundwater levels and the influence of fracture networks on regional groundwater resources; and<br>- an assessment of the potential flooding impacts of the development;<br>• **Noise and Vibration** – including:<br>- an assessment of the likely operational, rail "wheel squeal" and construction noise impacts of the development under the NSW Industrial Noise Policy (as may be updated or replaced), paying particular attention to the obligations in chapters 8 and 9 of the policy, and the *Voluntary Land Acquisition and Mitigation Policy (DP&E)*;<br>- if a claim is made for specific construction noise criteria for certain activities, then this claim must be justified and accompanied by an assessment of the likely construction noise impacts of these activities under the Interim Construction Noise Guideline;<br>- an assessment of the likely road noise impacts of the development under the *NSW Road Noise Policy*; and<br>- an assessment of the potential vibration and low frequency noise impacts of the development.<br>• **Air** – including:<br>- an assessment of the likely air quality impacts of the development in accordance with the Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW, having regard to EPA's requirements (see Attachment 2);<br>- an assessment of the likely greenhouse gas impacts of the development; and<br>- an odour assessment of the ventilation shafts in accordance with the *Technical Framework – Assessment and Management of Odour from Stationary Sources in NSW*<br>• **Biodiversity** – including:<br>- an assessment of the likely biodiversity impacts of the development, including impacts to terrestrial and aquatic species and habitats, in accordance with the Framework for Biodiversity Assessment, by a person accredited in accordance with s142(B)(1)(c) of the Threatened Species Conservation Act 1995, and having regard to OEH's requirements (Attachment 2); and<br>- a strategy to offset any residual impacts of the development in accordance with the *NSW Biodiversity Offsets Policy for Major Projects*;<br>• **Land** – including an assessment of the compatibility of the development with other land uses (including existing and planned urban development) in the vicinity, in accordance with the requirements of Clause 12 of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007*;<br>• **Rehabilitation and Final Landform** – including:<br>- an assessment of the likely impacts of the development on existing landforms and topography, including justification of the final landform design of the rejects emplacement area expansion and its long term geotechnical stability;<br>- a detailed description of the progressive rehabilitation measures that would be implemented for the development;<br>- a detailed description of the proposed rehabilitation and mine closure strategies for the project, having regard to DRG's requirements (see |

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| | Attachment 2) and the key principles in Strategic Framework for Mine Closure, and the:<br>o rehabilitation objectives, methodology, monitoring programs, performance standards and proposed completion criteria;<br>o decommissioning and management of surface infrastructure;<br>o nominated final land uses, having regard to any relevant strategic land use planning or resource management plans or policies; and<br>o potential for integrating the rehabilitation strategy with offset strategies proposed for the development; and<br>- the measures which would be put in place for the long-term protection and management of the site, any biodiversity offset areas following the cessation of mining, and<br>- measures to avoid the propagation of acid sulphate soils.<br>• **Heritage** – including an assessment of the likely Aboriginal and historic heritage (cultural and archaeological) impacts of the development, having regard to OEH's requirements (Attachment 2);<br>• **Transport** – including an assessment of the likely transport impacts of the development on the capacity, condition, safety and efficiency of the rail network and the local and State road network; and<br>• **Visual** – including an assessment of the likely visual impacts of the development on private landowners in the vicinity of the development and key vantage points in the public domain, and minimising the lighting impacts of the development;<br>• **Hazards** – including an assessment of the likely risks to public safety, paying particular attention to potential bushfire risks, and the handling and use of any dangerous goods;<br>• **Waste** – including a waste management strategy;<br>• **Social & Economic** – including:<br>- a detailed assessment of the likely social impacts of the development on the local and regional community in accordance with the *Social impact assessment guideline for State significant mining, petroleum production and extractive industry development* (2017); and<br>- an assessment of the likely economic impacts of the development, paying particular attention to:<br>o the significance of the resource;<br>o the costs and benefits of the development, identifying if it would result in a net benefit to NSW, including consideration of fluctuation in commodity markets and exchange rates; and<br>o the demand for the provision of local infrastructure and services. |
| **Consultation** | During the preparation of the EIS, you must consult with local government, State Government and Commonwealth Government authorities, service providers, community groups, Registered Aboriginal Parties and affected landowners.<br><br>The EIS must describe the consultation that was carried out, identify the issues raised during this consultation, and explain how these issues have been addressed in the EIS. |

**Attachment 1**

# Environmental Planning Instruments, Policies, Guidelines & Plans

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| **Land** | |
| | Soil and Landscape Issues in Environmental Impact Assessment (NOW) |
| | *State Environmental Planning Policy No. 55 – Remediation of Land* |
| | Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC) |
| **Water** | |
| Water Sharing Plans | Greater Metropolitan Region Unregulated River Water Sources Water Sharing Plan |
| | *Water Sharing Plan for the Greater Metropolitan Region Groundwater Sources 2011* |
| Groundwater | NSW State Groundwater Policy Framework Document (NOW) |
| | NSW State Groundwater Quality Protection Policy (NOW) |
| | NSW State Groundwater Quantity Management Policy (NOW) |
| | NSW Aquifer Interference Policy 2012 (NOW) |
| | Australian Groundwater Modelling Guidelines 2012 (Commonwealth) |
| | National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC) |
| | Guidelines for the Assessment & Management of Groundwater Contamination (EPA) |
| Surface Water | *State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011* |
| | NSW State Rivers and Estuary Policy (NOW) |
| | NSW Government Water Quality and River Flow Objectives (EPA) |
| | Using the ANZECC Guideline and Water Quality Objectives in NSW (EPA) |
| | 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) |
| | Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (EPA) |
| | Managing Urban Stormwater: Soils & Construction (Landcom) and associated Volume 2E: Mines and Quarries (DECC) |
| | Managing Urban Stormwater: Treatment Techniques (EPA) |
| | Managing Urban Stormwater: Source Control (EPA) |
| | Technical Guidelines: Bunding & Spill Management (EPA) |
| | A Rehabilitation Manual for Australian Streams (LWRRDC and CRCCH) |
| | NSW Guidelines for Controlled Activities (NOW) |
| | Neutral or Beneficial Effect on Water Quality Assessment Guideline (WaterNSW) |
| **Biodiversity** | |
| | Framework for Biodiversity Assessment (OEH) |
| | NSW Biodiversity Offsets Policy for Major Projects (OEH) |
| | NSW Swamp Offsets Policy (OEH) |
| | Threatened Species Assessment Guidelines (OEH) |
| | Policy and Guidelines for Aquatic Habitat Management and Fish Conservation (Fisheries NSW) |
| | NSW State Groundwater Dependent Ecosystem Policy (NOW) |
| | Risk Assessment Guidelines for Groundwater Dependent Ecosystems (NOW) |
| | State Environmental Planning Policy No. 44 – Koala Habitat Protection |
| **Heritage** | |
| | The Burra Charter (The Australia ICOMOS charter for places of cultural significance) |
| | Draft Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation (DP&E) |
| | Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010 (OEH) |

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| | Code of Practice for Archaeological Investigations of Objects in NSW (OEH) |
| | Due Diligence Code of Practice for the Protection of Aboriginal Objects in NSW (OEH) |
| | NSW Heritage Manual (OEH) |
| | Statements of Heritage Impact (OEH) |
| **Noise** | |
| | NSW Industrial Noise Policy (EPA) |
| | Interim Construction Noise Guideline (EPA) |
| | NSW Road Noise Policy (EPA) |
| | Assessing Vibration: a Technical Guideline (EPA) |
| | Voluntary Land Acquisition and Mitigation Policy (DP&E) |
| **Air** | |
| | Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW (EPA) |
| | Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (EPA) |
| | Coal Mine Particulate Matter Control Best Practice – Site Specific Determination Guideline (EPA) |
| | Generic Guidance and Optimum Model Settings for the CALPUFF Modelling System for Inclusion in the Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (EPA) |
| | Voluntary Land Acquisition and Mitigation Policy (DP&E) |
| | National Greenhouse Accounts Factors (Commonwealth) |
| **Transport** | |
| | Guide to Traffic Generating Development (RTA) |
| | Road Design Guide (RMS) & relevant Austroads Standards |
| **Public Safety** | |
| | State Environmental Planning Policy No. 33 – Hazardous and Offensive Development |
| | Hazardous and Offensive Development Application Guidelines – Applying SEPP 33 |
| | Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis |
| **Resource** | |
| | Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves 2012 (JORC) |
| **Waste** | |
| | Waste Classification Guidelines (EPA) |
| **Rehabilitation** | |
| | Mine Rehabilitation – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth) |
| | Mine Closure and Completion – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth) |
| | Strategic Framework for Mine Closure (ANZMEC-MCA) |
| **Social & Economic** | |
| | Social impact assessment guideline for State significant mining, petroleum production and extractive industry development (DPE) |
| | Guidelines for the economic assessment of mining and coal seam gas proposals (NSW Government) |
| **Environmental Planning Instruments - General** | |
| | *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* |
| | *State Environmental Planning Policy (State and Regional Development) 2011* |
| | *State Environmental Planning Policy (Infrastructure) 2007* |
| | *Wollondilly Local Environmental Plan 2011* |

**Attachment 2**
**Agency Input into Key Assessment Issues**

NSW GOVERNMENT | Department of Primary Industries

OUT1720430

Mr Paul Freeman
Resource Assessments
NSW Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

Paul.freeman@planning.nsw.gov.au

Dear Mr Freeman

**Tahmoor South Project (SSD 8445)**
**Request for Secretary's Environmental Assessment Requirements (SEARs)**

I refer to your email of 11 May 2017 to the Department of Primary Industries (DPI) in respect to the above matter. Comment has been sought from relevant divisions of DPI. Views were also sought from NSW Department of Industry – Lands and Forestry that are now a division of the broader Department and no longer within NSW DPI.
Any further referrals to DPI can be sent by email to landuse.enquiries@dpi.nsw.gov.au.

DPI has reviewed the Preliminary Environmental Assessment and the SEARs issued on 30 August 2013 and advises that these previously issued requirements adequately address the matters of regulatory interest to the department. The proponent should also be aware at this stage that licenses for the following activities involving access to and use of Crown land need to be issued by the Department of Industry (DoI) – Lands & Forestry:

- Exploration activities such as exploration drilling and seismic surveys
- Environmental Baseline Monitoring such as surface water monitoring including continuous flow monitoring and monthly water quality monitoring
- Surface infrastructure, where use of Crown land be required and a Company's mining lease (essentially subsurface) does not include surface rights.

As the project has the potential to impact aquatic Threatened Species guidelines for assessment of aquatic ecosystems have been included to assist the proponent at **Attachment A**.

Yours sincerely

Alison Collaros
**A/Director, Planning Policy & Assessment Advice**
24 May 2017

*DPI appreciates your help to improve our advice to you. Please complete this three minute survey about the advice we have provided to you, here:*
https://goo.gl/o8TXWz

**Attachment A**

**Tahmoor South Project (SSD 8445)**
**Request for Secretary's Environment Assessment Requirements**
**Detailed comments – DPI Fisheries**

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**A. General information required:**

- a description of the potential direct and indirect impacts on aquaculture facilities from the development,
- a clear description of the physical and hydrological features of the development area (which may extend upstream and downstream of the development site in the case of flowing rivers)

The above information would normally be provided in the form of a Review of Environmental Factors (REF), Statement of Environmental Effects (SEE) or an Environmental Impact Statement (EIS). The Department of Planning and Infrastructure has developed a document entitled *Aquatic Ecology in Environmental Impact Assessment* (Lincoln-Smith 2003) which should be referred to by any planners or consultants in assessing aquatic flora and fauna impacts during the preparation of a REF, SEE or EIS (see www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Aquatic%20Ecology%20in%20EIA%20Guide.pdf).

**B. Aquatic habitat assessment**

The aim of the aquatic assessment should be to define the presence of 'key fish habitat' within the study site, adjacent areas (upstream and downstream), and the broader regional area (see sections 3.1 and 3.2). There may be a range of potential fish habitats that could be impacted by a particular activity. Some points to consider include:

- geomorphic characteristics of the waterway (i.e. what characteristics of a CLASS 1-4 waterway does it have (see Table 2)? Is it a gully, intermittent stream or major river? Does is it have deep pools or in-stream gravel beds? Is it a wetland? Does the watercourse connect with other watercourses upstream or downstream? What is the slope/gradient?),
- is it mapped as key fish habitat? (see www.dpi.nsw.gov.au/fisheries/habitat/protecting-habitats#KFH for maps of key fish habitat per Local Government Area)
- flow regime of the watercourse (e.g. is it an intermittent or permanently flowing stream? What is the range of water velocity of the flow? What are the maximum and minimum or percentile flows (in megalitres/day) for the watercourse?),
- description of the water quality (e.g. discolouration, sedimentation, turbidity, pH, dissolved oxygen, nutrients),
- types of surrounding land use (e.g. agricultural, urban, aquaculture),
- condition of riparian vegetation (i.e. present or absent. Are the species native or exotic? Is the density of vegetation thick or sparse?),
- condition of freshwater aquatic vegetation (i.e. present or absent. Are the species native or exotic? Is the density thick or sparse? Is it continuous or sparse in coverage? What is the aerial extent of major vegetation types? Is the vegetation healthy or degraded?),
- presence of wetlands nearby (i.e. are the wetlands protected under any legislation?, Are the wetlands in a healthy or degraded condition?)
- substrate type (e.g. rock, sand, gravel, silt, coral reef),
- presence of refuge areas (e.g. adjacent wetlands, permanent pools),
- presence of spawning areas (e.g. gravel beds, snags, reed beds),
- presence of natural or artificial barriers to fish passage upstream and downstream (e.g. waterfalls, cascades, weirs, dams, floodgates, road crossings),
- types of migratory fish or other aquatic species likely to inhabit the areas (based on known distribution range within the scientific literature),

- timing of construction in relation to any fish migration seasons,
- timing of construction in relation to flow conditions relative to expected wet seasons,
- presence of any listed threatened or protected aquatic species or 'critical habitat' under the FM Act and EPBC Act. **C. Aquatic fauna assessment**
- For aquatic fauna studies, sites where fish and/or other aquatic fauna are well documented, and no threatened species are recorded, a site inspection and desktop review of the study site and regional area may be the required level of assessment.
- Note that a detailed survey may be required:
- a) where the project is on a CLASS 1 or 2 watercourse (see Table 2 of *Policy and Guidelines for Fish Habitat Conservation and Management (2013)*) or where it has been identified that there may be a significant impact on a threatened aquatic species; and/or
- b) where the project crosses through, over or within a 'critical habitat' and a Species Impact Statement is required.

**C. Aquatic Fauna Assessment**

For aquatic fauna studies, sites where fish and/or other aquatic fauna are well documented, and no threatened species are recorded, a site inspection and desktop review of the study site and regional area may be the required level of assessment.

Note that a detailed survey may be required:

- where the project is on a CLASS 1 or 2 watercourse (see Table 2 of Policy and Guidelines for Fish Habitat Conservation and Management (2013)) or where it has been identified that there may be a significant impact on a threatened aquatic species; and/or
- where the project crosses through, over or within a 'critical habitat' and a Species Impact Statement is required.

**End Attachment A**

DOC17/269642-01

Mr Paul Freeman
Team Leader, Resource Assessments
NSW Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Dear Mr Freeman

**EPA EIS Requirements for the Tahmoor South Project**

I am writing in reply to your email dated 10 May 2017, requesting the EPA's input to the Secretary's Environmental Assessment Requirements (SEARs) for the Tahmoor South Project.

The EPA has considered the Preliminary Environmental Assessment (PEA) for the project provided by the proponent Tahmoor Coal Pty Ltd.

The PEA states the proposed project involves the redevelopment and expansion of the Tahmoor Colliery, including the following activities:

- Construction of underground mining infrastructure to enable extraction of up to five million tonnes per annum of run of mine coal from the Bulli seam and conveyance to Tahmoor Colliery for processing using existing infrastructure.
- Construction and operation of a mine ventilation system.
- Upgrades to the existing materials handling facilities and ancillary infrastructure.
- Staged expansion of the existing rejects emplacement area.
- Rail transport of product coal to Port Kembla.

The EPA recommends that the Department of Planning and Environment (DPE) base its SEARS on the latest version of the guideline document, "Indicative Secretary's Environmental Assessment Requirements (SEARs) for State Significant Mining Developments (NSW, 2015a)".

Please find attached (Attachment A) the EPA's additional specific input to the SEARS for the project.

If you have questions regarding the above, please phone the contact officer on (02) 4224 4100.

Yours sincerely

24/05/17

**PETER BLOEM**
**Manager Regional Operations Illawarra**
**Environment Protection Authority**

Contact officer: ANDREW COULDRIDGE
(02) 4224 4100

Att

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## ATTACHMENT A

## SPECIFIC ISSUES TO BE ADDRESSED IN THE TAHMOOR SOUTH PROJECT EIS

### General

Three EPA guideline documents have been updated since the PEA was written in 2012 and contain new requirements relevant to coal mines. These are the EPA's *Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales* (2016); *Application notes - NSW Industrial Noise Policy*; and the *Draft Industrial Noise Guideline 2015*.

### Water Discharges

Tahmoor mine is regulated by the EPA under an Environment Protection Licence (EPL No 1389). The EPA has been negotiating a series of Pollution Reduction Programs (PRPs) under this licence to encourage re-use and to improve the quality of storm water and mine water. The most recent PRPs 22 and 23 are for mine water treatment and aquatic health monitoring in the Bargo River.

PRP 22 - Tahmoor Water Treatment Plant required a new plant to be built to reduce levels of nickel, arsenic and zinc in the discharge to meet the 95%ile ANZECC 2000 trigger values for protection of aquatic ecosystems in the Bargo River. Interim licence limits reflecting current performance are in place until these ANZECC requirements are achieved. Construction of the treatment plant was completed, however, the plant does not appear to have met performance expectations and is running at reduced capacity.

PRP 23 – Aquatic Monitoring Program required investigation of Tea Tree Hollow Creek and the Bargo River. The investigation was to determine general aquatic health and site specific trigger values for electrical conductivity resulting in negligible impacts following completion of PRP22. Although the mine water treatment plant is not fully commissioned, the study found relatively minor impacts from the discharge in context of upstream river health, regional aquatic diversity and the prospect of ecosystem recovery.

The proponent and the EPA are currently negotiating recommissioning of the plant with expectations of improvements in water quality. The outcomes of the above PRPs will be used to help inform future licensing requirements, including water treatment requirements and discharge limits.

In developing the Environmental Impact Statement (EIS), the proponent should describe the improvements achieved in water treatment and discharges at the site in recent years. This includes the performance of the new treatment plant constructed under PRP 22. The EIS should determine whether environmental values for the Bargo River are now being met downstream of the discharge or will be met following full commissioning of the plant. The EIS should assess whether additional treatment may be required to meet environmental values.

The EIS should integrate the results of the aquatic health study in the Bargo River (PRP 23) as well as previous aquatic studies undertaken by the mine. An assessment should also be made of the possible increase in groundwater make and changes in quality from the new Tahmoor South area and whether additional treatment capacity will be needed.

### On-site Sewage Management

The EPA indicates a new bath house will be designed and constructed as part of the expansion. Details on the management of bath house wastewater need to be documented in the EIS including measures for its collection, treatment and subsequent management. Options for connection to sewer as part of the new proposal should be investigated. If on-site sewage management is the preferred option, the EIS should include information on capacity, operability, treatment and management in light of expected personnel numbers, site usage patterns and the achievement of recognised environmental performance objectives. Reuse of this wastewater should be maximised where it is safe and practicable to do so and it provides the best environmental outcome.

**Coal Washery Reject Emplacement**

The EPA states that the existing Tahmoor Colliery Reject Emplacement Area would be expanded onto adjacent areas to accommodate reject material associated with the proposed project. This expansion is anticipated to cover an additional 80 hectares of land with an additional emplacement capacity of approximately 35 million tonnes of reject material.

The EIS should take into consideration the *Environmental Guidelines Solid Waste Landfills* (EPA, 2016). These guidelines provide guidance for the environmental management of landfills in NSW by specifying a series of 'Minimum Standards'. They involve a mix of design and construction techniques, effective site operations, monitoring and reporting protocols, and post-closure management. The proponent should document how the life of the existing emplacement will be extended. This should include active programs for coal wash reuse, investigating options to extend the height of the existing emplacement and underground disposal options.

In regards to underground disposal options, the EIS should outline advancements in underground emplacement of coal wash - including developments at Metropolitan Colliery and the proposed Hume Coal mine. The should include an assessment of technical and economic feasibility of implementing integrated high pressure coal wash paste injection into the longwall goaf in order to reduce the need to extend the emplacement area.

A ground water impact assessment be undertaken in relation to any expansion of the Coal Wash Emplacement Area. Such an assessment should examine any impacts from the existing emplacement to ensure any environmental values of the groundwater are protected. This should include information on the hydrogeological conditions of the area, any existing groundwater quality data, and groundwater monitoring undertaken at the emplacement area and the proximity of any sensitive groundwater resources. The outcomes of this assessment should inform any future emplacement methods.

**Pit Top Noise**

The EPA and Tahmoor mine have received noise and vibration complaints in relation to existing pit top activities. The EIS must demonstrate how any existing noise and vibration issues will be addressed.

Previous noise investigations by Tahmoor Colliery and the EPA have identified a significant low frequency noise signature (C-weighted) that can be annoying to the residents when ambient noise levels fall in the evening and at night. The complaint information and corresponding noise data indicates that the major source of C-weighted noise is the coal handling and processing plant. This information has been previously provided to the Company.

The Industrial Noise Policy considers noise is additionally annoying when the C-weighted levels are 15dB or more than the A-weighted levels. While there is presently no prescribed noise criterion for C-weighted noise levels alone in NSW, the EPA's approach for *'greenfield sites'* is to seek a maximum limit on receiver level C-weighted noise of 60-65 dBA through the Development Approval process.
The EPA recommends that the proponent consider means to reduce low frequency C-weighted noise emissions from the coal handling and preparation plant. Guidance on minimum noise performance criteria for low frequency noise can be found in the EPA's Industrial Noise Policy 2000 and the Draft Industrial Noise Guideline 2015 (Table C1 and C2).

**Vent Shafts**

The EPA has received complaints in relation to vibration and noise from vent shaft operations. The EIS should assess and document how odour, noise and vibration issues will be addressed for new and existing shafts. This includes the problematic vibration and shale oil odour emissions that occurred (and were subsequently been minimised) at the Rockford Road vent shaft.

Noise and shale oil odour emissions from new vent shafts must be modelled and meet acceptance levels in the EPA's Industrial Noise Policy 2000 and the Technical Framework - Assessment and Management of Odour from Stationary Sources in NSW.

**Dust Emissions**

The EIS must consider the report produced by the proponent in September 2012, titled *"Particulate Matter Control Best Management Practice Determination for Tahmoor Colliery"*. The report was required by the EPA under Licence Condition PRP 24 and was to investigate reasonable and feasible measures to minimise dust emissions from the premises. Tables 6 – 10 of the report contains recommendations for wheel generated dust, bulldozing operations, wind erosion of exposed areas, and loading coal fines onto trucks.

The EPA requests that the proponent re-evaluate the practicability of implementing the additional control measures at Tahmoor Colliery. The assessment should take into consideration the effectiveness, implementation costs, safety issues and other environmental impacts of all existing and proposed dust control measures.

Further advice can be found on the EPA website under Air Initiatives/Coalmines at:
http://www.epa.nsw.gov.au/air/coalminingnsw.htm

The EPA has been advising DPE and mine operators on the use of real time dust monitoring as part of development modifications. The EIS should investigate implementation of a real time air quality monitoring system to be installed at or near the premises. The use of real time air quality monitors can assist mine operators to better understand and respond to activities that might generate dust and assist with day-to-day environmental management decisions. For example, real-time monitors can also be used in Trigger Action Response Plans where mines can respond promptly to dust emissions by scheduling water carts, stockpile sprays and modifying their production activities.

The system should aim to ensure that emissions from the premises meet ambient air quality standards outside the premises. The system should also be configured to assist in guiding the deployment of reactive and proactive dust mitigation measures. Whilst Dust Depositions Gauges and High Volume Air Samplers are valid and recognised techniques, the time required for sample collection and analysis places limitations in their ability to inform day to day management decisions.

NSW GOVERNMENT | Office of Environment & Heritage

Date: 23 May 2017
Your reference: SSD 8845
Our reference: DOC17/288019
Contact: Calvin Houlison
4224 4179

Paul Freeman
Team Leader, Resource Assessments
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001
E-mail: paul.freeman@planning.nsw.gov.au

Dear Mr Freeman

**RE: OEH INPUT INTO SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS FOR PROPOSED TAHMOOR SOUTH PROJECT**

Thank you for your e-mail request dated 10 May 2017 inviting input from the Office of Environment & Heritage (OEH) for Secretary's Environmental Impact Assessment Requirements (SEARs) for the abovementioned proposal.

We note that the project will be assessed as State Significant Development (SSD) under Part 4 Division 4.1 of the *Environmental Planning & Assessment Act 1979*.

We recommend that the Environmental Impact Statement (EIS) addresses the following:

1. Biodiversity
2. Aboriginal Cultural Heritage
3. Historic heritage
4. Flooding
5. Water and soils

The EIS should include an appropriate assessment of the potential impacts on biodiversity, including threatened species, populations, ecological communities or their habitats likely to occur within or near the subject site.

Please note that the NSW Biodiversity Offsets Policy for Major Projects is now being implemented. Impacts to biodiversity should be assessed in accordance with the Framework for Biodiversity Assessment (FBA) by a person accredited in accordance with s142B(1)(c) of the *Threatened Species Conservation Act 1995*. The offset strategy needs to meet the minimum requirements outlined in the FBA. The transitional period for implementation of the Policy commenced on 1 October 2014 and was recently extended to cover the intervening period leading up to commencement of the new *Biodiversity Conservation Act* 2016, expected in mid-2017.

Please also note that the Addendum to NSW Biodiversity Offsets Policy for Major Projects (Upland swamps impacted by longwall mining subsidence) commenced in December 2016. The project team's attention is drawn to this new Policy addendum, particularly in relation to any swamp communities which may be impacted by the proposal. We also recommend for impacts upon upland swamps and 3rd order or above streams that a full justification, including reasons for the damage, alternatives and suggested remediation

and offsets for any such damage, be presented. Any monitoring data undertaken as required during the EIS process should also be supplied to assist in our assessment.

The project team is welcome to contact OEH with any questions regarding the methodology, including the coastal swamps addendum. We note that the proponent has previously received advice from the Commonwealth Department of Environment & Energy advising that the proposal is a controlled action. The Department should be contacted further to ascertain their assessment requirements for the project.

A comprehensive Aboriginal cultural heritage assessment is required. This is to include archaeological survey and consultation with the Aboriginal community conducted in accordance with OEH guidelines. Impacts to Aboriginal cultural heritage need to be avoided, or appropriate measures to limit or mitigate impacts developed.

As the project footprint comprises proposed longwalls undermining the Upper Nepean State Conservation Area, owner's consent will be required from the Minister for the Environment. Owner's consent can only be sought from the Minister once the project footprint is finalised, which is generally at preferred project stage prior to any approval being issued. We have previously outlined the requirements for obtaining owner's consent from the Minister to the proponent.

The full list of standard and project specific OEH requirements to be addressed in the EIS are provided at **Attachments A and B** respectively. In preparing the EIS, the proponent should refer to the guidance material listed in **Attachment C**. Additional guidance on Aboriginal cultural heritage matters is provided at **Attachment D**.

If you have any further queries in relation to this matter, please do not hesitate to contact Calvin Houlison, Senior Conservation Planning Officer, on 4224 4179 or calvin.houlison@environment.nsw.gov.au.

Yours sincerely

23/5/2017

**MICHAEL SAXON**
**Director**
**South East Region**
**Regional Operations Division**

Enclosures:

Attachment A – Standard Environmental Assessment Requirements
Attachment B – Project Specific Requirements
Attachment C – Guidance Material
Attachment D – Detailed Aboriginal Cultural Heritage Comments

# Attachment A – Standard Environmental Assessment Requirements

**Biodiversity**

1. Biodiversity impacts related to the proposed development are to be assessed and documented in accordance with the Framework for Biodiversity Assessment including the Addendum to NSW Biodiversity Offsets Policy for Major Projects (Upland swamps impacted by longwall mining subsidence)(December 2016) as relevant, unless otherwise agreed by OEH, by a person accredited in accordance with s142B(1)(c) of the *Threatened Species Conservation Act 1995*.

**Aboriginal cultural heritage**

2. The EIS must identify and describe the tangible and intangible Aboriginal cultural heritage values that exist across the whole area that will be affected by the development and document these in the EIS. This may include the need for surface survey and test excavation. The identification of cultural heritage values should be guided by the *Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW* (DECCW, 2011) and consultation with OEH regional officers.

3. Where Aboriginal cultural heritage values are identified, consultation with Aboriginal people must be undertaken and documented in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW). The significance of cultural heritage values for Aboriginal people who have a cultural association with the land must be documented in the EIS.

4. Impacts on Aboriginal cultural heritage values are to be assessed and documented in the EIS. The EIS must demonstrate attempts to avoid impact upon cultural heritage values and identify any conservation outcomes. Where impacts are unavoidable, the EIS must outline measures proposed to mitigate impacts. Any objects recorded as part of the assessment must be documented and notified to OEH.

**Historic heritage**

5. The EIS must provide a heritage assessment including but not limited to an assessment of impacts to *State and local heritage* including conservation areas, natural heritage areas, places of Aboriginal heritage value, buildings, works, relics, gardens, landscapes, views, trees should be assessed. Where impacts to State or locally significant heritage items are identified, the assessment shall:
   a. outline the proposed mitigation and management measures (including measures to avoid significant impacts and an evaluation of the effectiveness of the mitigation measures) generally consistent with the NSW Heritage Manual (1996),
   b. be undertaken by a suitably qualified heritage consultant(s) (note: where archaeological excavations are proposed the relevant consultant must meet the NSW Heritage Council's Excavation Director criteria),
   c. include a statement of heritage impact for all heritage items (including significance assessment),
   d. consider impacts including, but not limited to, vibration, demolition, archaeological disturbance, altered historical arrangements and access, landscape and vistas, and architectural noise treatment (as relevant), and
   e. where potential archaeological impacts have been identified develop an appropriate archaeological assessment methodology, including research design, to guide physical archaeological test excavations (terrestrial and maritime as relevant) and include the results of these test excavations.

**Water and soils**

6. The EIS must map the following features relevant to water and soils including:
   a. Acid sulfate soils (Class 1, 2, 3 or 4 on the Acid Sulfate Soil Planning Map).
   b. Rivers, streams, wetlands, estuaries (as described in Appendix 2 of the Framework for Biodiversity Assessment).
   c. Groundwater.

d. Groundwater dependent ecosystems.

e. Proposed intake and discharge locations.

7. The EIS must describe background conditions for any water resource likely to be affected by the development, including:

   a. Existing surface and groundwater.

   b. Hydrology, including volume, frequency and quality of discharges at proposed intake and discharge locations.

   c. Water Quality Objectives (as endorsed by the NSW Government http://www.environment.nsw.gov.au/ieo/index.htm) including groundwater as appropriate that represent the community's uses and values for the receiving waters.

   d. Indicators and trigger values/criteria for the environmental values identified at (c) in accordance with the ANZECC (2000) Guidelines for Fresh and Marine Water Quality and/or local objectives, criteria or targets endorsed by the NSW Government.

8. The EIS must assess the impacts of the development on water quality, including:

   a. The nature and degree of impact on receiving waters for both surface and groundwater, demonstrating how the development protects the Water Quality Objectives where they are currently being achieved, and contributes towards achievement of the Water Quality Objectives over time where they are currently not being achieved. This should include an assessment of the mitigating effects of proposed stormwater and wastewater management during and after construction.

   b. Identification of proposed monitoring of water quality.

9. The EIS must assess the impact of the development on hydrology, including:

   a. Water balance including quantity, quality and source.

   b. Effects to downstream rivers, wetlands, estuaries, marine waters and floodplain areas.

   c. Effects to downstream water-dependent fauna and flora including groundwater dependent ecosystems.

   d. Impacts to natural processes and functions within rivers, wetlands, estuaries and floodplains that affect river system and landscape health such as nutrient flow, aquatic connectivity and access to habitat for spawning and refuge (eg river benches).

   e. Changes to environmental water availability, both regulated/licensed and unregulated/rules-based sources of such water.

   f. Mitigating effects of proposed stormwater and wastewater management during and after construction on hydrological attributes such as volumes, flow rates, management methods and re-use options.

   g. Identification of proposed monitoring of hydrological attributes.

**Flooding and Coastal Erosion**

10. The EIS must map the following features relevant to flooding as described in the Floodplain Development Manual 2005 (NSW Government 2005) including:

    a. Flood prone land.

    b. Hydraulic categorisation (floodways and flood storage areas).

    c. Flood planning area, the area below the flood planning level (areas below the 1 in 100 flood level plus a freeboard).

11. The EIS must describe flood assessment and modelling undertaken in determining the design flood levels for events, including a minimum of the 1 in 10 year, 1 in 100 year flood levels and the probable maximum flood PMF.

12. The EIS must consider the impact of mine subsidence on flooding as it affects both existing and future development of

flood prone land within the catchment over a full range of flooding to a PMF level. The EIS must model the effect of the proposed project on the flood behaviour under the following by incorporating the estimated mine subsidence into the hydraulic model under the following scenario:

a. Current flood behaviour for a range of design events as identified above.
b. The 1 in 200 and 1 in 500 year flood events as proxies for assessing sensitivity to an increase in rainfall intensity of flood producing rainfall events due to climate change.

13. Modelling in the EIS must consider and document:

a. The impact on existing flood behaviour for a full range of flood events including up to the probable maximum flood.
b. Impacts of mine subsidence, earthworks and stockpiles within the flood prone land up to the PMF level. The assessment should be based on understanding of cumulative flood impacts resulting from mining.
c. Whether appropriate mitigation measures required to offset potential flood risk arise from the project. Any proposed mitigation work should be modelled and assessed on the overall catchment basis in order to ensure it fit its purpose and meets the criteria of the Council where it is located, and to ensure it has no adverse impact to surrounding areas.

14. The EIS must address the following floodplain risk management issues, including:

a. Consistency with Wollondilly Councils' floodplain risk management plans.
b. Compatibility with the flood hazard of the land.
c. Compatibility with the hydraulic functions of flow conveyance in floodways and storage in flood storage areas of the land.
d. Whether there will be adverse effect to beneficial inundation of the floodplain environment, on, adjacent to or downstream of the site.
e. Any impacts the development may have upon existing community emergency management arrangements for flooding. These matters are to be discussed with the SES and relevant Councils.
f. Emergency management, evacuation and access, and specific measures to manage risk to life from rarer flood during both construction and operational phases considering the full range of flood risk up to the probable maximum flood. These matters are to be discussed with and have the support of Council and the SES.
g. Whether there will be direct or indirect increase in erosion, siltation, destruction of riparian vegetation or a reduction in the stability of river banks or watercourses.
h. Any impacts the development may have on the social and economic costs to the community (existing and future) as consequence of flooding.

# Attachment B – Project Specific Requirements

A. Impacts on the following species will require further consideration and provision of the information specified in s9.2 of the Framework for Biodiversity Assessment:
   - River-Flat Eucalypt Forest on Coastal Floodplains of the NSW North Coast, Sydney Basin & South East Corner Bioregions (EEC)
   - Shale Sandstone Transition Forest in the Sydney Basin Bioregion (CEEC)
   - Southern Highlands Shale Woodlands (CEEC)
   - Cumberland Plain Woodland in the Sydney Basin Bioregion (CEEC)
   - *Persoonia bargoensis* (Bargo Geebung)
   - *Persoonia glaucescens* (Mittagong Geebung)
   - *Persoonia hirsuta* (Hairy Geebung)
   - *Haplocephalus bungaroides* (Broad-headed Snake)

B. The assessment of cultural heritage values must include a surface survey undertaken by a qualified archaeologist in areas with potential for subsurface Aboriginal deposits. The result of the surface survey is to inform the need for targeted test excavation and/or detailed site recording to better assess the integrity, extent, distribution, nature and overall significance of the archaeological record. The results of surface surveys and any test excavations are to be documented in the EIS.

C. The EIS must outline procedures to be followed if Aboriginal objects are found at any stage of the life of the project to formulate appropriate measures to manage unforeseen impacts.

D. The EIS must outline procedures to be followed in the event Aboriginal burials or skeletal material is uncovered during construction to formulate appropriate measures to manage the impacts to this material.

E. The potential impacts of the development on acid sulfate soils must be assessed in accordance with the relevant guidelines in the Acid Sulfate Soils Manual (Stone et al. 1998) and the Acid Sulfate Soils Laboratory Methods Guidelines (Ahern et al. 2004).

F. The EIS must describe mitigation and management options that will be used to prevent, control, abate or minimise potential impacts from the disturbance of acid sulfate soils to reduce risks to human health and prevent the degradation of the environment. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.

G. The description of existing water quality/hydrology in the EIS must be based on suitable data (meaning data collection may be required) and must include:
   - Water chemistry.
   - A description of receiving water processes, circulation and mixing characteristics and hydrodynamic regimes.
   - Lake or estuary flushing characteristics.
   - Sensitive ecosystems or species conservation values.

- Specific human uses and values (e.g. fishing, proximity to recreation areas).
- A description of any impacts from existing industry or activities on water quality.
- A description of the condition of the local catchment e.g. erosion, soils, vegetation cover.
- An outline of baseline groundwater information, including, for example, depth to watertable, flow direction and gradient, groundwater quality, reliance on groundwater by surrounding users and by the environment.
- Historic river flow data.

H. The assessment of the project on water quality and hydrology in the EIS must include:

- Water circulation, current patterns, water chemistry and other appropriate characteristics such as clarity, temperature, nutrient and toxicants, and potential for erosion.
- Changes to hydrology (including drainage patterns, surface runoff yield, flow regimes, and groundwater).
- Disturbance of acid sulphate soils and potential acid sulfate soils.
- Stream bank stability and impacts on macro invertebrates.
- Water quality and hydrology modelling and/or monitoring, where necessary.

I. The proposed monitoring of water quality must be undertaken in accordance with the Approved Methods for the Sampling and Analysis of Water Pollutant in NSW 2004. The EIS must include a water quality and aquatic ecosystem monitoring program that includes:

- Adequate data for evaluating maintenance, or progress towards achieving, the relevant Water Quality Objectives.
- Measurement of pollutants identified or expected to be present.

## Attachment C – Guidance material

| Title | Web address |
|---|---|
| **Relevant Legislation** | |
| *Coastal Protection Act 1979* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+13+1979+cd+0+N |
| *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* | http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/ |
| *Environmental Planning and Assessment Act 1979* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N |
| *Fisheries Management Act 1994* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N |
| *Marine Parks Act 1997* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+64+1997+cd+0+N |
| *National Parks and Wildlife Act 1974* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N |
| *Protection of the Environment Operations Act 1997* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N |
| *Threatened Species Conservation Act 1995* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+101+1995+cd+0+N |
| *Water Management Act 2000* | http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N |
| *Wilderness Act 1987* | http://www.legislation.nsw.gov.au/viewtop/inforce/act+196+1987+FIRST+0+N |
| **Biodiversity** | |
| NSW Biodiversity Offsets Policy for Major Projects (OEH, 2013) | http://www.environment.nsw.gov.au/resources/biodiversity/140672biopolicy.pdf |
| Framework for Biodiversity Assessment (OEH, 2013) | http://www.environment.nsw.gov.au/resources/biodiversity/140675fba.pdf |
| NSW Biodiversity Offsets Policy for Major Projects (Upland swamps impacted by longwall mining subsidence) addendum (OEH, 2016) | http://www.environment.nsw.gov.au/resources/biodiversity/swamp-addendum-biodiversity-offsets-policy-160766.pdf |
| Fisheries NSW policies and guidelines | http://www.dpi.nsw.gov.au/fisheries/habitat/publications/policies,-guidelines-and-manuals/fish-habitat-conservation |
| List of national parks | http://www.environment.nsw.gov.au/NationalParks/parksearchatoz.aspx |
| Revocation, recategorisation and road adjustment policy (OEH, 2012) | http://www.environment.nsw.gov.au/policies/RevocationOfLandPolicy.htm |
| Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water (DECCW, 2010) | http://www.environment.nsw.gov.au/resources/parks/policyRevocations.pdf |
| **Heritage** | |

| Title | Web address |
|---|---|
| The Burra Charter (The Australia ICOMOS charter for places of cultural significance) | http://australia.icomos.org/wp-content/uploads/The-Burra-Charter-2013-Adopted-31.10.2013.pdf |
| Statements of Heritage Impact 2002 (HO & DUAP) | http://www.environment.nsw.gov.au/resources/heritagebranch/heritage/hmstatementsofhi.pdf |
| NSW Heritage Manual (DUAP) (scroll through alphabetical list to 'N') | http://www.environment.nsw.gov.au/Heritage/publications/index.htm#M-O |
| **Aboriginal Cultural Heritage** | |
| Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010) | http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf |
| Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010) | http://www.environment.nsw.gov.au/resources/cultureheritage/10783FinalArchCoP.pdf |
| Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW (OEH 2011) | http://www.environment.nsw.gov.au/resources/cultureheritage/20110263ACHguide.pdf |
| Aboriginal Site Recording Form | http://www.environment.nsw.gov.au/resources/parks/SiteCardMainV1_1.pdf |
| Aboriginal Site Impact Recording Form | http://www.environment.nsw.gov.au/resources/cultureheritage/120558asirf.pdf |
| Aboriginal Heritage Information Management System (AHIMS) Registrar | http://www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm |
| Care Agreement Application form | http://www.environment.nsw.gov.au/resources/cultureheritage/20110914TransferObject.pdf |
| **Water and Soils** | |
| **Acid sulphate soils** | |
| Acid Sulfate Soils Planning Maps via 'The NSW Natural Resource Atlas' | www.nratlas.nsw.gov.au/ |
| Acid Sulfate Soils Manual (Stone et al. 1998) | Manual available for purchase from: http://www.landcom.com.au/whats-new/the-blue-book.aspx<br>Chapters 1 and 2 are on DPI's Guidelines Register at:<br>Chapter 1 Acid Sulfate Soils Planning Guidelines:<br>http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Planning%20Guidelines.pdf<br>Chapter 2 Acid Sulfate Soils Assessment Guidelines:<br>http://www.planning.nsw.gov.au/rdaguidelines/documents/NSW%20Acid%20Sulfate%20Soils%20Assessment%20Guidelines.pdf |
| Acid Sulfate Soils Laboratory Methods Guidelines (Ahern et al. 2004) | http://www.advancedenvironmentalmanagement.com/Reports/Savannah/Appendix%2015.pdf<br>This replaces Chapter 4 of the Acid Sulfate Soils Manual above. |
| **Flooding and Coastal Erosion** | |
| Reforms to coastal erosion management | http://www.environment.nsw.gov.au/coasts/coastalerosionmgmt.htm |
| Floodplain development manual | http://www.environment.nsw.gov.au/floodplains/manual.htm |
| Guidelines for Preparing Coastal Zone | Guidelines for Preparing Coastal Zone Management Plans |

| Title | Web address |
|---|---|
| Management Plans | http://www.environment.nsw.gov.au/resources/coasts/130224CZMPGuide.pdf |
| NSW Climate Impact Profile | NSW Climate Impact Profile |
| Climate Change Impacts and Risk Management | Climate Change Impacts and Risk Management: A Guide for Business and Government, AGIC Guidelines for Climate Change Adaptation |
| **Water** | |
| Water Quality Objectives | http://www.environment.nsw.gov.au/ieo/index.htm |
| ANZECC (2000) Guidelines for Fresh and Marine Water Quality | www.environment.gov.au/water/publications/quality/australian-and-new-zealand-guidelines-fresh-marine-water-quality-volume-1 |
| Applying Goals for Ambient Water Quality Guidance for Operations Officers – Mixing Zones | http://deccnet/water/resources/AWQGuidance7.pdf |
| Approved Methods for the Sampling and Analysis of Water Pollutant in NSW (2004) | http://www.environment.nsw.gov.au/resources/legislation/approvedmethods-water.pdf |

# Attachment D – Detailed Aboriginal Cultural Heritage Comments

## Introduction

A comprehensive Aboriginal cultural heritage assessment must be conducted. This must include archaeological survey and Aboriginal community consultation conducted in accordance with OEH guidelines (below). We note that OEH previously provided advice (dated 31 October 2012) that included Aboriginal cultural heritage investigation requirements that remain relevant.

## OEH guidelines

The EIS must contain detailed reporting on the Aboriginal heritage of the project area and the anticipated impacts from the proposed works. Part 7.5.3 (p.66) of the Preliminary Environmental Assessment (PEA) states that the heritage assessment will be conducted in accordance with the Aboriginal Community Consultation Requirements for Proponents 2010 and NSW Heritage Manual. For the assessment of Aboriginal cultural heritage the Guide to Investigating, Assessing and Reporting on Aboriginal Cultural Heritage in NSW (OEH 2011) is the primary document to consider, with reference to the Code of Practice for Archaeological Investigation of Aboriginal Objects in NSW (DECCW 2010) and the Aboriginal Community Consultation Requirements for Proponents 2010 (DECCW 2010).

## Recorded Aboriginal heritage sites

There are 38 recorded Aboriginal heritage sites within the project area. The AHIMS database only include recorded sites. It is highly likely that additional, unrecorded sites exist within the project area.

## Assessment requirements

A full Aboriginal cultural heritage investigation is required. This investigation must include archaeological survey, Aboriginal community consultation, and significance and impact assessments. In addition, the investigation may require detailed base line site recording, archaeological test excavation and other forms of further assessment. The areas investigated must include the proposed expansions to surface infrastructure, the proposed coal wash reject emplacement area, the areas identified as being at risk of subsidence from long wall mining, as well as other areas of likely ground surface impact.

Effort must be made to avoid impacting Aboriginal cultural heritage sites. Appropriate measures to minimise and mitigate against any unavoidable impacts must be developed. This may require the layout of long wall mining areas to be changed to avoid subsidence impacts, especially shelter sites in cliff lines and grinding groove sites along sandstone outcrops which are sites especially vulnerable to subsidence impacts that can crack rock platforms and cause shelters to collapse.

Areas of high Aboriginal cultural heritage sensitivity must be protected. OEH advice in 2012 identified the cluster of sites around Dog Trap Creek and Liza Creek as potentially indicating an area of high cultural and archaeological significance. Measures to avoid impact to these sites were suggested, including shortening the long walls proposed to run under these sites.

As noted in our 2012 advice, the list of impacts presented in Table 13 of the PEA shows impact to Aboriginal cultural heritage as being of 'medium' significance and having a 'moderate' impact. OEH disagrees with this statement because impact to Aboriginal objects through mining activity is often direct, permanent and irreversible. This does not reflect the provided definition of moderate impacts as 'an issue that may cause moderate and reversible environmental impacts with a short term effect requiring moderate remediation' (PEA p.34). Table 13 should be revised accordingly.

The statement in section 7.5.3 of the PEA (p. 65) regarding impacts to the heritage landscape must be clarified. OEH expects that this discussion will refer to impacts to both tangible and intangible Aboriginal cultural heritage values.

**Aboriginal community consultation**

The EIS must demonstrate that Aboriginal people have had the opportunity to be consulted about the project, have had the opportunity to provide comment on the proposed impacts to Aboriginal heritage and to discuss practical ways to avoid and mitigate those impacts. The OEH guideline Aboriginal Community Consultation Requirements for Proponents 2010 should be followed to provide the structure for this consultation.

**Recommended SEARs**

We recommend both standard and project specific requirements in relation to Aboriginal cultural heritage.

**OEH Guidelines**

- Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW. OEH 2011. Available online at: http://www.environment.nsw.gov.au/resources/cultureheritage/20110263ACHguide.pdf
- Code of practice for archaeological investigation of Aboriginal objects in New South Wales, DECCW 2010. Available online at: http://www.environment.nsw.gov.au/resources/cultureheritage/10783FinalArchCoP.pdf
- Aboriginal cultural heritage consultation requirements for proponents 2010. DECCW 2010. Available online at: http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf

Planning & Environment
Resources & Geoscience

OUT17/20175

Paul Freeman
Team Leader
Resource Assessments
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Paul.Freeman@planning.nsw.gov.au

Dear Paul

**Tahmoor South Project (SSD 8445)-Re-issue of SEARs**

I refer to your email dated 10 May 2017 inviting the Division of Resources & Geoscience (DRG) to provide comments on the Tahmoor South Project (SSD 8445) Re-issue of SEARs from 2013.

DRG has reviewed and assessed the adequacy of the Preliminary Environmental Assessment for the project and requirements DRG (then DRE), previously submitted in 2012 in relation to the Tahmoor South Project (SSD 8445) Re-issue of SEARs from 2013 and provides the following advice.

Project Description
To ensure that a project and its environmental interactions can be understood and assessed by DRG, an Environmental Impact Statement (EIS) should provide a comprehensive description of all aspects (including the mineral extraction and mining purposes) of the project. In terms of text, plans or charts, it must also clearly show the proposed extent and sequence of the development.

Resource & Reserve Statement
As per page 7 (Target Resource) of DPE's Indicative SEARs document, October 2015 version

DRG understands that an estimate of product tonnes split into a particular market segment is difficult to estimate at a particular point in time and is dependent on market conditions as the life of the mine progresses, however DRG requires the proponent to provide its best estimate of their market mix at the initial stages of the project.

Biodiversity Offsets
DRG requests consultation with GSNSW to ensure there are no potential sterilisation impacts to resources should biodiversity offsets be considered.

DRG recommends that the standard mining development rehabilitation SEARs, be applied to this project.

Should you have any enquires regarding this matter please contact Adam Banister, Acting Senior Project Officer, Royalty & Advisory Services on 4931 6439.

Yours sincerely

Zane West
**Manager Royalties & Advisory Services**
30 May 2017

Our Ref: STH12/00215/02
Contact: Rachel McKay 4221 2570
Your Ref: SSD8445

Transport Roads & Maritime Services

17 May 2017

Paul Freeman
Team Leader – Resource Assessments
NSW Department of Planning and Environment
BY EMAIL: Paul.Freeman@planning.nsw.gov.au

**SECRETARY'S ENVIRONMENTAL ASSESSMENT REQUIREMENTS – TAHMOOR SOUTH PROJECT (SSD 8445)**

Dear Paul

Roads and Maritime Services (RMS) refers to your email dated 10 May 2017 seeking the RMS requirements for inclusion in the Secretary's Environmental Assessment Requirements (SEARs) for the above development.

RMS has reviewed the information provided and considers that the following information should be included/addressed in the SEARs:

- Subsidence and Geology Impact Assessment: The requirement to address geological and subsidence impacts on the RMS network (including RMS infrastructure/assets). This including the following:
    - Consent under Section 138 of the Roads Act, 1993 being required for any proposed longwall adjacent to or under the Hume Highway, or any road in the RMS network, as well as any works within the classified road reserve. It should be noted that the Proponent would need to enter into a Deed of Agreement to manage the mining impacts and relationships;
    - Any longwall within a distance of 5 times the seam depth to an RMS asset needs to be submitted to RMS for risk assessment of subsidence impacts and far-field effects; and
    - Consideration of subsidence impacts on RMS infrastructure must include consequential impacts on functionality and user safety, as well as far-field effects.
- Traffic Impact Study: The requirement to provide a Traffic Impact Study (TIS). As a guide Table 2.1 of the RTA's *Guide to Traffic Generating Developments* outlines the key issues that should be considered in preparing a TIS. The TIS, in addition to the above, must address the following:

- Details on road transport routes to be used to provide access to/from the site. This including vehicles travelling along the Hume Highway and Remembrance Driveway, wishing to travel to and from the development site;
- Details on existing movements along the road network and likely additional movements to and from the development site onto the Hume Highway, including the types of vehicles, peak hour movements and maximum daily movements;
- The existing traffic volumes (based on survey) using the junction of the Tahmoor Colliery site access with Remembrance Driveway and the junction of Remembrance Driveway and Avon Dam Road. The traffic study needs to consider the likely impact of the additional traffic associated with the proposed development including the suitability of the existing junctions against Austroad standards, the associated need for upgrades and interruptions to traffic flow on the Hume Highway;
- Clarification of the sight distance available at the existing/proposed accesses to the development. It should be noted that RMS requires sight distance to comply with the safe intersection sight distance in accordance with Austroads Guide to Road Design – Part 4a: Unsignalised and Signalised Intersections Table 3.2, in both directions. Landscaping and fencing shall not restrict vehicular sight lines on Remembrance Driveway; and
- The identification of suitable infrastructure required to ameliorate any traffic impacts and safety impacts associated with the development including the provision of supporting plans.

- Modelling – Intersections: The requirement to undertake intersection modelling using SIDRA for the junction of the development site with Remembrance Driveway and the junction of Remembrance Driveway and Avon Dam Road (on the assumption that vehicles accessing the site will use the above intersections). This is required to demonstrate that an acceptable level of service is maintained at the intersections used as well as to assist in determining what intersection upgrade works are required. The intersection modelling needs to give consideration to the following:
  - Full development of the site.
  - AM and PM peaks volumes and Saturday peak volumes.
  - Existing traffic volumes with and without development and 10 year projected volumes with and without the development.
  - The base SIDRA models must be calibrated with on-site observations in the AM and PM peak. This can be done by measuring existing queue lengths and delays; and
  - Electronic copies of all SIDRA files needs to be provided to RMS for review
- Consultation: Further consultation can be had with RMS during the preparation of the Environmental Impact Statement to discuss traffic and accessibility issues if required.

Yours faithfully

Andrew Lissenden
A/Manager Land Use
Southern Region

**Roads & Maritime Services**

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RURAL LIVING

*1148-3#383: DH:DH*

Mr P Freeman
Team Leader, Resource Assessments
NSW Department of Planning and Environment
GPO Box 39
SYDNEY NSW 2001

23rd May 2017

Dear Sir/Madam

**TAHMOOR SOUTH COLLIERY PROJECT**

Thank you for the opportunity to provide comment on assessment requirements for the Preliminary Environmental Assessment and associated Standard Secretary's Assessment Requirements (SSEAR's) for the Tahmoor South Project.

Council has not adopted a formal position regarding the Tahmoor South Project. However, it has made a series of resolutions advocating the concerns of the local community over impacts associated with existing operations associated with the Tahmoor North Colliery Project. The provision of the finalised SSEAR's will enable Council to consider its position regarding the Tahmoor South Project.

The Preliminary Environmental Assessment is viewed as largely identifying potential impacts associated with the proposal to the natural, cultural and built environment. Council Staff are however of the view that the amendment of the document, (dated August 2012), to reflect current research, the statutory and policy framework, long-wall mining methods, as well as changes in land use issues within the Project Area is warranted. The urgent response of the Department of Planning and Environment (DP&E) to this matter would be appreciated.

The attached submission provides assessment requirements based on a range of issues of concern including potential coexistence issues associated with a number of planning proposals within the Tahmoor South Project Area. It also requests that SSEAR's be consistent with and/or additional requirements recently provided by Government Agencies on the Dendrobium extension and Hume Project. A response by the DP&E to all issues raised in the submission would be appreciated.

The holding of a meeting with DP&E representatives to discuss its short and long-term view on the Tahmoor South Project as well as the issues raised in Council's submission would be appreciated. Please contact Council's Environmental Assessment Planner, David Henry, on (02) 4677 9687 or via e-mail david.henry@wollondilly.nsw.gov.au to arrange such a meeting and/or discuss the submission.

Yours faithfully

Brad Staggs
**Manager Environmental Services**

**Submission on the Standard Secretary's Assessment Requirements for the Tahmoor South Project**

This submission provides comments on Council's position and requested Standard Secretary's Assessment Requirements for the South Tahmoor Project. These comments are consistent with the previously adopted position of Council and the expressed concerns of local community it represents in regard to issues of relevance to the overall Tahmoor Colliery Project

## 1) Overview of Council position regarding the Tahmoor Colliery Project

Council does not oppose underground mining provided it can occur without adverse impacts to the natural, cultural and built environment. Council has however taken a proactive approach in advocating the concerns of the local community over these impacts as well as the management of these impacts by applicable Government Agencies. These concerns are largely in regard to impacts to watersources (surface and groundwaters) and dwellings from subsidence attributable to mining operations. Concern has also been raised over greenhouse gas emissions associated with all stages of mining and the contribution of these emissions to global warming.

Council has also shared the concerns of the local community over recent research that is considered to have formed a linkage requiring detailed investigation between significant reductions in levels of the lakes within the World Heritage listed Thirlmere Lakes National Park and mining operations associated with the Tahmoor Colliery. Council has also recently held a successful Stakeholder Forum in relation to issues associated with the lakes as well as the overall Park. The broad purpose of this Forum is to prepare an Action Plan that would inform a Council Community Advocacy Statement in regard to Thirlmere Lakes National Park. The completed Statement will be provided to the DP&E upon its completion in the event of the Tahmoor South Project progressing to the Environmental Assessment Stage.

The applicable Council resolutions regarding issues raised above in response to community concerns are presented in Attachment 1 to this submission. In addition, Council has lodged a range of submissions in regard to documentation associated with the Tahmoor Colliery Project as well as State and Commonwealth relevant Government Polices presented in Table 1 (Attachment 1). The submission on the Tahmoor North Subsidence Management Plan and Stage 1 of the Integrated Mining Policy is attached to this submission. **The DP&E is requested to consider these submissions during the preparation of the SSEAR's and advise Council of the outcomes of this consideration.**

## 2) General comments on the Preliminary Environmental Assessment

(i) General comments on the Tahmoor South Project

The PEA document is viewed as being broadly adequate in identifying potential impacts associated with the Tahmoor South Project. However, as described below, Council Staff are of the view that the amendment of the document to reflect current research and policy framework is warranted.

The proposed longwall layout depicted in the PEA is noted to be restricted to the eastern and north-eastern portion of the site. The accurate representation of all proposed longwalls

within the PEA is viewed as important to accurately inform the SSEAR. **It is therefore requested that the DP&E clarify whether any additional longwalls are proposed or may be proposed within the Project Area and require the adjustment of the PEA accordingly. The DP&E is also requested to note the preferred view of Council Staff that any longwall proposed subsequent to Determination must be subject to a separate comprehensive Environmental Assessment.**

Council has not adopted a formal position in regard to the Tahmoor South Project. It is however requested that the completed draft SSEAR's be provided to Council for formal consideration regarding such a position. It should be noted in this regard that Council has previously requested the exercising of the precautionary principle by requesting the deferral and re-exhibition of a Subsidence Management Plan associated with the Tahmoor North Project as a consequence of its scientific uncertainty. Council Staff would expect the similar exercising of this principle in regard to the Tahmoor South Project.

*(ii) Economic value of the coal resource*

The Media Release from Glencore Coal Assets Australia dated 9th May 2017 is noted to state the "*Tahmoor Mine has 57MT of reserves and 650MT of total resource*". **Urgent clarification is sought over whether this figure includes coal resources within the Tahmoor South Project Area**. Staff have the view that the incorporation of these resources would provide a level of assumption over the approval of the Project.

Council recognises the economic value of the mining industry and the contribution of the Tahmoor Colliery to the local economy. However, it is considered the Precautionary Principle should be adopted and the project be refused if there is uncertainty or unacceptable impacts to the natural, cultural, and/or built environment. This is viewed as having consistencies with provisions in the Biodiversity Conservation Act 2016 regarding Serious and Irreversible Harm.

*(iii) Timeframe of the document*

The referred Preliminary Environmental Assessment (PEA) is noted to comprise the original document submitted to the DP&E in August 2012. The view of the DP&E in its e-mail correspondence dated 10th May 2017 that the "*Department does not consider that the PEA requires to be updated for the purposes of issuing SEARs*" is noted.

It is considered warranted and important however that the PEA be of a sufficient standard in terms of matters such as consistency with current research, legislative and policy framework, as well as current issues, to adequately inform the preparation of the SSEAR's. This approach is viewed as having consistencies with the stated purpose of PEA's to guide the Department in issuing SSEAR's for the proposed development.

The preferred view of Council is therefore that the document be revised then re-exhibited based on the following considerations:

- The referred document does not refer to the 'Water Trigger' reforms to the Environment Protection Biodiversity Conservation Act requiring the referral of large mining projects which potentially impact on water sources.
- The referred document pre-dates and does not refer to the significant scientific research which has occurred and is scheduled to occur in regard to the

understanding of surface and groundwater resources and potential impacts of mining operations on these resources.

- The referred document pre-dates reforms to the planning framework, the Integrated Mining Policy, the Environmental Impact Assessment Improvement Project, reforms to the Mining SEPP, the *Environmental Planning and Assessment Act 1979* and the introduction of the *Biodiversity Conservation Act 2016*.
- The referred document does not consider the research program associated with the Thirlmere Lakes Inter Agency Working Group announced by the NSW Office of Environment and Heritage in November 2016.

**The DP&E is requested to provide a response to the above considerations and viewpoint of Council Staff prior to the formal issuing of the SSEAR's. The holding of a meeting with DP&E representatives to discuss these considerations is also being sought and would be appreciated.**

*(iv) Longwall mining methodology*

The Hume Project Application is noted to propose a low impact first workings mining system which the Environmental Impact Statement states will result in '*negligible surface subsidence impacts*". The viability and effectiveness of this proposed approach is beyond the expertise of Council Staff. **However, it is requested that the DP&E require, (as an SSEAR), the proponent provide demonstrated consideration of alternative best-practice longwall mining that minimises the extent of impacts associated with mine subsidence**.

**3) Standard Secretary's Assessment Requirements**

Council has previously provided its position and the local community regarding SSEAR's in I and EIA's in general in its attached submissions regarding Stage 1 of the Integrated Mining Policy and the Environmental Impact Assessment Improvement Project. It is requested that these be considered during the preparation of the SSEAR's. A key request of note to the DP&E in these submissions is to require detailed assessment within the EIS's rather than being deferred to subsidiary approvals subsequent to Determination.

The following provides comments and recommendations in regard to SSEAR's for the Tahmoor South Project based on the adopted position of Council and the concerns of the local community it represents.

*(i) Government Agency comments*

Government Agencies are noted to have provided detailed comments and requirements for SSEAR's for the Hume Project, (Hume Coal), and the Dendrobium Project, (South 32) . These requirements have a strong synergy with the position and concerns of Council and the local community raised above. The requirements are therefore considered suitable by Staff for adaption to apply to the South Tahmoor Project, (with modifications as necessary), to the Tahmoor South Project. **Council would expect in this regard that the SSEAR's be consistent with these requirements and/or any requirements provided specifically in regard to the Tahmoor South Project.**

(ii) *Issues of specific relevance to the concerns of Council and the local community*

The following provides comments and recommendations for SSEAR's based on the position of Council and the views of the local community it represents in regard to the Tahmoor South Project.

(a) Protection of Bargo Gorge

The Tahmoor South Project Area contains the upper reaches of Bargo Gorge which flows into the Nepean River. The mid reaches of this Gorge has been listed on the National Trust Register due to its very high aesthetic and nature conservation significance. In addition, the Gorge has been identified as being a significant koala habitat corridor by recent mapping carried out by Council Staff in association with the Office of Environment and Heritage (OEH). Council has made a series of resolutions supporting expressed views by the community that the Gorge and immediate environments be gazetted by the National Parks and Wildlife Service as a National Park.

**Recommendations regarding SSEAR item(s)**

The DP&E is requested to require as an SSEAR's item an assessment of the potential and likely subsidence and other related impacts associated with the proposal that includes as a minimum:

- An assessment of impact on the stability of the geological formations of the Gorge that is untaken by a suitably qualified consultancy.
- An assessment of all potential and likely water quality downstream direct and indirect impacts associated with .the project and comprehensive measures to avoid these impacts.
- The above assessment be carried out in consultation with the National Trust, Council and the National Parks and Wildlife Service.

(b) Protection of waterways

The referred PEA is noted to state that "*the proposed development would undermine several watercourses, including Tea Tree Hollow Creek, Dogtrap Creek, Eliza Creek, Cow Creek, Dry Creek, and Charters Creek*". As stated previously, Council Staff are of the view that the PEA should contain any additional proposed longwalls to those depicted on maps within the document. **The DP&E is requested to note in this regard that any impact to watercourses as a consequence of any mining operations associated with the South Tahmoor Project would be viewed as unacceptable**.

A wide range of research is noted to have completed or been announced in relation to this matter by a wide range of research organisations at the State and Commonwealth level subsequent to the date of the referred PEA. There are also noted to have been a range of relevant policy announcements at the Commonwealth level, (for example the Bio Regional Assessment Program), and State level, for example the Integrated Mining Policy). The consistency of SSEAR'S and any subsequent EA with this research as well as policy framework is viewed as being imperative by Council Staff.

In relation to this matter, the referral of the project to the Independent Expect Scientific Committee, (under the Water Trigger Amendment), is viewed as being appropriate given the potential significant impact to surface and groundwaters associated with the Tahmoor South

Project. It is therefore considered warranted that any EIA for the Project be consistent with the ***Information Guidelines for the Independent Expert Scientific Committee advice on coal seam gas and large coal mining development proposals publication*** produced by this Committee.

Impacts to two local creeks within the Wollondilly LGA have occurred as a consequence of operations within the Tahmoor North Colliery Project Area as acknowledged by the proponent in its Subsidence Monitoring Reports. In response, Council has made the following resolutions which are viewed as being transferrable to the Tahmoor South Project:

**Resolutions of Council at its meeting of 15 February 2016**

- *That Council take a proactive role in advocating for the protection of the natural environment from impacts of mining under Redbank Creek.*
- *That Council write to the State Minister for Planning, the Minister for Environment and the Minister for Resources and Energy expressing its concern that compensation mechanisms for damage to the natural environment from mining impacts is not considered in the function of the Mine Subsidence Board and Council calls for this situation to be reviewed and remedied.*

**Resolutions of Council at its meeting of 21 March 2016**

- That Council write to the NSW Minister for Environment and NSW Minister for Resources and Energy requesting:
    - The establishment of on-going funding for investigations and monitoring of the condition of watercourses that are identified as being impacted by subsidence associated with underlying operations.
    - Ongoing funding be made available to local governments, research organisations and community groups upon the lodgement of suitably detailed applications.

**The DP&E is requested in this regard to ensure that any subsequent EA and Determination for the Tahmoor South Project adequately address the above resolutions of Council.**

**Recommendations regarding SSEAR item(s)**

The DP&E is requested to incorporate the following position of Council into SSEAR's items for the Tahmoor South Project:

- The mining layout must be designed to not undermine waterways preferably and involve a suitable setback distance where not possible to prevent direct and indirect impacts to water sources.
- The viewpoint expressed in Council's submission on Stage 1 of the Integrated Mining Policy that:
    - Applications should contain a description of the properties and behavior of the groundwater environment in a lateral and vertical direction based on modeling that is informed by extensive groundwater monitoring and consistent with scientific research.

- All potentially affected watercourses should be subject to detailed assessment within a catchment context.
- Applications should contain scientific rigorous recommendations to reduce potential environmental impacts as alternatives to Offsets and associated Trigger Response Plans.

- Any EIA for the project be required to be consistent with the ***Information Guidelines for the Independent Expert Scientific Committee advice on coal seam gas and large coal mining development proposals publication*** produced by the Independent Expert Scientific Committee.

- The applicable requirements provided recently by Applicable NSW Government Agencies on the Dendrobium Project and the Hume Project.
- A detailed scientific description of likely and potential impacts to each potentially affected watercourse within the Study Area based on the finalised layout and intended mitigation measures as alternatives to offsets and associated Trigger Response Plans.

(c) Potential impacts to Thirlmere Lakes

The PEA is noted to state that "*Thirlmere Lakes National Park is located approximately 60 metres west of the boundary of the approved mining lease and 2.5 Kilometres from the proposed development*". The document produced by the Thirlmere Lakes Inter Agency Working Group (TLIA Working Group titled "***The Mysterious Hydrology of Thirlmere Lakes***" contains the following statement in relation to the potential causes of observed decreasing levels within the lakes within this Park:

> *"There is still much that is unknown about Thirlmere lakes and their geomorphology and hydrology and without this information, the exact cause of decreasing water levels in the lakes remains a mystery and it is difficult to determine what the primary drivers of surface water loss are".*

Council has resolved on two separate occasions to write to a range of stakeholders, requesting detailed scientific investigations into the hydrology of the lakes and causes of reductions in their levels. A key outcome arising from the Stakeholder Forum recently organised by Council was the need for a detailed understanding of the hydrology of the lakes prior to identifying influences on this hydrology. The announced research program by OEH was viewed as positive by attendees in relation to this matter. **Note, Council understands that the successful studies will likely be announced before the end of June 2017.**

**Recommendations regarding SSEAR item(s)**

The DP&E is requested to incorporate the following position of Council into SSEAR's items for the Tahmoor South Project

- The TLIA Working Group "The Mysterious Hydrology of Thirlmere Lakes" be listed on the reference documents within the SSEAR's.
- The assessment of impacts incorporate research studies associated with the program announced by the OEH in regard to the lakes in November 2016.

(d) Coexistence of mining operations with land use activities

Coexistence with planning proposals

The south-eastern portion of the Project Area contains a number of planning proposals lodged with Council subsequent to the date of the PEA which are in various stages of assessment A number of these proposals have been identified by Council's Growth Management Plan. **The DP&E is requested to engage in urgent discussions with Council over potential coexistence issues between these planning proposals and any mining operations as part of the South Tahmoor Project**.

Subsidence Advisory NSW is noted to recently requiring mining proponents enter into Coexistence Agreements where a mining proponent raises objections to certain developments and/or planning proposals. It is consequently considered imperative that discussions over the requirements of SAS NSW in relation to these proposals occur prior to the issuing of the SSEAR's.

Coexistence with existing properties

The Tahmoor South Project Area covers properties zoned rural and residential in a number of villages within the Wollondilly LGA. A map showing the location of these proposals is attached to this submission. Reforms in the process of being introduced by Subsidence Advisory NSW are viewed by Staff as being positive in addressing concerns expressed by local residents over the existing process for the monitoring and repairing of subsidence damage to properties: However, the following comments contained in Council's submission on Stage 1 of the IMP is provided as a guide to its position in regard to SSEAR's over this matter for the Tahmoor South Project:

- *EIS's be required to carry out predictions, risk assessments and feasibility studies in regard to all potentially affected surface and subsurface features rather than be restricted to those of "significant economic, social, cultural or environmental value" as proposed by the SSEAR Guidelines.*

- *EIS's be required to assess the likely impact to all potentially affected structures as well as associated social impacts based on latest scientific knowledge and applicable Guidelines.*

- *EIS's be required to include details of intended on-going consultation with all potential affected parties including residents and local governments as well as procedures for the reporting of this consultation.*

Waste Management Centre

The south-eastern portion of the site contains the Bargo Waste Management Centre which is operated by Wollondilly Shire Council It is requested that the DP&E include an SSEAR item requiring assessment of potential impacts on the fill within this facility given the nature of material and potential adverse implications of subsidence to the on-going stability of its current form. It is also requested that the DP&E include an SSEAR item requiring that Council be consulted in relation to these matters.

Council owned assets

The Tahmoor South Project Area also includes Council Assets in the vicinity of Bargo which are noted to be located on the western perimeter of the layout depicted within the referred PEA document. These Assets include the following structures which are viewed as being susceptible to subsidence related impacts:

- Bargo Sportsground comprised of a Community Hall, Skate Park, Scout Hall, playground and tennis courts.
- A community park (known as Radnor Park), comprised of a playground and public utility assets.
- Rest-a While Reserve on Rail side Avenue which contains public amenity facilities.

**The DP&E is requested to include an SSEAR item requiring a detailed assessment of potential subsidence related impacts on these facilities and to consult Council as part of this assessment.**

(e) Protection of threatened plants

Protection of koala habitat

Council participated in a Pilot Study with the Office of Environment and Heritage during 2016 that involved surveys in selected areas. A key finding of this Study was that the definition of koala habitat needs to adequately capture the usage of a site by koalas in both a local and landscape context.

In addition, Council has been successful in receiving funding from OEH to carry out vegetation mapping of koala habitat as well as the monitoring of the movement of known koala populations at strategic locations. Further funding from any future rounds offered by OEH will likely be sought to carry out more extensive mapping and monitoring. This will likely include surveys adjacent to Dog Trap Creek in the northern part of the Tahmoor South Project Area.

Information available from this Project to date as well as the Pilot Project indicates that there is considerable populations and movement of koalas within the Wollondilly LGA. This includes the recent sighting of a number of koalas within close proximity to the south-eastern boundary of the Tahmoor South Project Area. The protection of these populations is of high importance to Council and the local community.

Council lodged a submission on the Statement of Intended Effects associated with the review of *State Environmental Planning Policy-44- Koala Habitat Protection*. This submission welcomed the proposed expansion of the definition of 'koala habitat' but expressed concerns over inconsistencies of this definition with aspects of the *Biodiversity Conservation Act 2016*.

**The DP&E is requested SSEAR itemss which require, (based on the above activities of Council):**

- The undertaking of detailed koala surveys that takes into account the following activities to determine the presence of 'koala habitat' (as requested by Council's submission in regard to the review of SEPP 44)::

- The analysis of historical records to determine the previous presence of koalas and behavioural patterns of koalas on the site.
- The undertaking of comprehensive surveys to identify the presence of koalas consistent with best practice across all vegetation communities present on a site proposed for development.
- An analysis of the observed and identified potential behavioural usage of the site by koalas across all vegetation types within the site based on a detailed assessment, (which is not restricted to habitat species listed in the revised SEPP 44).
- The role of the site in a landscape context in allowing for the movement of koala based on a detailed assessment and analysis of existing records.

- Intended measures to protect koala habitat consistent with Guidelines in the updated SEPP 44 which must be developed in consultation with the OEH and Council.

Protection of threatened species

A high number of threatened species have been recorded in the eastern and southern part of the Project Area. It is assumed that further surveys will identify additional threatened species within the Tahmoor South Project Area. There is potential for a number of these specimens to be impacted as a consequence of vegetation clearance associated with the installation

Council has adopted a position that impacts associated with State Significant Developments and developments assessed under Part 4 of the *Environmental Planning and Assessment Act 1979* must be assessed at the same rigour. **The DP&E is therefore requested to note the position of Staff that the SEEAR's should include an item which requires impacts to threatened species associated with the Tahmoor South be assessed consistent with requirements contained in its current Development Control Plan.**

(f) Social related impacts associated with the Tahmoor South Project

Council broadly welcomed the preparation of the Social Impact Assessment Guidelines (SIA Guidelines) and the consultation that occurred as part of its preparation by the DP&E. The status and timeframe for adoption of these Draft Guidelines is uncertain. However, it is the view of Council Staff that this Policy applies to the Tahmoor South Project Application as a consequence of it being a new application rather than being a modification to an existing approved application.

**The DP&E is consequently requested to require the preparation of an SIA for the Tahmoor South Project in accordance with the draft Guidelines as an SSEAR.** The SIA is requested to contain the following broad components consistent with the position of Council and the local community it represents.

- Consultation with Council at the commencement and during the preparation of the SIA.
- Extensive community consultation at the commencement and during the preparation of the SIA.
- The assessment of direct and indirect Impacts associated with actual and potential damage to structures associated with impacts attributable to mine subsidence in regard to existing and future residential areas.

## 4) Concluding Statement

The seeking of comments regarding the issuing of Standard Secretary Assessment Requirements for the Tahmoor South Project is appreciated. Council has not adopted a formal position in regard to this Project. It is however requested that the completed draft SSEAR's be provided to Council for formal consideration regarding such a position.

The amendment of the referred Preliminary Environmental Assessment, (dated August 2012), to incorporate subsequent research, amendments to the applicable Policy framework and changes in longwall mining practices is requested. It is requested that SSEAR's for the Project be based on those recently provided by Government Agencies on the Hume Project and Dendrobium extension Project. It is also requested that they be based on the position of Council and the local community outlined in this submission regarding issues specifically associated with the Tahmoor South Project Area.

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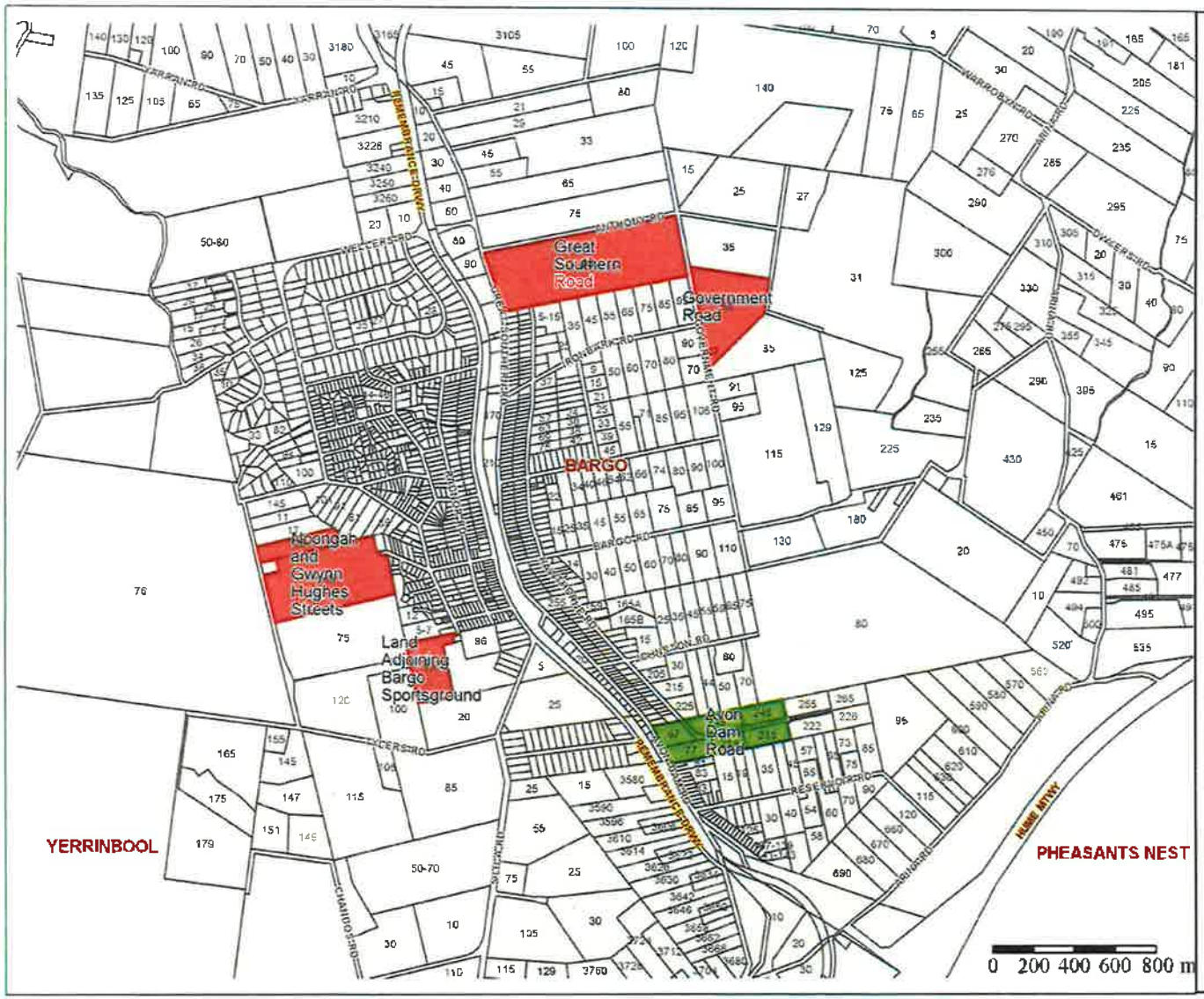


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    - Wilton Priority Growth Area Precinct Bound
    - Bingara Gorge Precinct
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  - Gazetted
  - Pre-Gateway Review
- Additional Cadastre
  - Registered
  - Proposed
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## Resolutions of Council associated with Mining Exploration and Production

**Resolutions of Council at its meeting of 16 March 2009**

1. That Council write to the Minister and Shadow Minister for Mining requesting that Councils be compensated through mining royalties and the Mine Subsidence Board for the additional cost of infrastructure projects.

2. That Council support the Association of Mining Related Councils in their endeavour to get a percentage of the mining royalties for such instances.

**Resolution of Council at its meeting of 14 August 2009**

1. That Wollondilly Shire Council write to the Minister for Primary Industries and Shadow Minister for Climate Change and Environmental Sustainability expressing its concerns over the recent cracking of Myrtle Creek.

**Resolution of Council at its meeting of 19 October 2009**

1. That Wollondilly Shire Council write to the Minister for Planning and Shadow Minister for Planning calling for third-party appeals to be allowed for Part 3A processes or that Part 3A be removed from NSW Government Policy.

**Resolution of Council at its meeting of 15 November 2010**

1. That Council send correspondence to the Minister for Planning requesting that a new Part 3A application be lodged for the Bulli Seam Project, given the significant changes to the original application by the proponent and the flaws in the original exhibition process.

**Resolution of Council at its meeting of March 2013**

1. That Wollondilly Council write to the Minister of Regional Infrastructure and Services requesting a review of the methodology used to classify the 'tiers' of Mining Affected Communities and expressing its concern at the relegation of Wollondilly's Community to Tier 3, excluding it from any support from the Resources for Regions Programs.

**Resolution of Council at its meeting of 11 December 2014**

1. That Council write to the Minister for Primary Industries and the Minister for Planning requesting that the impacts on communities and infrastructure from coal mine gas drainage be included in the criteria for Local Government assistance through the Resources to Regions Program.

**Resolution of Council at its meeting of 16 March 2015**

1. Council convene a meeting with invited community members of Douglas Park and representatives of Illawarra Coal to facilitate a consultation between the parties regarding Illawarra Coal's proposed gas extraction and power plant development in the Douglas Park area.

**Resolution of Council at its meeting of 20 July 2015**

1. That Council write to the Federal Minister for Environment, the Federal Minister for Agriculture, the NSW Minister for Planning, the NSW Minister for Primary Industries

and the NSW Minister for Industry Resources and Energy in regard to the approval of the Shenhua Watermark mine on the Liverpool Plains to:

- Express dismay regarding the approval of the mine on the Liverpool Plains by the Federal Government given the region's major role in Australia's food production balanced with a vulnerable environment and the unacceptable risk to this balance that the mine may cause.
- Express its concerns that in a local context, the productive peri-urban areas of Sydney are also being threatened by unsympathetic land uses.

**Resolutions of Council at its meeting of 20 July 2015**

1. That Council endorse the submission on exhibited components of the draft Integrated Mining Policy.

2. That Council send correspondence to the NSW Minister for Planning tat:
   (a) Acknowledges the benefits in introducing the Integrated Mining Policy.
   (b) Expresses disappointment that the exhibited Policy has not addressed issues raised in previous Council submissions.
   (c) Advises that Council is not able to finalise its position until all documents associated with the Policy have been publicly exhibited and submissions received.
   (d) Stresses the importance of the inclusion of all stakeholders in the notification process.

**Resolutions of Council at its meeting of 21 September 2015**

1. That Council continue to monitor the Douglas Park Mine Gas Drainage and Power Plant Proposal by South 32 and that Council continue to engage with residents of Douglas Park regarding their concerns about the proposal.

2. That Council throughout the process, advocate on behalf of the community, communicating their concerns to the consent authority, our state member, mining authority, and any other applicable minister/authority.

**Resolutions of Council at its meeting of 15 February 2016**

- That Council take a proactive role in advocating for the protection of the natural environment from impacts of mining under Redbank Creek.

- That Council write to the State Minister for Planning, the Minister for Environment and the Minister for Resources and Energy expressing its concern that compensation mechanisms for damage to the natural environment from mining impacts is not considered in the function of the Mine Subsidence Board and Council calls for this situation to be reviewed and remedied.

- That Council consider the allocation of resources in the third Quarterly Review to undertake advocacy regarding this issue.

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- That Council consider the allocation of resources in the third Quarterly Review to undertake advocacy regarding this issue.

**Resolutions of Council at its meeting of 21 March 2016**

- That Council write to the NSW Minister for Environment and NSW Minister for Resources and Energy requesting:
    - The establishment of on-going funding for investigations and monitoring of the condition of watercourses that are identified as being impacted by subsidence associated with underlying operations.
    - Ongoing funding be made available to local governments, research organisations and community groups upon the lodgement of suitably detailed applications.

**Resolutions of Council at its meeting of 16 May 2016**

- That Council requests a copy of the report investigating possible non-compliance regarding the conditions of consent for the Bulli Seam Operation Project and the Extraction Plan for long-walls 901-904 from the Department of Planning and Environment Compliance Team and EPA.
- That Council also request information from South 32 as to what their approved setback from the Nepean River is.
- That copies of these requests be forwarded to the Local Member for Wollondilly, Jai Rowell and that a report come back to Council on the responses received.

**Resolutions of Council at its meeting of 20 June 2016**:

- Write to the relevant Federal and State Ministers, the Federal and State local members, the Greater Blue Mountains World Heritage Area Advisory Committee and UNESCO demanding that action be taken to further investigate the causes of continued water loss from the World Heritage listed Thirlmere Lakes. That this action includes the funding and support of rigorous and detailed research into:
    - The water loss patterns and trends in the past and over current times.
    - Predictive modelling of the consequences to the Lakes's biology and hydrology of continued or prolonged water loss.
    - Targeted investigation into the suggested cause of the water loss in relation to the Tahmoor Mine's operations in the past and future.
    - The potential of engineered options to reinstate and maintain water levels to protect the biodiversity and hydrology of the Lakes.

- That Council, through the oversight of the Minerals and Energy Resource Committee, undertake a facilitated solutions focused forum to investigate and identify solutions to the continued observed water loss from the World Heritage listed Thirlmere Lakes and that Glencore and other key stakeholders associated with the three tiers of government be invited to participate in this forum.

**Resolutions of Council at its meeting of 18th July 2016**

- The Executive include the following recommendations in the Business Paper of the next available meeting of the Association with a view to advocate the position of Council and the local community defined by the supplied resolutions:

    i. The Association provide support to the resolutions of Wollondilly Shire Council regarding concerns over the continued observed water loss from the World Heritage listed Thirlmere Lakes and the conclusions of recent scientific studies regarding this matter.
    ii. Pursuant to i), Correspondence be sent to the NSW Minister for Resources and Energy (the Hon Anthony Roberts) and the NSW Minister for Primary Industries (the Hon Niall Blair) advising of the support to the resolutions and requesting a prompt response.

- That Council, through the oversight of its Minerals and Energy Resource Committee, undertake a facilitated solutions focused forum to investigate and identify solutions to the continued observed water loss from the World Heritage listed Thirlmere Lakes and that Glencore and other key stakeholders associated with the three tiers of government be invited to participate in this forum.

**Resolution of Council at its meeting on 19th December (in part) to**

- Expresses concern that Glencore has announced that the Tahmoor Colliery will close during 2017 and that this closure could hinder the research and possible resolution of the responsibilities of water losses in Thirlmere Lakes, which have been alleged to be caused by mining impacts.

- Seeks clarification on the potential of bonds held over the mine being available for the rehabilitation of the Lakes if the losses can be attributed to previous mining activities.

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Ref: D2017/64414

Paul Freeman
Senior Planner
Resource Assessments Planning Services
NSW Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Dear Mr Freeman

**Tahmoor South Project (SSD 17_8445)**
**Request for Input into Revised Secretary's Environmental Assessment Requirements**

I refer to your email received 10 May 2017 seeking WaterNSW's comments on the Revised Secretary's Environmental Assessment Requirements (SEARs) for Tahmoor South Project. WaterNSW appreciates the opportunity. WaterNSW has reviewed the Preliminary Environmental Assessment (PEA) previously prepared by Xstrata (dated August 2012) and offers the following comments for consideration.

Part of the proposed longwall mining, including part longwalls 1A, 10, 7, 46 and 47 in the south eastern part of mining domain, extends beneath land in the declared Sydney catchment area in the vicinity of Cow Creek, a tributary of the Nepean River which flows to Pheasant's Nest Weir. This area is also classed as a Schedule 1 Special Area (Metropolitan Special Area).

WaterNSW has an interest in the project as it has the potential to impact on the declared Sydney catchment area. In particular, the project has the potential to impact on groundwater yield to the declared Sydney catchment area (notably the catchments of Pheasants Nest Weir and Warragamba Dam). A number of the proposed longwalls have the potential to impact on the ecological integrity of the Metropolitan Special Area in the general vicinity of the access road to Nepean and Avon dams.

The project should aim within the declared Sydney catchment area:

1) to not impact on the quality and quantity of water in the declared Sydney water catchment area; and
2) to maintain ecological integrity

WaterNSW's comments below only relate to that part of the project which has the potential to impact on these areas and WaterNSW's infrastructure located within these areas.

WaterNSW has adopted a set of principles it considers essential to protect the drinking water supplies from the impacts of mining. As the development is located partly within the Metropolitan Special Area, the EIS should address these principles which can be found at http://www.waternsw.com.au/water-quality/catchment/mining/principles

To address the above identified issues, WaterNSW requests that the following be included in the revised SEARs:

1. As the development is partly located within the Sydney Drinking Water Catchment, clauses 9(1) and (2) and 10(1) of the State Environmental Planning Policy (Sydney Drinking Water Catchment) 2011 apply. The EIS specifically address these clauses. In particular, the EIS must describe with clarity and justify how the development would have a neutral or beneficial effect on water quality.
2. The full description of the development and existing environment should also include those aspects which have the potential to impact on the quality and quantity of surface and ground waters at and adjacent to the site. This includes:
    - the mining proposal and mine layout
    - the geology of the mining area including the location, mapping and nature of any geological structures overlying and adjacent to the proposed mining areas
    - the location, mapping and geomorphology of all watercourses, any rockbars, water pools, waterfalls, cliffs, swamps overlying and adjacent to the proposed mining areas
    - the hydrogeological fluxes between surface and ground waters
    - the location and description of all water monitoring locations/points (surface and ground waters).
3. The detailed assessment of the mining proposal on water resources including groundwater and surface water associated with subsidence should also consider the design, construction, operational, decommissioning phases and cumulative impacts and include:
    - impacts on water quantity and quality of overlying and adjacent water resources including Pheasant's Nest Weir, Nepean River, Cow Creek and their tributaries and groundwater systems connected to the catchments of Pheasants Nest Weir and to Warragamba Dam using scientifically sound and rigorous numerically modelling and sufficient, appropriate and representative baseline data
    - impacts of the proposed mining on receiving water quantity and quality, both surface and groundwater systems and associated impacts on interaction and baseflows of surface waters
    - impacts on the ecological integrity of the Metropolitan Special Area in the general vicinity of Cow Creek.
    - details of proposed measures to be adopted to mitigate impacts and effectiveness of the measures including environmental performance measures
    - details of proposed monitoring of groundwater levels, surface water flows, groundwater and surface water quality, along with information as to how the proposed monitoring will be used to monitor and, if necessary, mitigate impacts on surface water and groundwater resources, and
    - details of the contingency plans to manage risks.

It is requested that WaterNSW be included as a stakeholder for the proposal and that WaterNSW would appreciate being notified when the Department has issued the revised SEARs.

WaterNSW would appreciate being consulted and involved as the project proceeds through the assessment process.

If you wish to discuss this letter or the project more generally please do not hesitate to contact Miles Ellis on 4724 2458 (9865 2502 from 29 May 2017).

**MALCOLM HUGHES**
**Manager Catchment Protection**

24/5/17