

# **Appendix 2**

## **Director-General's Requirements and Requirements of Consulted Government Agencies**

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Planning &  
Infrastructure

Development Assessment Systems & Approvals  
Mining Projects  
Contact: Nicholas Brbot  
Phone: (02) 9228 2019  
Fax: (02) 9228 6466  
Email: nicholas.brbot@planning.nsw.gov.au

Mitchell Bland  
R.W. Corkery & Co Pty Ltd  
62 Hill Street  
ORANGE NSW 2800

Dear Mr Bland

**Avoca Tank Project (DGR 766)  
Director-General's Requirements**

I refer to your request for the Director-General's Requirements (DGRs) for the above development, which is designated local development under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act). I have attached a copy of the DGRs for the Environmental Impact Statement (EIS) required for this development. These requirements have been prepared in consultation with relevant State agencies and are based on the information your company has provided to date. I have also attached the agencies' input into the formation of the DGRs, which you are also advised to consider closely during your preparation of the EIS. Detailed requirements for the EIS were not received from the Department of Water and Energy, consequently you are advised to liaise directly with them and obtain any further requirements.

In your request for DGRs, it was indicated that the proposal will require approval under the *Protection of the Environment Operations Act 1997*, *Water Management Act 2000* and *Roads Act 1993*. Accordingly, the proposal is classified as integrated development under section 91 of the EP&A Act. If further integrated approvals are identified, you must undertake your own consultation with the relevant public authorities, and address their requirements in the EIS.

When you lodge your DA for the proposal, you must provide:

- two hard copies and one electronic copy of the EIS to the Department;
- one hard and one electronic copy of the EIS to each identified integrated approval authority; and
- a cheque for \$320 to each identified integrated approval authority, to offset costs involved in the review of the DA and EIS. Do not send a cheque to the Department of Planning and Infrastructure as it is not an integrated approval authority.

If your proposal contains any actions that could have a significant impact on matters of National Environmental Significance, then it will require an additional approval under the Commonwealth's *Environment Protection Biodiversity Conservation Act 1999* (EPBC Act). This approval is in addition to any approvals required under NSW legislation. If you have any questions about the application of the EPBC Act to your proposal, you should contact the Department of Sustainability, Environment, Water, Population and Communities in Canberra (6274 1111 or [www.environment.gov.au](http://www.environment.gov.au)).

Should the consent authority approve the proposal, then under section 22 of the *Mine Health and Safety Act 2004*, the owner or general manager of a mine or quarry must not undertake mining or quarrying operations without first nominating a person as the operator of the mine or quarry to the Chief Inspector of Mines. The Applicant should contact the local Mine Safety Operations Branch of the Division of Resources and Energy within the Department of Trade, Investment, Regional Infrastructure and Services in regard to this and other matters relating to compliance with the *Mine Health and Safety Act 2004*.

If you have any enquiries about these requirements, please contact Nicholas Brbot.

Yours sincerely

A handwritten signature in blue ink that reads 'D Kitto' followed by the date '25/9/13'.

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

<b>Director-General's Requirements</b>	
<b>Section 78A(8) of the <i>Environmental Planning and Assessment Act 1979</i> and Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i>.</b>	
<b>Designated Development</b>	
<b>DGR Number</b>	766
<b>Proposal</b>	Development of a box cut mine; underground mine and associated surface infrastructure to extract up to 400,000 tonnes of copper-gold ore per year to be transported to the Girilambone Mine for processing, for a period of up to 8 years.
<b>Location</b>	Mitchell Highway, Coolabah, approximately 7km northwest of Girilambone.
<b>Applicant</b>	Tritton Resources Pty Limited
<b>Date of Expiry</b>	25 September 2015
<b>General Requirements</b> <small>(refer Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i>)</small>	<p>The Environmental Impact Statement (EIS) must include:</p> <ul style="list-style-type: none"> <li>• an executive summary;</li> <li>• a full/detailed description of the proposal, including:                             <ul style="list-style-type: none"> <li>- identification of the resource;</li> <li>- description of the site;</li> <li>- a history of any previous quarrying operations on the site;</li> <li>- the proposed works (including rehabilitation works);</li> <li>- the duration and intensity of extraction operations;</li> <li>- any likely interactions between the proposed operations and existing/approved development and land use in the area; and</li> <li>- a detailed justification for the development;</li> </ul> </li> <li>• a conclusion justifying the development on economic, social and environmental grounds, taking into consideration whether the proposal is consistent with the objects of the <i>Environmental Planning &amp; Assessment Act 1979</i>; and</li> <li>• a signed declaration from the author of the EIS, certifying that the information contained within the document is neither false nor misleading.</li> </ul>
<b>Key Issues</b>	<p>The EIS must also assess the potential impacts of the proposal during the establishment, operation and decommissioning of the proposal. The EIS must describe what measures would be implemented to avoid, minimise, mitigate, offset, manage and/or monitor the potential impacts on:</p> <ul style="list-style-type: none"> <li>• <b>Land Resources</b> – including a assessment of the potential impacts on:                             <ul style="list-style-type: none"> <li>- soils and land capability, including an assessment of activities that would cause erosion and the measures proposed to minimise erosion and sedimentation;</li> <li>- landforms and topography, including cliffs, rock formations, steep slopes, etc; and</li> <li>- land use, including agricultural, forestry and conservation lands;</li> </ul> </li> <li>• <b>Water Resources</b> – including:                             <ul style="list-style-type: none"> <li>- identification of any licensing requirements or other approvals under the <i>Water Act 1912</i> and/or <i>Water Management Act 2000</i>;</li> <li>- an assessment of potential impacts on the quality and quantity of existing surface and ground water resources;</li> <li>- a description of the measures proposed to ensure the development can operate in accordance with the requirements of any relevant Water Sharing Plan or water source embargo;</li> <li>- an annual site water balance for representative years of the proposed life of the project; and</li> <li>- a detailed description of the proposed water management system (including sewage), water monitoring program and other measures to mitigate surface and groundwater impacts;</li> </ul> </li> <li>• <b>Biodiversity</b> – including:                             <ul style="list-style-type: none"> <li>- accurate predictions of any vegetation clearing on site or for any road upgrades;</li> <li>- a detailed assessment of the potential impacts of the development on any threatened species or populations or their habitats, endangered ecological communities and groundwater dependent ecosystems;</li> <li>- a detailed description of the measures to maintain or improve the</li> </ul> </li> </ul>

	<ul style="list-style-type: none"> <li>- consideration of a Biodiversity Offset Strategy;</li> <li>• <b>Heritage</b> – including:             <ul style="list-style-type: none"> <li>- an Aboriginal cultural heritage assessment (addressing both cultural and archaeological significance) which must demonstrate effective consultation with Aboriginal communities in determining and assessing impacts, and developing and selecting mitigation options and measures; and</li> <li>- a Historic heritage assessment (including archaeology) which must include a statement of heritage impact (including significance assessment) for any State significant or locally significant historic heritage items;</li> </ul> </li> <li>• <b>Traffic and Transport</b> – including:             <ul style="list-style-type: none"> <li>- an assessment of potential traffic impacts on the capacity, efficiency and safety of the road network, in particular the assessment must include a Road Safety Audit to review the condition of the proposed routes and identify any safety issues which may exacerbated by the development; and</li> <li>- a description of the measures that would be implemented to maintain and/or improve the capacity, efficiency and safety of the road network in the surrounding area over the life of the project;</li> </ul> </li> <li>• <b>Noise and Vibration</b> <ul style="list-style-type: none"> <li>- particularly any potential noise and vibration impacts on nearby private receptors due to construction, operation or road haulage;</li> </ul> </li> <li>• <b>Air Quality</b> – particularly any potential dust impacts on nearby private receptors from construction, operation or road haulage;</li> <li>• <b>Rehabilitation</b> – including:             <ul style="list-style-type: none"> <li>- a detailed description of the proposed rehabilitation measures that would be undertaken during quarry closure;</li> <li>- a detailed rehabilitation strategy, including justification for the proposed final land form and consideration of the objectives of any relevant strategic land use plans or policies; and</li> <li>- the measures that would be undertaken to ensure sufficient financial resources are available to implement the proposed rehabilitation strategy;</li> </ul> </li> <li>• <b>Waste Management</b> – including importation of any waste material to the site;</li> <li>• <b>Hazards and Risks</b> – including any transport or storage of dangerous goods;</li> <li>• <b>Visual Amenity;</b></li> <li>• <b>Agricultural Impacts;</b></li> <li>• <b>Utilities and Services;</b> and</li> <li>• <b>Social and Economic Impacts.</b></li> </ul>
<p><b>Environmental Planning Instruments</b></p>	<p>The EIS must assess the proposal against the relevant environmental planning instruments, including (but not limited to):</p> <ul style="list-style-type: none"> <li>• <i>State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007;</i></li> <li>• <i>State Environmental Planning Policy No. 33 – Hazardous and Offensive Development;</i></li> <li>• <i>State Environmental Planning Policy No. 44 – Koala Habitat Protection;</i></li> <li>• <i>State Environmental Planning Policy No. 55 – Remediation of Land;</i></li> <li>• <i>Bogan Local Environmental Plan 2011;</i> and</li> <li>• relevant development control plans and section 94 plans, strategies and management plans.</li> </ul>

<p><b>Guidelines</b></p>	<p>The EIS must take into account relevant State Government policies and guidelines, in particular the <i>Industrial Noise Policy</i> (EPA 2001), <i>Aquifer Interference Policy</i> (DPI 2012), <i>Soils and Construction: Managing Urban Stormwater</i> (Landcom 2004), <i>Guidelines for Fresh and Marine Water Quality and Guidelines for Water Quality Monitoring and Reporting</i> (ANZECC), <i>Using the ANZECC Guideline and Water Quality Objectives in NSW</i> (DEC), <i>Approved Methods for the Modelling and Assessment of Air Pollutants</i> (DEC), <i>Approved Methods for Sampling and Analysis of Air Pollutants</i> (DEC), <i>Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities – Working Draft</i> (DECC 2004), <i>The Threatened Species Assessment Guideline – The Assessment of Significance</i> (DECC 2007), <i>Draft Guidelines for the Assessment of Aquatic Ecology in EIA</i> (DUAP 1998), <i>Guide to investigation, assessing and reporting on Aboriginal cultural heritage in NSW</i> (OEH 2011), <i>Code of Practice of the Archaeological Investigation of Aboriginal Objects in New South Wales</i> (DECCW 2010), <i>Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010</i> (DECCW 2010), <i>Draft Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation</i> (DEC 2005), <i>Guide to Traffic Generating Development</i> (RTA), <i>Road Design Guide</i> (RTA) or latest versions.</p> <p>During the preparation of the EIS you must consult the Department's EIS Guideline – Extractive Industries – Quarries. This guideline is available for purchase from the Department's Information Centre, 23-33 Bridge Street, Sydney or by calling 1300 305 695.</p>
<p><b>Consultation</b></p>	<p>During the preparation of the EIS, you must consult with Council and should consult with the relevant local, State and Commonwealth government authorities, service providers and community groups, and address any issues they may raise in the EIS. In particular, you should consult surrounding landowners and occupiers that are likely to be impacted by the proposal.</p> <p>Details of the consultations carried out and issues raised must be included in the EIS.</p>



*"Comfortable Country Living"*

22 October 2013

**Mitchell Bland**  
**R.W. Corkery & CO.Pty. Limited**  
62 Hill Street  
ORANGE NSW 2800

Dear Mitchell

### **Avoca Tank Project**

I refer to your request for Bogan Shire Council (BSC) to provide comment in relation to the preparation of the Environmental Impact Statement for the Tritton Resources Pty Ltd Avoca Tank Project. BSC recommends the following points be considered and incorporated prior to determination of the project.

#### **Traffic Levels**

Detail the expected increased level in traffic generation and changes in transportation routes.

#### **Impact on Water Quality**

Ensure the control and management of surface and ground waters are adequately addressed.

#### **Waste Rock Emplacement Design**

Ensure waste rock emplacements are of adequate design. Design should consider minimising visual impact whilst ensuring a stable structure.

#### **Acid Mine Drainage**

Illustrate management practices to predict, identify and manage potentially acid forming material that will prevent the formation of acid mine drainage.

#### **Air Quality Management**

Detail management activities to reduce and suppress dust generation.

#### **Bushfire Management**

Detail management activities to reduce the potential for bushfires and emergency procedures in the event of a bushfire.

Telephone: (02) 6835 9000  
Facsimile: (02) 6835 9011  
Email: [admin@bogan.nsw.gov.au](mailto:admin@bogan.nsw.gov.au)  
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ABN: 68 886 242 083

Address all  
communications to:  
The General Manager  
PO Box 221  
Nyngan NSW 2825

Council Chambers  
81 Cobar Street  
Nyngan  
New South Wales  
Australia



**Rehabilitation**

Provide sufficient detail of rehabilitation activity and expected timing with a management focus on progressive rehabilitation where practical.

Should you require any further information or wish to discuss this matter further please contact Timothy Riley on 68359000 between the hours of 8.30 am and 4.00 pm, Monday to Friday.

Yours sincerely,



**Timothy Riley**  
Manager Development and  
Environmental Services  
Bogan Shire Council





Chris Dickson  
R W Corkery & Co  
62 Hill St  
ORANGE NSW 2800

Contact Tim Baker  
Phone 02 6841 7403  
Mobile 0428 162 097  
Fax 02 6884 0096  
Email [Tim.Baker@water.nsw.gov.au](mailto:Tim.Baker@water.nsw.gov.au)  
Our ref ER22616  
Your ref

Dear Mr Dickson

**Subject: Avoca Tank Project – Tritton Resources – Request for Input into Director General’s Requirements**

I refer to your email dated 1st October 2013 requesting input into the Director General’s Requirements for the Avoca Tank Project. The NSW Office of Water has reviewed the Background Paper and provides the following advice to be addressed in preparation of the Environmental Impact Statement (EIS).

**1. Key Issues**

NSW Office of Water requires the EIS for the proposal to demonstrate the following:

1. Adequate and secure water supply for the proposal. Confirmation that water supplies for construction and operation are sourced from an appropriately authorised and reliable supply.
2. Identification of site water demands, water sources (surface and groundwater), water disposal methods and water storage structures in the form of a water balance. The water balance is to outline the proposed water management on the site and to also include details of any water reticulation infrastructure that supplies water to and within the site.
3. An impact assessment on adjacent licensed water users (surface and groundwater), riparian ecosystems and groundwater-dependent ecosystems. This is to meet the requirements of relevant state policy such as the NSW Aquifer Interference Policy, in addition to the objects and principles of the *Water Management Act 2000* which can be accessed at the following link: <http://www.water.nsw.gov.au/Water-management/Law-and-Policy/default.aspx>
4. An assessment of the potential to intercept groundwater and predicted maximum annual dewatering volumes, water quality and disposal/retention methods. This is to also include the modelled zone of influence for a number of stages both during mining operations and post mine life until equilibrium is achieved. This is to meet the requirements of the NSW Aquifer Interference Policy.
5. An impact assessment of the construction, operation and final landform of the proposed on-site waste rock emplacement, water management ponds and other potentially contaminating facilities. This is to include an assessment of the processing, management and disposal of potentially contaminating materials at the Tritton Copper Mine.
6. An assessment of any proposed modification to surface water management including modelling of redistribution of waters and an assessment of impact on neighbouring properties and the associated watercourse and floodplain.

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209 Cobra St, Dubbo NSW 2830 | PO Box 717 Dubbo NSW 2830  
t (02) 6841 7403 | f (02) 6884 0096 | [www.water.nsw.gov.au](http://www.water.nsw.gov.au)



7. An impact assessment of any proposed works within or adjacent to watercourses and adequate provision of buffer requirements. This is to also include proposed pipelines and temporary or permanent vehicle crossings within the project application area. Ability to achieve the principles of the *Water Management Act 2000* and the requirements of the "*Guidelines for Controlled Activities on Waterfront Land*" will be required. The relevant guidelines can be accessed at the following link: <http://www.water.nsw.gov.au/Water-Licensing/Approvals/Controlled-activities/default.aspx>
8. Preparation of a surface water management plan and groundwater management plan to integrate the proposed water balance and management for the site and to identify adequate mitigating and monitoring requirements for both water quality and water volume.
9. Existing and proposed water licensing requirements in accordance with the *Water Act 1912* and *Water Management Act 2000* (whichever is relevant). This is to demonstrate that existing licences (include licence numbers) and licensed uses are appropriate, and to identify where additional licences are proposed. The proponent will be required to ensure they hold adequate licensed entitlement commensurate with the anticipated volume of groundwater take prior to this take occurring. Groundwater take includes the volume of water intercepted by the proposed activities both via the underground mine and any extraction bores, in addition to any ongoing take induced by groundwater inflows and evaporative loss when the mine workings begin to fill. The maximum annual requirements need to be regularly reviewed through updates of modelling and reviews of metering data.
10. Adequate mitigating and monitoring requirements to address surface water and groundwater impacts.

A general list of environmental assessment requirements to be addressed in the EIS is provided in Attachment 1. The proposal is located within the Lachlan Fold Belt MDB Groundwater Source of the Water Sharing Plan for the NSW Murray Darling Basin Fractured Rock Groundwater Sources and the Lower Bogan River Water Source of the Water Sharing Plan for the Macquarie Bogan Unregulated and Alluvial Water Source. Any requirement for additional groundwater or surface water entitlement will need to be obtained through purchase and trade in accordance with these plans. These plans can be accessed at the following link: <http://www.water.nsw.gov.au/Water-management/Water-sharing/default.aspx>

Should you have any further queries in relation to this submission please do not hesitate to contact Tim Baker on (02) 6841 7403.

Yours sincerely



**Mitchell Isaacs**  
Manager Strategic Stakeholder Liaison  
3 October 2013



## ATTACHMENT 1

### NSW Office of Water Environmental Assessment Requirements Avoca Tank Project

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

#### Relevant Legislation

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

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

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

#### Water Sharing Plans

Gazetted Water Sharing Plans (WSPs) prepared under the provisions of the *WMA* establish rules for access to, and the sharing of water between the environmental needs of the surface or groundwater source and water users. If the proposal is within a gazetted WSP area the assessment is required to demonstrate how the proposal is consistent with the relevant access and trading rules of the WSP. Refer to: <http://www.water.nsw.gov.au/Water-Management/Water-sharing/default.aspx> The following WSPs are relevant to the site.

- *Water Sharing Plan for the NSW Murray-Darling Basin Fractured Rock Groundwater Sources 2012*
- *Water Sharing Plan for the Macquarie-Bogan Unregulated and Alluvial Water Sources 2012*

#### Relevant Policies

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

- *NSW Aquifer Interference Policy (2012)*
- *NSW Groundwater Policy Framework Document – General (August 1997)*
- *NSW Groundwater Quality Protection Policy (1998)*
- *NSW State Groundwater Dependent Ecosystem Policy (2002)*
- *NSW State Rivers and Estuaries Policy (1993)*
- *NSW Sand and Gravel Extraction Policy for Non-Tidal Rivers (1992)*
- *NSW Wetlands Policy (2010)*

These documents can be found at:

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

#### Guidelines

The assessment is required to take into account the following guidelines as applicable:

- *Australian Groundwater Modelling Guidelines (2012)*
- *MDBC Guidelines on Groundwater Flow Modelling (2000)*
- *Guidelines for the Assessment and Management of Groundwater Contamination (2007)*
- *Guidelines for Controlled Activities on Waterfront Land:*
  - Riparian corridors (and associated Vegetation Management Plans)
  - Watercourse crossings
  - Laying pipes and cables in watercourses
  - Outlet structures
  - In-stream works

These documents can be found at:

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

<http://archive.nwc.gov.au/library/waterlines/82>

### Groundwater

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

#### Groundwater Source

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

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

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

- Details of any proposed monitoring programs, including water levels and quality data.
- Reporting procedures for any monitoring program including mechanism for transfer of information.
- Description of the remedial measures or contingency plans proposed.

#### Licensing

- All proposed groundwater works, including bores for the purpose of investigation, extraction, dewatering, testing or monitoring must be identified in the proposal and an approval obtained from the Office of Water prior to their installation. Approved SSD and SSI projects may be excluded from the requirement for approvals due to Section 89J and 115ZG of the *Environmental Planning and Assessment Act 1979*.
- All predicted groundwater take must be accounted for through adequate licensing.

#### Groundwater Dependent Ecosystems (GDEs)

The assessment is required to identify any impacts on GDEs. GDEs are ecosystems which have their species composition and natural ecological processes wholly or partially determined by groundwater.

GDEs represent a vital component of the natural environment. GDEs can vary dramatically in how they depend on groundwater from having occasional or no apparent dependence through to being entirely dependent. GDEs occur across both the surface and subsurface landscapes ranging in area from a few metres to many kilometres. Increasingly, it is being recognised that surface and groundwaters are often interlinked and aquatic ecosystems may have a dependence on both.

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

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

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

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

A number of gazetted WSPs list and map priority GDEs and set out the management strategies and actions for sharing and protecting groundwater quality, quantity and dependent ecosystems. As indicated above, any GDEs that may be affected significantly need to be clearly identified and the impacts quantified to enable proper assessment.

### Surface Water

The Office of Water is responsible for the management of rivers, estuaries, wetlands and adjacent riverine plains so they can sustain environmental, social and economic uses for the people in New South Wales.

### Watercourse/Riparian

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

- Identify the sources of surface water.
- Details of stream order (using the Strahler System).
- Details of any proposed surface water extraction, including quantity, purpose, location of existing pumps, dams, diversions, cuttings and levees.
- Details of available surface water licences that could be purchased to account for any proposed extractions.
- Detailed description of any proposed development or diversion works including all construction, clearing, draining, excavation and filling.
- An assessment of the impacts of the proposed methods of excavation, construction and material placement on the watercourse and associated vegetation.
- A detailed description of all potential water related environmental impacts of any proposed development in terms of riparian vegetation, sediment movement, water quality and hydrologic regime.
- A description of the design features and measures to be incorporated into any proposed development to guard against anything more than minimal long term actual and potential

environmental disturbances, particularly in respect of maintaining the natural hydrologic regime and sediment movement patterns and the identification of riparian buffers. (See note below)

- Details of the impact on water quality and remedial measures proposed to address more than minimal adverse effects.

Riparian corridors form a transition zone between terrestrial and aquatic environments and perform a range of important environmental functions. The protection or restoration of vegetated riparian areas is important to maintain or improve the geomorphic form and ecological functions of watercourses through a range of hydrologic conditions in normal seasons and also in extreme events. Refer to NSW Office of Water Guidelines for Controlled Activities (July 2012) - available via: <http://www.water.nsw.gov.au/Water-Licensing/Approvals/Controlled-activities/default.aspx>

#### Water Management Structures/Dams

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

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

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

#### **Basic Landholder Rights**

The WMA identifies Basic Landholder Rights (BLRs) for access to water whereby landholders over an aquifer or with river or lake frontage can access water for domestic (household) purposes or to water stock without the need for a water licence (although a works approval may still be required for a bore utilising BLR). Pipeline constructions and easements may therefore affect existing BLR users and therefore all potentially affected BLR users need to be identified and the impacts quantified.

#### **Sustainable Water Supply**

Competition for water in NSW is extremely high. In areas where a Water Sharing Plan (WSP) has commenced, a long term average extraction limit has been established which constrains overall growth in extractions in an area. In these areas there are limited types of new licenses that can be issued, for example for aboriginal cultural purposes or growth in town water supplies. Therefore in most instances new enterprises are required to enter the water market to purchase adequate water licences to meet their water demand requirements.

In areas where a WSP has not yet commenced, the NSW Government has established embargoes on applying for new licences. There are limited exemptions in some areas which need to be considered and applied for by a proponent. If an exemption does not apply, then again new enterprises need to enter the water market to purchase the required water licences. In some areas where a WSP has not yet commenced, there is still available water and the proponent may be able to apply for a new licence to account for the water taken from that water source.

The onus is on the proponent to assess which of the above is relevant and identify the potential sources of water of an appropriate reliability and quantity to meet their water supply requirements. The water supply requirements and potential water available should be identified in the EIS to enable NOW to assess the viability of the water supply required. Assurances should also be made that the proponent will enter the water market as required.

Therefore the assessment is required to address the issue of provision of a sustainable water supply for any project proposal. The assessment should include Water Management Plans detailing how a sustainable water supply can be sourced and implemented. Through the implementation of BASIX, Integrated Water Cycle Management and Water Sensitive Urban Design, any proposed development should also exhibit high water use efficiency.

**End Attachment 1**

859.



BY:.....



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

Attention: Mr Nicholas Brbot

cc: Mr Mitchell Bland (R.W. Corkery & Co)

Notice Number 1515229  
File Number LIC07/2379-07  
Date 04-Sep-2013

**RE: "Avoca Tank Project - DGR ID No. 766"**

I refer to your request for the Environment Protection Authority (EPA) requirements for the preparation of an Environmental Assessment (EA) in regard to the above proposal for which the EPA attended a Planning Focus Meeting (PFM) on 17 June 2013.

The EPA has considered the details of the proposal as provided by the applicant and outlined at the PFM and has identified the information it requires to assess the project in Attachment A. In summary, the EPA's key information requirements for the proposal include an adequate assessment of:

1. The impact of potential acid generation from waste rock, including proposed methods of encapsulation;
2. Water management including the potential impact of water pollution on local watercourses (including water demand and management requirements);
3. The impact on groundwater, including impact on groundwater dependant ecosystems and other water users;
4. Assessment of air quality impacts during both construction and operation; including mitigation strategies and management of dust.
5. Assessment of noise and vibration impacts during both construction and operation, including traffic noise. The assessment should address the impacts on nearby receptors and noise amenity in accordance with the NSW Industrial Noise Policy; and identify strategies to mitigate potential noise impacts.
6. Assessment of cumulative impacts during construction and operation.

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Based on the information supplied with the formal request for DGRs, the applicant will require an Environment Protection Licence to carry out Scheduled Development Works and Scheduled Activities at the premises. The applicant will need to make a separate application to the EPA to obtain this licence should the project be granted development consent.

The EPA notes all aspects of the project must be assessed in addressing the key information requirements.

For all components of the proposal, the actions that will be taken to avoid or mitigate environmental impacts, or compensatory measures to minimise unavoidable impacts must be fully detailed. In carrying out the assessment, the applicant should refer to the relevant guidelines in Attachments A and B and also any industry codes of practice or best environmental management practice guidelines.

To assist the EPA in assessing the EIS it is requested that the EIS follow the format of DIPNR's EIS guidelines (where in existence) and/or the specific EIS requirements as outlined in the attachments.

The EPA requests that 1 x hard copy and 1 x electronic copy of the EIS be provided to the EPA when the proponent lodges its application. These documents should be lodged at the Dubbo office of the Department, PO Box 2111, Dubbo NSW 2830. If you have any queries regarding this matter please contact Samantha Wynn at the Dubbo office by telephoning (02) 6883 5330.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Bradley Tanswell', written over a horizontal dotted line.

**Bradley Tanswell**

**Acting Head Pesticides, Operations & Planning**

**Unit**

**North - Dubbo**

(by Delegation)

Attachment A: EIS Requirements for Avoca Tank Project

Attachment B: General Guidance Material



## ATTACHMENT A: EIS REQUIREMENTS FOR AVOCA TANK PROJECT

### How to use these requirements

The EPA requirements have been structured in accordance with the DIPNR EIS Guidelines, as follows. It is suggested that the EIS follow the same structure:

- A. Executive summary
- B. The proposal
- C. The location
- D. Identification and prioritisation of issues
- E. The environmental issues
- F. List of approvals and licences
- G. Compilation of mitigation measures
- H. Justification for the proposal



## **A Executive summary**

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The executive summary should include a brief discussion of the extent to which the proposal achieves identified environmental outcomes.

## **B The proposal**

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### **1. Objectives of the proposal**

- The objectives of the proposal should be clearly stated and refer to:
  - a) the size and type of the operation, the nature of the processes and the products, by-products and wastes produced
  - b) a life cycle approach to the production, use or disposal of products
  - c) the anticipated level of performance in meeting required environmental standards and cleaner production principles
  - d) the staging and timing of the proposal and any plans for future expansion
  - e) the proposal's relationship to any other industry or facility.

### **2. Description of the proposal**

#### **General**

- Outline the production process including:
  - a) the environmental "mass balance" for the process – quantify in-flow and out-flow of materials, any points of discharge to the environment and their respective destinations (sewer, stormwater, atmosphere, recycling, landfill etc)
  - b) any life-cycle strategies for the products.
- Outline cleaner production actions, including:
  - a) measures to minimise waste (typically through addressing source reduction)
  - b) proposals for use or recycling of by-products
  - c) proposed disposal methods for solid and liquid waste
  - d) air management systems including all potential sources of air emissions, proposals to re-use or treat emissions, emission levels relative to relevant standards in regulations, discharge points
  - e) water management system including all potential sources of water pollution, proposals for re-use, treatment etc, emission levels of any wastewater discharged, discharge points, summary of options explored to avoid a discharge, reduce its frequency or reduce its impacts, and rationale for selection of option to discharge.
  - f) soil contamination treatment and prevention systems.
- Outline construction works including:



- a) actions to address any existing soil contamination
- b) any earthworks or site clearing; re-use and disposal of cleared material (including use of spoil on-site)
- c) construction timetable and staging; hours of construction; proposed construction methods
- d) environment protection measures, including noise mitigation measures, dust control measures and erosion and sediment control measures.

### **Air**

- Identify all sources of air emissions from the development.  
*Note: emissions can be classed as either:*
  - point (eg emissions from stack or vent) or
  - fugitive (from wind erosion, leakages or spillages, associated with loading or unloading, conveyors, storage facilities, plant and yard operation, vehicle movements (dust from road, exhausts, loss from load), land clearing and construction works).
- Provide details of the project that are essential for predicting and assessing air impacts including:
  - a) the quantities and physio-chemical parameters (eg concentration, moisture content, bulk density, particle sizes etc) of materials to be used, transported, produced or stored
  - b) an outline of procedures for handling, transport, production and storage
  - c) the management of solid, liquid and gaseous waste streams with potential for significant air impacts.

### **Noise and vibration**

- Identify all noise sources from the development (including both construction and operation phases). Detail all potentially noisy activities including ancillary activities such as transport of goods and raw materials.
- Specify the times of operation for all phases of the development and for all noise producing activities.
- For projects with a significant potential traffic noise impact provide details of road alignment (include gradients, road surface, topography, bridges, culverts etc), and land use along the proposed road and measurement locations – diagrams should be to a scale sufficient to delineate individual residential blocks.

### **Water**

- Provide details of the project that are essential for predicting and assessing impacts to waters:
  - a) including the quantity and physio-chemical properties of all potential water pollutants and the risks they pose to the environment and human health, including the risks they pose to Water Quality Objectives in the ambient waters (as defined on [www.environment.nsw.gov.au/leg](http://www.environment.nsw.gov.au/leg), using technical criteria derived from the Australian and New Zealand Guidelines for Fresh and Marine Water Quality, ANZECC 2000)



- b) the management of discharges with potential for water impacts
- c) drainage works and associated infrastructure; land-forming and excavations; working capacity of structures; and water resource requirements of the proposal.
- Outline site layout, demonstrating efforts to avoid proximity to water resources (especially for activities with significant potential impacts eg effluent ponds) and showing potential areas of modification of contours, drainage etc.
- Outline how total water cycle considerations are to be addressed showing total water balances for the development (with the objective of minimising demands and impacts on water resources). Include water requirements (quantity, quality and source(s)) and proposed storm and wastewater disposal, including type, volumes, proposed treatment and management methods and re-use options.

#### **Waste and chemicals**

- Provide details of the quantity and type of both liquid waste and non-liquid waste generated, handled, processed or disposed of at the premises. Waste must be classified according to the *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-liquid Wastes* (NSW EPA, 1999).
- Provide details of liquid waste and non-liquid waste management at the facility, including:
  - a) the transportation, assessment and handling of waste arriving at or generated at the site
  - b) any stockpiling of wastes or recovered materials at the site
  - c) any waste processing related to the facility, including reuse, recycling, reprocessing (including composting) or treatment both on- and off-site
  - d) the method for disposing of all wastes or recovered materials at the facility
  - e) the emissions arising from the handling, storage, processing and reprocessing of waste at the facility
  - f) the proposed controls for managing the environmental impacts of these activities.

Provide details of spoil disposal with particular attention to:

- a) the quantity of spoil material likely to be generated
- b) proposed strategies for the handling, stockpiling, reuse/recycling and disposal of spoil
- c) the need to maximise reuse of spoil material in the construction industry
- d) identification of the history of spoil material and whether there is any likelihood of contaminated material, and if so, measures for the management of any contaminated material
- e) designation of transportation routes for transport of spoil.
- Provide details of procedures for the assessment, handling, storage, transport and disposal of all hazardous and dangerous materials used, stored, processed or disposed of at the site, in addition to the requirements for liquid and non-liquid wastes.
- Provide details of the type and quantity of any chemical substances to be used or stored and describe arrangements for their safe use and storage.
- Reference should be made to the guidelines: *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes* (NSW EPA, 1999).



### **ESD**

- Demonstrate that the planning process and any subsequent development incorporates objectives and mechanisms for achieving ESD, including:
  - an assessment of a range of options available for use of the resource, including the benefits of each option to future generations
  - f) proper valuation and pricing of environmental resources
  - g) identification of who will bear the environmental costs of the proposal.

### **3. Rehabilitation**

- Outline considerations of site maintenance, and proposed plans for the final condition of the site (ensuring its suitability for future uses).

### **4. Consideration of alternatives and justification for the proposal**

- Consider the environmental consequences of adopting alternatives, including alternative:
  - a) sites and site layouts
  - b) access modes and routes
  - c) materials handling and production processes
  - d) waste and water management
  - e) impact mitigation measures
  - f) energy sources
- Selection of the preferred option should be justified in terms of:
  - a) ability to satisfy the objectives of the proposal
  - b) relative environmental and other costs of each alternative
  - c) acceptability of environmental impacts and contribution to identified environmental objectives
  - d) acceptability of any environmental risks or uncertainties
  - e) reliability of proposed environmental impact mitigation measures
  - f) efficient use (including maximising re-use) of land, raw materials, energy and other resources.



## C The location

### 1. General

- Provide an overview of the affected environment to place the proposal in its local and regional environmental context including:
  - a) meteorological data (eg rainfall, temperature and evaporation, wind speed and direction)
  - b) topography (landform element, slope type, gradient and length)
  - c) surrounding land uses (potential synergies and conflicts)
  - d) geomorphology (rates of landform change and current erosion and deposition processes)
  - e) soil types and properties (including erodibility; engineering and structural properties; dispersibility; permeability; presence of acid sulfate soils and potential acid sulfate soils)
  - f) ecological information (water system habitat, vegetation, fauna)
  - g) availability of services and the accessibility of the site for passenger and freight transport.

### 2. Air

- Describe the topography and surrounding land uses. Provide details of the exact locations of dwellings, schools and hospitals. Where appropriate provide a perspective view of the study area such as the terrain file used in dispersion models.
- Describe surrounding buildings that may effect plume dispersion.
- Provide and analyse site representative data on following meteorological parameters:
  - a) temperature and humidity
  - b) rainfall, evaporation and cloud cover
  - c) wind speed and direction
  - d) atmospheric stability class
  - e) mixing height (the height that emissions will be ultimately mixed in the atmosphere)
  - f) katabatic air drainage
  - g) air re-circulation.

### 3. Noise and vibration

- Identify any noise sensitive locations likely to be affected by activities at the site, such as residential properties, schools, churches, and hospitals. Typically the location of any noise sensitive locations in relation to the site should be included on a map of the locality.
- Identify the land use zoning of the site and the immediate vicinity and the potentially affected areas.



#### 4. Water

- Describe the catchment including proximity of the development to any waterways and provide an assessment of their sensitivity/significance from a public health, ecological and/or economic perspective. The Water Quality and River Flow Objectives on the website: [www.environment.nsw.gov.au/ieo](http://www.environment.nsw.gov.au/ieo) should be used to identify the agreed environmental values and human uses for any affected waterways. This will help with the description of the local and regional area.

#### 5. Soil Contamination Issues

- Provide details of site history – if earthworks are proposed, this needs to be considered with regard to possible soil contamination, for example if the site was previously a landfill site or if irrigation of effluent has occurred.

### D Identification and prioritisation of issues / scoping of impact assessment

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- Provide an overview of the methodology used to identify and prioritise issues. The methodology should take into account:
  - a) relevant NSW government guidelines
  - b) industry guidelines
  - c) EISs for similar projects
  - d) relevant research and reference material
  - e) relevant preliminary studies or reports for the proposal
  - f) consultation with stakeholders.
- Provide a summary of the outcomes of the process including:
  - a) all issues identified including local, regional and global impacts (eg increased/ decreased greenhouse emissions)
  - b) key issues which will require a full analysis (including comprehensive baseline assessment)
  - c) issues not needing full analysis though they may be addressed in the mitigation strategy
  - d) justification for the level of analysis proposed (the capacity of the proposal to give rise to high concentrations of pollution compared with the ambient environment or environmental outcomes is an important factor in setting the level of assessment).





## **E The environmental issues**

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### **1. General**

- The potential impacts identified in the scoping study need to be assessed to determine their significance, particularly in terms of achieving environmental outcomes, and minimising environmental pollution.
- Identify gaps in information and data relevant to significant impacts of the proposal and any actions proposed to fill those information gaps so as to enable development of appropriate management and mitigation measures. This is in accordance with ESD requirements.

*Note: The level of detail should match the level of importance of the issue in decision making which is dependent on the environmental risk.*

#### **Describe baseline conditions**

- Provide a description of existing environmental conditions for any potential impacts.

#### **Assess impacts**

- For any potential impacts relevant for the assessment of the proposal provide a detailed analysis of the impacts of the proposal on the environment including the cumulative impact of the proposal on the receiving environment especially where there are sensitive receivers.
- Describe the methodology used and assumptions made in undertaking this analysis (including any modelling or monitoring undertaken) and indicate the level of confidence in the predicted outcomes and the resilience of the environment to cope with the predicted impacts.
- The analysis should also make linkages between different areas of assessment where necessary to enable a full assessment of environmental impacts eg assessment of impacts on air quality will often need to draw on the analysis of traffic, health, social, soil and/or ecological systems impacts; etc.
- The assessment needs to consider impacts at all phases of the project cycle including: exploration (if relevant or significant), construction, routine operation, start-up operations, upset operations and decommissioning if relevant.
- The level of assessment should be commensurate with the risk to the environment.

#### **Describe management and mitigation measures**

- Describe any mitigation measures and management options proposed to prevent, control, abate or mitigate identified environmental impacts associated with the proposal and to reduce risks to human health and prevent the degradation of the environment. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.
- Proponents are expected to implement a 'reasonable level of performance' to minimise environmental impacts. The proponent must indicate how the proposal meets reasonable levels of performance. For example, reference technology based criteria if available, or identify good practice for this type of activity or development. A 'reasonable level of performance' involves adopting and implementing

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technology and management practices to achieve certain pollutant emissions levels in economically viable operations. Technology-based criteria evolve gradually over time as technologies and practices change.

- Use environmental impacts as key criteria in selecting between alternative sites, designs and technologies, and to avoid options having the highest environmental impacts.
- Outline any proposed approach (such as an Environmental Management Plan) that will demonstrate how commitments made in the EIS will be implemented. Areas that should be described include:
  - a) operational procedures to manage environmental impacts
  - b) monitoring procedures
  - c) training programs
  - d) community consultation
  - e) complaint mechanisms including site contacts
  - f) strategies to use monitoring information to improve performance
  - g) strategies to achieve acceptable environmental impacts and to respond in event of exceedences.

## 7. Air

### ***Describe baseline conditions***

- Provide a description of existing air quality and meteorology, using existing information and site representative ambient monitoring data.

### ***Assess impacts***

- Identify all pollutants of concern and estimate emissions by quantity (and size for particles), source and discharge point.
- Assess the risk associated with potential discharges of fugitive and point source emissions for all stages of the proposal. Assessment of risk relates to environmental harm, risk to human health and amenity.
- Justify the level of assessment undertaken on the basis of risk factors, including but not limited to:
  - a. proposal location;
  - b. characteristics of the receiving environment; and
  - c. type and quantity of pollutants emitted.
- Describe the receiving environment in detail. The proposal must be contextualised within the receiving environment (local, regional and inter-regional as appropriate). The description must include but need not be limited to:
  - d. meteorology and climate;
  - e. topography;
  - f. surrounding land-use; receptors; and
  - g. ambient air quality.



- Include a detailed description of the proposal. All processes that could result in air emissions (including blasting) must be identified and described. Sufficient detail to accurately communicate the characteristics and quantity of all emissions must be provided.
- Include a consideration of 'worst case' emission scenarios and impacts at proposed emission limits.
- Account for cumulative impacts associated with existing emission sources as well as any currently approved developments linked to the receiving environment.
- Include air dispersion modelling where there is a risk of adverse air quality impacts, or where there is sufficient uncertainty to warrant a rigorous numerical impact assessment. Air dispersion modelling must be conducted in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (2005) <http://www.environment.nsw.gov.au/resources/air/ammodelling05361.pdf>
- Demonstrate the proposal's ability to comply with the relevant regulatory framework, specifically the *Protection of the Environment Operations (POEO) Act (1997)* and the *POEO (Clean Air) Regulation (2002)*.
- Provide an assessment of the project in terms of the priorities and targets adopted under the NSW State Plan 2010.
- Detail emission control techniques/practices that will be employed by the proposal and demonstrate that these are best management practice, by applying the procedure outlined in *Coal Mine Particulate Matter Control Best Practice - Site-specific determination guideline* (November 2011). <http://www.environment.nsw.gov.au/resources/air/20110813coalmineparticulate.pdf>
- Estimate the resulting ground level concentrations of all pollutants. Where necessary (eg potentially significant impacts and complex terrain effects), use an appropriate dispersion model to estimate ambient pollutant concentrations. Discuss choice of model and parameters with the EPA.
- Describe the effects and significance of pollutant concentration on the environment, human health, amenity and regional ambient air quality standards or goals.
- Describe the contribution that the development will make to regional and global pollution, particularly in sensitive locations.
- For potentially odorous emissions provide the emission rates in terms of odour units (determined by techniques compatible with EPA / DECCW procedures). Use sampling and analysis techniques for individual or complex odours and for point or diffuse sources, as appropriate.
- Reference should be made to relevant guidelines e.g. *Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in NSW* (EPA, 2001); *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW* (EPA, 2001); *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (2005), *Coal Mine Particulate Matter Control Best Practice - Site-specific determination guideline* (November 2011), *Load Calculation Protocol for use by holders of NSW Environment Protection Licences when calculating Assessable Pollutant Loads* (EPA, 1999).

#### **Describe management and mitigation measures**

- Outline specifications of pollution control equipment (including manufacturer's performance guarantees where available) and management protocols for both point and fugitive emissions. Where possible, this should include cleaner production processes.



## 8. Noise and vibration

### **Describe baseline conditions**

- Determine the existing background (LA90) and ambient (LAeq) noise levels in accordance with the *NSW Industrial Noise Policy*.
- Determine the existing road traffic noise levels in accordance with the *NSW Environmental Criteria for Road Traffic Noise*, where road traffic noise impacts may occur.
- The noise impact assessment report should provide details of all monitoring of existing ambient noise levels including:

details of equipment used for the measurements

- h) a brief description of where the equipment was positioned
- i) a statement justifying the choice of monitoring site, including the procedure used to choose the site, having regards to the definition of 'noise sensitive locations(s)' and 'most affected locations(s)' described in Section 3.1.2 of the *NSW Industrial Noise Policy*
- j) details of the exact location of the monitoring site and a description of land uses in surrounding areas
- k) a description of the dominant and background noise sources at the site
- l) day, evening and night assessment background levels for each day of the monitoring period
- m) the final Rating Background Level (RBL) value
- n) graphs of the measured noise levels for each day should be provided
- o) a record of periods of affected data (due to adverse weather and extraneous noise), methods used to exclude invalid data and a statement indicating the need for any re-monitoring under Step 1 in Section B1.3 of the *NSW Industrial Noise Policy*
- p) determination of LAeq noise levels from existing industry.

### **Assess impacts**

- Determine the project specific noise levels for the site. For each identified potentially affected receiver, this should include:
  - a) determination of the intrusive criterion for each identified potentially affected receiver
  - b) selection and justification of the appropriate amenity category for each identified potentially affected receiver
  - c) determination of the amenity criterion for each receiver
  - d) determination of the appropriate sleep disturbance limit.
- Maximum noise levels during night-time period (10pm-7am) should be assessed to analyse possible affects on sleep. Where LA1(1min) noise levels from the site are less than 15 dB above the background LA90 noise level, sleep disturbance impacts are unlikely. Where this is not the case,



further analysis is required. Additional guidance is provided in Appendix B of the *NSW Environmental Criteria for Road Traffic Noise*.

- Determine expected noise level and noise character (eg tonality, impulsiveness, vibration, etc) likely to be generated from noise sources during:
    - a) site establishment
    - b) construction
    - c) operational phases
    - d) transport including traffic noise generated by the proposal
    - e) other services.
- Note: The noise impact assessment report should include noise source data for each source in 1/1 or 1/3 octave band frequencies including methods for references used to determine noise source levels. Noise source levels and characteristics can be sourced from direct measurement of similar activities or from literature (if full references are provided).*
- Determine the noise levels likely to be received at the most sensitive locations (these may vary for different activities at each phase of the development). Potential impacts should be determined for any identified significant adverse meteorological conditions. Predicted noise levels under calm conditions may also aid in quantifying the extent of impact where this is not the most adverse condition.
  - The noise impact assessment report should include:
    - a) a plan showing the assumed location of each noise source for each prediction scenario
    - b) a list of the number and type of noise sources used in each prediction scenario to simulate all potential significant operating conditions on the site
    - c) any assumptions made in the predictions in terms of source heights, directivity effects, shielding from topography, buildings or barriers, etc
    - d) methods used to predict noise impacts including identification of any noise models used. Where modelling approaches other than the use of the ENM or SoundPlan computer models are adopted, the approach should be appropriately justified and validated
    - e) an assessment of appropriate weather conditions for the noise predictions including reference to any weather data used to justify the assumed conditions
    - f) the predicted noise impacts from each noise source as well as the combined noise level for each prediction scenario under any identified significant adverse weather conditions as well as calm conditions where appropriate
    - g) for developments where a significant level of noise impact is likely to occur, noise contours for the key prediction scenarios should be derived
    - h) an assessment of the need to include modification factors as detailed in Section 4 of the *NSW Industrial Noise Policy*.
  - Discuss the findings from the predictive modelling and, where relevant noise criteria have not been met, recommend additional mitigation measures.
  - The noise impact assessment report should include details of any mitigation proposed including the attenuation that will be achieved and the revised noise impact predictions following mitigation.
  - Where relevant noise/vibration criteria cannot be met after application of all feasible and cost effective mitigation measures the residual level of noise impact needs to be quantified by identifying:



- a) locations where the noise level exceeds the criteria and extent of exceedence
  - b) numbers of people (or areas) affected
  - c) times when criteria will be exceeded
  - d) likely impact on activities (speech, sleep, relaxation, listening, etc)
  - e) change on ambient conditions
  - f) the result of any community consultation or negotiated agreement.
- For the assessment of existing and future traffic noise, details of data for the road should be included such as assumed traffic volume; percentage heavy vehicles by time of day; and details of the calculation process. These details should be consistent with any traffic study carried out in the EIS.
  - Where blasting is intended an assessment in accordance with the *Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration* (ANZECC, 1990) should be undertaken. The following details of the blast design should be included in the noise assessment:
    - a) bench height, burden spacing, spacing burden ratio
    - b) blast hole diameter, inclination and spacing
    - c) type of explosive, maximum instantaneous charge, initiation, blast block size, blast frequency.

#### **Describe management and mitigation measures**

- Determine the most appropriate noise mitigation measures and expected noise reduction including both noise controls and management of impacts for both construction and operational noise. This will include selecting quiet equipment and construction methods, noise barriers or acoustic screens, location of stockpiles, temporary offices, compounds and vehicle routes, scheduling of activities, etc.
- For traffic noise impacts, provide a description of the ameliorative measures considered (if required), reasons for inclusion or exclusion, and procedures for calculation of noise levels including ameliorative measures. Also include, where necessary, a discussion of any potential problems associated with the proposed ameliorative measures, such as overshadowing effects from barriers. Appropriate ameliorative measures may include:
  - a) use of alternative transportation modes, alternative routes, or other methods of avoiding the new road usage
  - b) control of traffic (eg: limiting times of access or speed limitations)
  - c) resurfacing of the road using a quiet surface
  - d) use of (additional) noise barriers or bunds
  - e) treatment of the façade to reduce internal noise levels buildings where the night-time criteria is a major concern
  - f) more stringent limits for noise emission from vehicles (i.e. using specially designed 'quite' trucks and/or trucks to use air bag suspension
  - g) driver education
  - h) appropriate truck routes
  - i) limit usage of exhaust breaks
  - j) use of premium muffles on trucks



- k) reducing speed limits for trucks
- l) ongoing community liaison and monitoring of complaints
- m) phasing in the increased road use.

#### 4. Water

##### **Describe baseline conditions**

- Describe existing surface and groundwater quality – an assessment needs to be undertaken for any water resource likely to be affected by the proposal and for all conditions (e.g. a wet weather sampling program is needed if runoff events may cause impacts).  
*Note: Methods of sampling and analysis need to conform with an accepted standard (e.g. Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DECCW 2004) or be approved and analyses undertaken by accredited laboratories).*
- Provide site drainage details and surface runoff yield.
- State the ambient Water Quality and River Flow Objectives for the receiving waters. These refer to the community's agreed environmental values and human uses endorsed by the Government as goals for the ambient waters. These environmental values are published on the website: [www.environment.nsw.gov.au/ieo](http://www.environment.nsw.gov.au/ieo). The EIS should state the environmental values listed for the catchment and waterway type relevant to your proposal. NB: A consolidated and approved list of environmental values are not available for groundwater resources. Where groundwater may be affected the EIS should identify appropriate groundwater environmental values and justify the choice.
- State the indicators and associated trigger values or criteria for the identified environmental values. This information should be sourced from the ANZECC 2000 *Guidelines for Fresh and Marine Water Quality* (<http://www.deh.gov.au/water/quality/nwqms/volume1.html>) (Note that, as at 2004, the NSW Water Quality Objectives booklets and website contain technical criteria derived from the 1992 version of the ANZECC Guidelines. The Water Quality Objectives remain as Government Policy, reflecting the community's environmental values and long-term goals, but the technical criteria are replaced by the more recent ANZECC 2000 Guidelines). NB: While specific guidelines for groundwater are not available, the ANZECC 2000 Guidelines endorse the application of the trigger values and decision trees as a tool to assess risk to environmental values in groundwater.
- State any locally specific objectives, criteria or targets, which have been endorsed by the government e.g. the Healthy Rivers Commission Inquiries ([www.hrc.nsw.gov.au](http://www.hrc.nsw.gov.au)) or the NSW Salinity Strategy (DLWC, 2000) ([www.dlwc.nsw.gov.au/care/salinity/#Strategy](http://www.dlwc.nsw.gov.au/care/salinity/#Strategy)).
- Where site specific studies are proposed to revise the trigger values supporting the ambient Water Quality and River Flow Objectives, and the results are to be used for regulatory purposes (e.g. to assess whether a licensed discharge impacts on water quality objectives), then prior agreement from the EPA on the approach and study design must be obtained.
- Describe the state of the receiving waters and relate this to the relevant Water Quality and River Flow Objectives (i.e. are Water Quality and River Flow Objectives being achieved?). Proponents are generally only expected to source available data and information. However, proponents of large or high risk developments may be required to collect some ambient water quality / river flow / groundwater data to enable a suitable level of impact assessment. Issues to include in the description of the receiving waters could include:



- a) lake or estuary flushing characteristics
- b) specific human uses (e.g. exact location of drinking water offtake)
- c) sensitive ecosystems or species conservation values
- d) a description of the condition of the local catchment e.g. erosion levels, soils, vegetation cover, etc
- e) an outline of baseline groundwater information, including, but not restricted to, depth to watertable, flow direction and gradient, groundwater quality, reliance on groundwater by surrounding users and by the environment
- f) historic river flow data where available for the catchment.

### Assess impacts

- No proposal should breach clause 120 of the *Protection of the Environment Operations Act 1997* (i.e. pollution of waters is prohibited unless undertaken in accordance with relevant regulations).
- Identify and estimate the quantity of all pollutants that may be introduced into the water cycle by source and discharge point including residual discharges after mitigation measures are implemented.
- Include a rationale, along with relevant calculations, supporting the prediction of the discharges.
- Describe the effects and significance of any pollutant loads on the receiving environment. This should include impacts of residual discharges through modelling, monitoring or both, depending on the scale of the proposal. Determine changes to hydrology (including drainage patterns, surface runoff yield, flow regimes, wetland hydrologic regimes and groundwater).
- Describe water quality impacts resulting from changes to hydrologic flow regimes (such as nutrient enrichment or turbidity resulting from changes in frequency and magnitude of stream flow).
- Identify any potential impacts on quality or quantity of groundwater describing their source.
- Identify potential impacts associated with geomorphological activities with potential to increase surface water and sediment runoff or to reduce surface runoff and sediment transport. Also consider possible impacts such as bed lowering, bank lowering, instream siltation, floodplain erosion and floodplain siltation.
- Identify impacts associated with the disturbance of acid sulfate soils and potential acid sulfate soils.
- Containment of spills and leaks shall be in accordance with the technical guidelines section 'Bundling and Spill Management' of the *Authorised Officers Manual* (EPA, 1995) (<http://www.environment.nsw.gov.au/mao/bundingspill.htm>) and the most recent versions of the Australian Standards referred to in the Guidelines. Containment should be designed for no-discharge.
- The significance of the impacts listed above should be predicted. When doing this it is important to predict the ambient water quality and river flow outcomes associated with the proposal and to demonstrate whether these are acceptable in terms of achieving protection of the Water Quality and River Flow Objectives. In particular the following questions should be answered:
  - a) will the proposal protect Water Quality and River Flow Objectives where they are currently achieved in the ambient waters; and
  - b) will the proposal contribute towards the achievement of Water Quality and River Flow Objectives over time, where they are not currently achieved in the ambient waters.
- Consult with the EPA as soon as possible if a mixing zone is proposed (a mixing zone could exist where effluent is discharged into a receiving water body, where the quality of the water being discharged does





not immediately meet water quality objectives. The mixing zone could result in dilution, assimilation and decay of the effluent to allow water quality objectives to be met further downstream, at the edge of the mixing zone). The EPA will advise the proponent under what conditions a mixing zone will and will not be acceptable, as well as the information and modelling requirements for assessment.

*Note: The assessment of water quality impacts needs to be undertaken in a total catchment management context to provide a wide perspective on development impacts, in particular cumulative impacts.*

- Where a licensed discharge is proposed, provide the rationale as to why it cannot be avoided through application of a reasonable level of performance, using available technology, management practice and industry guidelines.
- Where a licensed discharge is proposed, provide the rationale as to why it represents the best environmental outcome and what measures can be taken to reduce its environmental impact.
- Reference should be made to relevant guidelines e.g. *Managing Urban Stormwater: Soils and Construction* (Landcom, 2004), and *Guidelines for Fresh and Marine Water Quality* ANZECC 2000).

#### **Describe management and mitigation measures**

- Outline stormwater management to control pollutants at the source and contain them within the site. Also describe measures for maintaining and monitoring any stormwater controls.
- Outline erosion and sediment control measures directed at minimising disturbance of land, minimising water flow through the site and filtering, trapping or detaining sediment. Also include measures to maintain and monitor controls as well as rehabilitation strategies.
- Describe waste water treatment measures that are appropriate to the type and volume of waste water and are based on a hierarchy of avoiding generation of waste water; capturing all contaminated water (including stormwater) on the site; reusing/recycling waste water; and treating any unavoidable discharge from the site to meet specified water quality requirements.
- Outline pollution control measures relating to storage of materials, possibility of accidental spills (eg preparation of contingency plans), appropriate disposal methods, and generation of leachate.
- Describe hydrological impact mitigation measures including:
  - a) site selection (avoiding sites prone to flooding and waterlogging, actively eroding or affected by deposition)
  - b) minimising runoff
  - c) minimising reductions or modifications to flow regimes
  - d) avoiding modifications to groundwater.
- Describe groundwater impact mitigation measures including:
  - a) site selection
  - b) retention of native vegetation and revegetation
  - c) artificial recharge
  - d) providing surface storages with impervious linings
  - e) monitoring program.



- Describe geomorphological impact mitigation measures including:
  - a) site selection
  - b) erosion and sediment controls
  - c) minimising instream works
  - d) treating existing accelerated erosion and deposition
  - e) monitoring program.
- Any proposed monitoring should be undertaken in accordance with the *Approved Methods for the Sampling and Analysis of Water Pollutants in NSW* (DECCW 2004).

## 5. Soils and contamination

### ***Describe baseline conditions***

- Provide any details (in addition to those provided in the location description - Section C) that are needed to describe the existing situation in terms of soil types and properties and soil contamination.

### ***Assess impacts***

- Identify any likely impacts resulting from the construction or operation of the proposal, including the likelihood of:
  - a) disturbing any existing contaminated soil
  - b) contamination of soil by operation of the activity
  - c) subsidence or instability
  - d) soil erosion
  - e) disturbing acid sulfate or potential acid sulfate soils.
- Reference should be made to relevant guidelines e.g. *Contaminated Sites – Guidelines for Consultants Reporting on Contaminated Sites* (EPA, 1997); *Contaminated Sites – Guidelines on Significant Risk of Harm and Duty to Report* (EPA, 1999).

### ***Describe management and mitigation measures***

- Describe and assess the effectiveness or adequacy of any soil management and mitigation measures during construction and operation of the proposal including:
  - a) erosion and sediment control measures
  - b) proposals for site remediation – see *Managing Land Contamination, Planning Guidelines SEPP 55 – Remediation of Land* (Department of Urban Affairs and Planning and Environment Protection Authority, 1998)
  - c) proposals for the management of these soils – see *Assessing and Managing Acid Sulfate Soils*, Environment Protection Authority, 1995 (note that this is the only methodology accepted by the EPA).

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## 6. Waste and chemicals

### *Describe baseline conditions*

- Describe any existing waste or chemicals operations related to the proposal.

### *Assess impacts*

- Assess the adequacy of proposed measures to minimise natural resource consumption and minimise impacts from the handling, transporting, storage, processing and reprocessing of waste and/or chemicals.
- Reference should be made to relevant guidelines e.g. *Environmental Guidelines: Assessment, Classification and Management of Liquid and Non-Liquid Wastes* (EPA, 1999).

### *Describe management and mitigation measures*

- Outline measures to minimise the consumption of natural resources.
- Outline measures to avoid the generation of waste and promote the re-use and recycling and reprocessing of any waste.
- Outline measures to support any approved regional or industry waste plans.

## 7. Cumulative impacts

- Identify the extent that the receiving environment is already stressed by existing development and background levels of emissions to which this proposal will contribute.
- Assess the impact of the proposal against the long term air, noise and water quality objectives for the area or region.
- Identify infrastructure requirements flowing from the proposal (eg water and sewerage services, transport infrastructure upgrades), and all infrastructure upgrades/modifications required at the existing mine infrastructure at Girilambone and Hermidale to cater for the Avoca Tank Project.
- Assess likely impacts from such additional infrastructure and measures reasonably available to the proponent to contain such requirements or mitigate their impacts (eg travel demand management strategies).
- Identify all existing mining operations that will be operated concurrently with the proposed project, time frames, and the likely cumulative impacts and mitigation measures to reduce impacts over the life of the project.



## **F. List of approvals and licences**

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- Identify all approvals and licences required under environment protection legislation including details of all scheduled activities, types of ancillary activities and types of discharges (to air, land, water).

## **G. Compilation of mitigation measures**

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- Outline how the proposal and its environmental protection measures would be implemented and managed in an integrated manner so as to demonstrate that the proposal is capable of complying with statutory obligations under EPA licences or approvals (eg outline of an environmental management plan).
- The mitigation strategy should include the environmental management and cleaner production principles which would be followed when planning, designing, establishing and operating the proposal. It should include two sections, one setting out the program for managing the proposal and the other outlining the monitoring program with a feedback loop to the management program.

## **H. Justification for the Proposal**

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- Reasons should be included which justify undertaking the proposal in the manner proposed, having regard to the potential environmental impacts.



## Attachment B – General Guidance Material

Title	Web address
<b><u>Relevant Legislation</u></b>	
<i>Commonwealth Environment Protection and Biodiversity Conservation Act 1999</i>	<a href="http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/">http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/</a>
<i>Contaminated Land Management Act 1997</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+140+1997+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+140+1997+cd+0+N</a>
<i>Environmentally Hazardous Chemicals Act 1985</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+14+1985+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+14+1985+cd+0+N</a>
<i>Environmental Planning and Assessment Act 1979</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N</a>
<i>Fisheries Management Act 1994</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N</a>
<i>National Parks and Wildlife Act 1974</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N</a>
<i>Protection of the Environment Operations Act 1997</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+156+1997+cd+0+N</a>
<i>Water Management Act 2000</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N</a>
<b><u>Licensing</u></b>	
EPA Guide to Licensing	<a href="http://www.epa.nsw.gov.au/licensing/licenceguide.htm">http://www.epa.nsw.gov.au/licensing/licenceguide.htm</a>
<b><u>Air Issues</u></b>	
<b>Air Quality</b>	
Approved methods for modelling and assessment of air pollutants in NSW (2005)	<a href="http://www.environment.nsw.gov.au/resources/air/ammodelling05361.pdf">http://www.environment.nsw.gov.au/resources/air/ammodelling05361.pdf</a>
POEO (Clean Air) Regulation 2002	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/subordleg+642+2002+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/subordleg+642+2002+cd+0+N</a>
Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (2005)	<a href="http://www.environment.nsw.gov.au/resources/air/ammodelling05361.pdf">http://www.environment.nsw.gov.au/resources/air/ammodelling05361.pdf</a>
Coal Mine Particulate Matter Control Best Practice - Site-specific determination guideline (November 2011).	<a href="http://www.environment.nsw.gov.au/resources/air/20110813coalmineparticulate.pdf">http://www.environment.nsw.gov.au/resources/air/20110813coalmineparticulate.pdf</a>
<b>Greenhouse Gas</b>	
The Greenhouse Gas Protocol: Corporate Standard, World Council for Sustainable Business Development & World Resources Institute	<a href="http://www.ghgprotocol.org/standards/corporate-standard">http://www.ghgprotocol.org/standards/corporate-standard</a>



National Greenhouse Accounts (NGA) Factors, Australian Department of Climate Change (Latest release),	<a href="http://www.climatechange.gov.au/publications/greenhouse-acctg/national-greenhouse-factors.aspx">http://www.climatechange.gov.au/publications/greenhouse-acctg/national-greenhouse-factors.aspx</a>
National Greenhouse and Energy Reporting System, Technical Guidelines (latest release)	<a href="http://www.climatechange.gov.au/en/government/initiatives/national-greenhouse-energy-reporting/tools-resources.aspx">http://www.climatechange.gov.au/en/government/initiatives/national-greenhouse-energy-reporting/tools-resources.aspx</a>
National Carbon Accounting Toolbox	<a href="http://www.climatechange.gov.au/government/initiatives/ncat.aspx">http://www.climatechange.gov.au/government/initiatives/ncat.aspx</a>
Australian Greenhouse Emissions Information System (AGEIS)	<a href="http://ageis.climatechange.gov.au/">http://ageis.climatechange.gov.au/</a>

#### DECCW Estate

#### **Land reserved or acquired under the NPW Act**

List of national parks	<a href="http://www.environment.nsw.gov.au/NationalParks/parksearchatoz.aspx">http://www.environment.nsw.gov.au/NationalParks/parksearchatoz.aspx</a>
DECCW Revocation of Land Policy	<a href="http://www.environment.nsw.gov.au/policies/RevocationOfLandPolicy.htm">http://www.environment.nsw.gov.au/policies/RevocationOfLandPolicy.htm</a>

#### Noise and Vibration

Interim Construction Noise Guideline (DECC, 2009)	<a href="http://www.epa.nsw.gov.au/noise/constructnoise.htm">http://www.epa.nsw.gov.au/noise/constructnoise.htm</a>
Assessing Vibration: a technical guideline (DEC, 2006)	<a href="http://www.epa.nsw.gov.au/noise/vibrationguide.htm">http://www.epa.nsw.gov.au/noise/vibrationguide.htm</a>
Australian and New Zealand Environment Council – Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZEC, 1990)	<a href="http://www.epa.nsw.gov.au/noise/blasting.htm">http://www.epa.nsw.gov.au/noise/blasting.htm</a>
Industrial Noise Policy Application Notes	<a href="http://www.epa.nsw.gov.au/noise/applicnotesindustnoise.htm">http://www.epa.nsw.gov.au/noise/applicnotesindustnoise.htm</a>
Environmental Criteria for Road Traffic Noise (EPA, 1999)	<a href="http://www.epa.nsw.gov.au/noise/traffic.htm">http://www.epa.nsw.gov.au/noise/traffic.htm</a>
Interim Guideline for the Assessment of Noise from Rail Infrastructure Projects (DECC, 2007)	<a href="http://www.epa.nsw.gov.au/noise/railinfranoise.htm">http://www.epa.nsw.gov.au/noise/railinfranoise.htm</a>
Environmental assessment requirements for rail traffic-generating developments	<a href="http://www.epa.nsw.gov.au/noise/railnoiseql.htm">http://www.epa.nsw.gov.au/noise/railnoiseql.htm</a>

#### Waste, Chemicals and Hazardous Materials and Radiation

##### **Waste**

Environmental Guidelines: Solid Waste Landfills (EPA, 1996)	<a href="http://www.epa.nsw.gov.au/resources/waste/envquidlns/solidlandfill.pdf">http://www.epa.nsw.gov.au/resources/waste/envquidlns/solidlandfill.pdf</a>
Draft Environmental Guidelines - Industrial Waste Landfilling (April 1998)	<a href="http://www.epa.nsw.gov.au/resources/waste/envquidlns/industrialfill.pdf">http://www.epa.nsw.gov.au/resources/waste/envquidlns/industrialfill.pdf</a>
Waste Classification Guidelines (DECC,	<a href="http://www.epa.nsw.gov.au/resources/waste/091216classifywaste.pdf">http://www.epa.nsw.gov.au/resources/waste/091216classifywaste.pdf</a>



2008)

EPA Resource recovery exemption <http://www.epa.nsw.gov.au/waste/RRecoveryExemptions.htm>

#### Radioactive Residues

Code of Practice for Radiation Protection and Radioactive Waste Management in Mining and Mineral Processing <http://www.arpansa.gov.au/pubs/rps/rps9.pdf>

Code of Practice for the Safe Transport of Radioactive Material [http://www.arpansa.gov.au/pubs/rps/rps2\\_2008.pdf](http://www.arpansa.gov.au/pubs/rps/rps2_2008.pdf)

Contaminated Sites: Guidelines for the NSW Site Auditor Scheme <http://www.epa.nsw.gov.au/resources/clm/auditorqlines06121.pdf>

#### Water and Soils

##### Contaminated Sites Assessment and Remediation

Managing land contamination: Planning Guidelines – SEPP 55 Remediation of Land <http://www.planning.nsw.gov.au/DevelopmentAssessments/RegisterofDevelopmentAssessmentGuidelines/tabid/207/language/en-US/Default.aspx>

Guidelines for Consultants Reporting on Contaminated Sites (EPA, 2000) <http://www.epa.nsw.gov.au/resources/clm/20110650consultantsqlines.pdf>

Guidelines for the NSW Site Auditor Scheme - 2nd edition (DEC, 2006) <http://www.epa.nsw.gov.au/resources/clm/auditorqlines06121.pdf>

Sampling Design Guidelines (EPA, 1995) Available by request from the EPA's Environment Line

National Environment Protection (Assessment of Site Contamination) Measure 1999 (or update) <http://www.ephc.gov.au/taxonomy/term/44>

##### Flooding and Coastal Erosion

Reforms to coastal erosion management <http://www.environment.nsw.gov.au/coasts/coastalerosionmgmt.htm>

Floodplain development manual <http://www.dnr.nsw.gov.au/floodplains/manual.shtml>

Coastline management manual <http://www.environment.nsw.gov.au/coasts/>

Estuary management manual <http://www.environment.nsw.gov.au/coasts/InfoCoastEstFloodGrants.htm>

##### Soils – general

Soil and Landscape Issues in Environmental Impact Assessment (DLWC 2000) [http://www.dnr.nsw.gov.au/care/soil/soil\\_pubs/pdfs/tech\\_rep\\_34\\_new.pdf](http://www.dnr.nsw.gov.au/care/soil/soil_pubs/pdfs/tech_rep_34_new.pdf)

Managing urban stormwater: soils and construction, vol. 1 (Landcom 2004) and vol. 2 (A. Installation of services; B Waste landfills; C. Unsealed roads; D. Main Roads; E. Mines and quarries) (DECC 2008) Vol 1 - Available for purchase at <http://www.landcom.com.au/whats-new/publications-reports/the-blue-book.aspx>

Vol 2 - <http://www.environment.nsw.gov.au/stormwater/publications.htm>

Landslide risk management guidelines <http://www.australiangeomechanics.org/resources/downloads/>

Site Investigations for Urban Salinity (DLWC, 2002) <http://www.environment.nsw.gov.au/resources/salinity/booklet3siteinvestigationsforurbansalinity.pdf>

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Our Reference: V13/301  
OUT13/26297

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

Attention: Mr Nicholas Brbot

Dear Mr Reed

**Proposed Avoca Tank Project (DGR ID No.766 - Bogan Shire)  
Environmental Impact Statement Requirements**

I refer to your email dated 21 August 2013 regarding the Tritton Resources Pty Ltd request for Director General's Requirements (DGRs) for the Avoca Tank Project. NSW Trade & Investment, Division of Resources and Energy (DRE) understand that the proposal is a designated development located in the Bogan Shire.

DRE has reviewed the *Background Paper for Avoca Tank Project June 2013* and along with information presented by the proponent at a Planning Focus Meeting held on 17 June 2013, provides the following comments which are directed at specific areas of DRE's responsibility for this proposal:

**Mineral Resource Issues:**

The following key issues need to be addressed in sufficient detail in the draft Environmental Impact Statement (EIS):

- A summary of the regional, local geology and mineralisation including information on the geological units within which the resource area is both appropriate and adequate for the EIS,
- A resource estimate (Note - if the reserve estimate becomes available then this should be included also),
- The mineralogy of the ore to be treated (Note comment below regarding total sulphide content),
- A summary of the project period providing sufficient detail for the EIS - i.e. eight years, comprising 2 years of site establishment activities, 4 years of mining and processing operations and 2 years of rehabilitation operations,

Minerals and Energy Division  
Level 6, 201 Elizabeth Street, Sydney NSW 2000  
PO Box K220 HAYMARKET NSW 1240  
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ABN 51 734 124 190  
www.industry.nsw.gov.au



Additional information that should be included in the EIS includes:

- The amount of ore, mineralised waste and unmineralised waste rock anticipated to be produced and/or treated annually and during the life of the project,
- The characteristics of the waste rock and tailings produced. The amount of material remaining in waste dumps and that to be used as backfill,
- Will there be any mineralised waste/low grade stockpiles remaining at the end of project life? - If so what is planned for this material and could it be recovered at a future time?
- Estimate of the sulphide content (%) for each lens/zone to be mined,
- A description of each lens to be mined (length, width, depth, any features different to the more general description),
- Plans and cross-sections showing the planned resource blocks, low grade material not to be mined and the extraction sequence data,
- A plan showing the surface projection of the ore zone(s) to be mined with planned layout of infrastructure and other features,
- Will the proposed project sterilise low grade material that could be mined in the future?

Mining operations for this proposal will require the grant of a mining lease and this is acknowledged in Item 2.2 of the Background Paper. Any mining lease granted will include the Mining Rehabilitation Environmental Management Process (MREMP).

#### **Environmental Sustainability Issues:**

##### **1. Project Description**

So that the project and its environmental interactions can be understood, the EIS must provide a comprehensive description of all aspects of the project. In terms of text, plans or charts, it must also clearly show the proposed extent and sequence of development.

##### **2. Description of existing environment, identification of impacts and constraints**

All areas affected by the mining proposal must be shown in the context of both the natural environment and the existing mine development. This should be in sufficient detail to enable an understanding of the scale of impacts and gauge the effectiveness of proposed control measures.

Impacts associated with the operational and post closure stages of the project must also be identified in detail and control strategies outlined. The identification and description of impacts must draw out those aspects of the site that may present barriers or limitations to effective rehabilitation and which may limit the post mine closure potential of the land.

The following are the key issues to be addressed in the EIS that are likely to have a bearing on rehabilitation and mine closure.

- Groundwater impacts associated with mining operations and any bore field proposed for water supply purposes. Long term recovery patterns of groundwater and any bearing these may have on subsequent land uses,
- Any surface water flow regimes and how these will be impacted by the project both during and after mining has ceased,
- The flora, fauna and ecological attributes of the disturbed area should be recorded and placed in a regional context,
- Characterise soils across the proposed area of surface disturbance and assesses their value and identify any limitations they present for rehabilitation. Land capability characteristics of the site also need to be described,
- Identify any Potential Acid Forming (PAF) material that may be found on site. The existing knowledge bank on waste rock geochemistry should be expanded with a comprehensive test program directed to ascertain the acid generation potential and leachate composition of the Avoca Tank Project waste streams.
- Investigations should consider Acid Mine Drainage (AMD) potential, the composition of waste rock leachates (whether acidic or not), as well as the potential for saline drainage. A comprehensive range of potential leachate ions/species must be considered. The resulting waste classification scheme should be subject to ongoing and, if necessary, longer term investigations on the AMD potential and leachate quality of waste rock. This should be provided for in the EIS Statement of Commitments,
- The geochemistry of waste materials must be characterised and the potential for adverse leachate seepages to occur, both during and after mining, must be assessed. The geochemical assessment should cover the full range of environmentally significant compounds that may be mobilised from soils, waste rock and tailings. Where there is a potential for acidic leachate from either tailings or waste rock to occur, management measures to prevent this occurring are to be presented. Contingency measures to deal with unexpected poor quality seepages (acid or saline) from the tailings and waste rock storages are also required.

### 3. Rehabilitation and Mine Closure

DRE's role focuses on ensuring that mined land in NSW is effectively rehabilitated and returned to beneficial post mining land uses. This is undertaken by requiring mine operators to have strategies in place to ensure the rehabilitation of all mined land, and strategies for an orderly transition from a mining land use to an agreed stable and beneficial post mining use. At the EIS stage, the strategies may be conceptual in nature. Each of the following aspects of rehabilitation planning should be addressed in the strategy:

- **Rehabilitation Objectives:** Describe the strategic rehabilitation objectives for the project and how these comply with relevant Government legislation or policies, research outcomes or industry leading practice. Describe the potential for integrating the rehabilitation strategy with any other offset (or conservation) strategies in the region,
- **Final Voids and Waste Rock Emplacements:** The EIS must include a detailed consideration of the final rehabilitation options for the open pit and waste rock dumps. Issues associated with final voids and waste rock landforms such as stability, acid rock drainage, ground and surface water and

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aesthetics need to be addressed. The number, location and geometry of any final voids in the landscape must be fully justified. Final mine voids seldom, if ever, have a beneficial use and the permanent costs to the environment and future agricultural production should be acknowledged by the applicant and considered by the Department of Planning & Infrastructure before any approval,

- **Final Land Use:** Describe proposed final land uses for each disturbance domain (infrastructure areas, waste rock storages, subsidence zones, final void etc.) and provide a conceptual plan depicting these uses and final landforms,
- **Performance Standards and Completion Criteria:** For each disturbance domain, identify relevant performance measures (e.g. open woodland revegetation) and indicative completion criteria (e.g. Number of surviving trees/hectare after 5 years),
- **Monitoring and Research:** Outline the proposed rehabilitation methods and techniques and proposed monitoring and research programs,
- **Post-closure maintenance:** Describe any post-rehabilitation maintenance requirements for the project site and how these will be managed.

#### 4. Other Considerations

##### *Mining Operations Plan (MOP)*

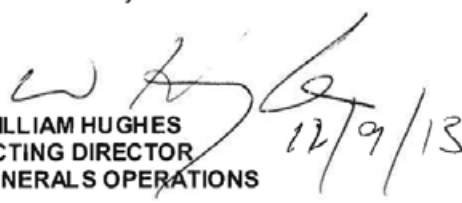
Subject to any planning approval prior to commencement, the proponent will be required to submit and have approved a Mining Operations Plan (MOP) or, if the pending *Mining Act 1992* amendments have commenced, a Rehabilitation and Environmental Management Plan (REMP).

##### *Rehabilitation Security Bond*

A review of the rehabilitation security bond will also be undertaken prior to project commencement. Parameters should be measured by licensing conditions and continual consultation with DRE.

Should you have any queries regarding this matter, please contact Steve Cozens, Senior Project Officer, Industry Coordination on telephone 8281 7335.

Yours sincerely

  
WILLIAM HUGHES  
ACTING DIRECTOR  
MINERALS OPERATIONS

cc: Mitchell Bland  
orange@rwcorkery.com



Your reference: DOC 13/45452  
 Our reference: Erica Baigent (02) 68835311  
 Contact: Erica Baigent (02) 68835311  
 Date: 3 September 2013

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

Dear Mr Brbot

**RE Proposal - Avoca Tank Project DGR ID No. 766**

Thank you for your email dated 21 August seeking the requirements of the Office of Environment and Heritage (OEH) for the preparation of an Environmental Impact Statement (EIS) for the above proposal.

The background information provided indicates that the proposed Avoca Tank proposal will involve underground mining operations and associated surface infrastructure.

**OEH Role**

OEH has responsibilities under the:

- *National Parks and Wildlife Act 1974* - namely the protection and care of Aboriginal objects and places, the protection and care of native flora and fauna and the protection and management of reserves; and the
- *Threatened Species Conservation Act 1995* which aims to conserve threatened species of flora and fauna, populations and ecological communities to promote their recovery and manage processes that threaten them.
- *Native Vegetation Conservation Act 2003* – ensuring compliance with the requirements of this legislation.

OEH understands from the correspondence that the proposed activity is a Part 4 application pursuant to the *Environmental Planning and Assessment Act 1979 (EP&A Act)*, and has not been classified as State Significant Development. As such OEH only has a statutory role in assessing such an activity if the consent authority determines that:

- a) the activity is likely to significantly affect a threatened species, population, ecological community, or its habitat, as listed under the *Threatened Species Conservation (TSC) Act 1995*; and/or
- b) An Aboriginal Heritage Impact Permit is required.

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The *Environmental Planning and Assessment Act 1979 (EP&A Act)* and *Environmental Planning and Assessment Regulation 2000* require that the EIS should fully describe the proposal, the existing environment and impacts of the proposal. It is the responsibility of the proponent and consent authority to adequately consider the requirements under the *EP&A Act and Regulation*.

OEH can provide advice on the EIS where the EIS deals with natural and cultural heritage conservation issues. OEH may also comment on the legitimacy of the conclusions reached regarding the significance of impacts by the proposed development to these components of the environment.

This letter directs you primarily to our generic guidance material. However please note that it is up to the proponent (and later the consent/determining authority after appropriate consultation) to determine the detail and comprehensiveness of the surveys and level of assessment required to form legally defensible conclusions regarding the impact of the proposal. The scale and intensity of the proposed development should dictate the level of investigation. It is important that all conclusions are supported by adequate data.

### **OEH Requirements**

In summary, the OEH's key information requirements for the proposal include an adequate assessment of:

- 1. Impacts to Aboriginal cultural heritage objects; and**
- 2. Impacts on flora, fauna, threatened species, populations, communities and their habitats.**

This assessment should include consideration of direct and indirect impacts as a result of both construction and operation of the project. Assessment of any cumulative impacts of this and other developments in the area will be essential.

#### *Flora, Fauna and Threatened Species*

A copy of our generic Environmental Assessment Guidelines are included in Attachments A and B. These guidelines address requirements under the *EP&A Act* and OEH's areas of responsibility relating to flora, fauna and threatened species, populations and ecological communities and their habitats.

OEH is committed to the protection, appropriate management, and where necessary, rehabilitation of native vegetation. For these reasons, OEH considers that careful planning should precede any development that involves further vegetation clearance or other significant impact within areas of remnant vegetation.

Negative impacts to native vegetation (eg clearing) should be avoided where possible. Where impacts cannot be avoided, the EIA should detail how a "maintain or improve" outcome for biodiversity will be achieved. BioBanking provides a voluntary mechanism through which this can be achieved. The BioBanking Assessment Methodology allows quantification of impacts and assessment of the value of offset areas and associated management regimes for those areas. The biobanking scheme provides an alternative path for proponents to the current threatened species assessment of significance process. Information about BioBanking is located on OEH's website at <http://www.environment.nsw.gov.au/biobanking/>.

#### *Cultural Heritage*

The importance of protecting Aboriginal Cultural Heritage is reflected in the provisions under Part 6 of the *NP&W Act 1974*, as amended. That Act clearly establishes that Aboriginal objects and places are protected and may not be harmed, disturbed or desecrated without appropriate authorisation. Importantly, approvals under Parts 4 and 5 of the *EP&A Act 1979* do not absolve the proponent of their obligations under the *NP&W Act 1979*.

Under the *NP&W Act 1974*, it is the responsibility of each individual proposing to conduct ground disturbance works to ensure that they have conducted a due diligence assessment to avoid harming Aboriginal objects by the proposed activity. OEH has produced a generic due diligence process, which

Page 3

is not mandatory to follow, however any alternative process followed must be able to demonstrate their process was reasonable and practicable in attempts to avoid harm to Aboriginal objects.

Consultation must also be in accordance with the *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW 2010) as set by OEH if impact to cultural heritage is unavoidable.

Further advice regarding Aboriginal cultural heritage can be found on the OEH web-site at: <http://www.environment.nsw.gov.au/licences/achregulation.htm>. and within guidance documents listed in Attachment B.

Should you require further information please contact Erica Baigent, Conservation Planning Officer on (02) 68835311 or via [erica.baigent@environment.nsw.gov.au](mailto:erica.baigent@environment.nsw.gov.au).

Yours Sincerely,



**SONYA ARDILL**  
**Senior Team Leader Planning**  
**North West Region**

## ATTACHMENT A

### Office of Environment and Heritage

#### EIS Requirements for the Expansion of Westport Quarry DGR ID No. 756

##### 1. Environmental impacts of the project

Impacts related to the following environmental issues need to be assessed, quantified and reported on:

- **Cumulative impact**
- **Aboriginal cultural heritage**
- **Biodiversity**
- **OEH Estate - Land reserved or acquired under the NPW Act**

The Environmental Impact Statement (EIS) should address the specific requirements outlined under each heading below and assess impacts in accordance with the relevant guidelines mentioned. A full list of guidelines is at **Attachment B**.

##### 2. Cumulative Impact

The cumulative impacts from all clearing activities and operations, associated edge effects and other indirect impacts on cultural heritage, biodiversity and OEH Estate need to be comprehensively assessed in accordance with the *Environmental Planning and Assessment Act 1979*.

This should include the cumulative impact of the proponent's existing and proposed development and associated infrastructure (such as access tracks etc) as well as the cumulative impact of other developments located in the vicinity. This assessment should include consideration of both construction and operational impacts.

##### 3. Aboriginal cultural heritage

The EIS report should contain:

- a. A description of the Aboriginal objects and declared Aboriginal places located within the area of the proposed development.
- b. A description of the cultural heritage values, including the significance of the Aboriginal objects and declared Aboriginal places, that exist across the whole area that will be affected by the proposed development, and the significance of these values for the Aboriginal people who have a cultural association with the land.
- c. A description of how the requirements for consultation with Aboriginal people as specified in clause 80C of the *National Parks and Wildlife Regulation 2009* have been met.
- d. The views of those Aboriginal people regarding the likely impact of the proposed development on their cultural heritage. If any submissions have been received as a part of the consultation requirements, then the report must include a copy of each submission and your response.

- e. A description of the actual or likely harm posed to the Aboriginal objects or declared Aboriginal places from the proposed activity, with reference to the cultural heritage values identified, and the need apply for a Aboriginal Heritage Impact Permit (AHIP).
- f. A description of any practical measures that may be taken to protect and conserve those Aboriginal objects or declared Aboriginal places.
- g. A description of any practical measures that may be taken to avoid or mitigate any actual or likely harm, alternatives to harm or, if this is not possible, to manage (minimise) harm.
- h. A specific Statement of Commitment that the proponent will complete an Aboriginal Site Impact Recording Form and submit it to the Aboriginal Heritage Information Management System (AHIMS) Registrar, for each AHIMS site that is harmed through the proposed development.

In addressing these requirements, the proponent must refer to the following documents:

- **Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010** (DECCW, 2010) - <http://www.environment.nsw.gov.au/licences/consultation.htm>. This document further explains the consultation requirements that are set out in clause 80C of the National Parks and Wildlife Regulation 2009. The process set out in this document must be followed and documented in the Environmental Assessment Report.
- **Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales** (DECCW, 2010) <http://www.environment.nsw.gov.au/licences/archinvestigations.htm>. The process described in this Code should be followed and documented where the assessment of Aboriginal cultural heritage requires an archaeological investigation to be undertaken.

**Notes:**

- i. An *Aboriginal Site Impact Recording Form* (<http://www.environment.nsw.gov.au/licences/DECCAHIMSSiteRecordingForm.htm>) must be completed and submitted to the Aboriginal Heritage Information Management System (AHIMS) Registrar, for each AHIMS site that is harmed through archaeological investigations required or permitted through these environmental assessment requirements.
- ii. Under section 89A of the *National Parks and Wildlife Act 1974*, it is an offence for a person not to notify OEH of the location of any Aboriginal object the person becomes aware of, not already recorded on the Aboriginal Heritage Information Management System (AHIMS). An AHIMS Site Recording Form should be completed and submitted to the AHIMS Registrar (<http://www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm>), for each Aboriginal site found during investigations.



#### 4. Biodiversity

Biodiversity impacts can be assessed using either:

- The BioBanking Assessment Methodology (scenario 1) or
- A detailed biodiversity assessment (scenario 2).

The requirements for each of these approaches are detailed below.

The BioBanking Assessment Methodology can be used either to obtain a BioBanking statement, or to assess impacts of a proposal and to determine required offsets without obtaining a statement. In the latter instances, if the required credits are not available for offsetting, appropriate alternative options may be developed in consultation with OEH officers.

**Note:**

- i. The Shire may be listed in Schedule 1 of **SEPP No. 44 - Koala Habitat Protection**. If so, the requirements of the SEPP regarding Koala habitat protection should also be considered by the proponent.

**SCENARIO 1 - Where a proposal is assessed using the BioBanking Assessment Methodology (BBAM)**

1. Where a BioBanking Statement is being sought under Part 7A of the *Threatened Species Conservation Act 1995* (TSC Act), the assessment must be undertaken by an accredited BioBanking assessor (as specified under Section 142B (1)(c) of the TSC Act 1995) and done in accordance with the [BioBanking Assessment Methodology and Credit Calculator Operational Manual](#) (DECCW, 2008). To qualify for a BioBanking Statement a proposal must meet the 'improve or maintain' standard.
  - 1a. The Environmental Impact Statement (EIS) should include a specific Statement of Commitments that reflects all requirements of the BioBanking Statement including the number of credits required and any DG approved variations to impact on Red Flags.
2. Where the BioBanking Assessment Methodology is being used to assess impacts of a proposal and to determine required offsets, and a BioBanking Statement is not being obtained, the EIS should contain a detailed biodiversity assessment and all components of the assessment must be undertaken in accordance with the [BioBanking Assessment Methodology and Credit Calculator Operational Manual](#) (DECCW, 2008).
  - 2a. The EIS should include a specific Statement of Commitments which:
    - is informed by the outcomes of the proposed BioBanking assessment offset package;
    - sets out the ecosystem and species credits required by the BioBanking Assessment Methodology and how these ecosystem and/or species credits will be secured and obtained;
    - if the ecosystem or species credits cannot be obtained, provides appropriate alternative options to offset expected impacts, noting that an appropriate alternative option may be developed in consultation with OEH officers and in accordance with OEH policy;
    - demonstrates how all options have been explored to avoid red flag areas; and
    - includes all relevant 'BioBanking files (e.g. \*.xml output files), data sheets, underlying assumptions (particularly in the selection of vegetation types from the vegetation types database), and documentation (including maps, aerial photographs, GIS shape files, other remote sensing imagery etc.) to ensure that the OEH can conduct an appropriate review of the assessment.

3. **Where appropriate**, likely impacts (both **direct** and **indirect**) on any adjoining and/or nearby OEH estate reserved under the *National Parks and Wildlife Act 1974* or any marine and estuarine protected areas under the *Fisheries Management Act 1994* or the *Marine Parks Act 1997* should be considered. Please refer to the [Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water](#) (DECCW, 2010).
4. With regard to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, the assessment should identify and assess any relevant Matters of National Environmental Significance and whether the proposal has been referred to the Commonwealth or already determined to be a controlled action.

#### **SCENARIO 2 - Where a proposal is assessed outside the BioBanking Assessment Methodology**

1. The EIS should include a detailed biodiversity assessment, including assessment of impacts on threatened biodiversity, native vegetation and habitat. This assessment should address the matters included in the following sections.
2. A field survey of the site should be conducted and documented in accordance with relevant guidelines, including:
  - the [Threatened Species Survey and Assessment Guidelines: Field Survey Methods for Fauna -Amphibians](#) (DECCW, 2009);
  - [Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities - Working Draft](#) (DEC, 2004); and
  - Threatened species survey and assessment guideline information on [www.environment.nsw.gov.au/threatenedspecies/surveyassessmentguidelines.htm](http://www.environment.nsw.gov.au/threatenedspecies/surveyassessmentguidelines.htm).
  - Commonwealth survey requirements (birds, bats, reptiles, frogs, fish and mammals): <http://www.environment.gov.au/epbc/publications/guidelines.htm>. These are relevant when species or communities listed under the *Environment Protection and Biodiversity Conservation Act* are present.

It is preferable for proponents to use the Interim Vegetation Mapping Standard data form to collect the vegetation plot data for the project site, and any offset site associated with the project. This will provide data that is useful for vegetation mapping as well as in the BioBanking Assessment Methodology. This is available at <http://www.environment.nsw.gov.au/research/VISplot.htm>.

If a proposed survey methodology is likely to vary significantly from the above methods, the proponent should discuss the proposed methodology with the OEH prior to undertaking the EIS, to determine whether the OEH considers that it is appropriate.

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

- been undertaken in seasons, weather conditions or following extensive disturbance events when the subject species are unlikely to be detected or present, or
- utilised methodologies, survey sampling intensities, timeframes or baits that are not the most appropriate for detecting the target subject species,

unless these differences can be clearly demonstrated to have had an insignificant impact upon the outcomes of the surveys. If a previous survey is used, any additional species listed under the TSC Act since the previous survey took place, must be surveyed for.

Determining the list of potential threatened species for the site must be done in accordance with the [Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities - Working Draft](#) (DEC, 2004).

The OEH Threatened Species website <http://www.environment.nsw.gov.au/threatenedspecies/> and the *Atlas of NSW Wildlife* database must be the primary information sources for the list of threatened species present.

The BioBanking Threatened Species Database, the Vegetation Types databases (available via the OEH website at <http://www.environment.nsw.gov.au/biobanking/biobankingtspd.htm> and <http://www.environment.nsw.gov.au/biobanking/vegtypedatabase.htm>, respectively) and other data sources (e.g. PlantNET, Online Zoological Collections of Australian Museums (<http://www.ozcam.org/>), previous or nearby surveys etc.) may also be used to compile the list.

Other reference literature may be available for the subject locality/region. The proponent should explore this possibility thoroughly.

3. The EIS should contain the following information as a minimum:
  - a. Description and geo-referenced mapping of study area (**and associated spatial data files**), e.g. overlays on topographic maps, satellite images and /or aerial photos, including details of map datum, projection and zone, all survey locations, vegetation communities (including classification and methodology used to classify), key habitat features and reported locations of threatened species, populations and ecological communities present in the subject site and study area. Separate spatial files (.shp format) to be provided to the OEH should include, at a minimum, shapefiles of the project site, impact footprint, vegetation mapping and classification for both the impact and any offset site(s);
  - b. Description of survey methodologies used, including timing, location and weather conditions, and a comparison of survey effort (in tabular form) with that recommended in the *Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities - Working Draft* (DEC, 2004). Where survey effort is not consistent with those guidelines justification must be provided;
  - c. Detailed description of vegetation communities (including classification and methodology used to classify) and including all plot data. Plot data should be supplied to the OEH in electronic format (eg MS-Excel) and organised by vegetation community;
  - d. Details, including qualifications and experience of all staff undertaking the surveys, mapping and assessment of impacts as part of the EIA;
  - e. Identification of national and state listed threatened biota known or likely to occur in the study area and their conservation status;
  - f. Description of the likely impacts of the proposal on biodiversity and wildlife corridors, including **direct** and **indirect** and **construction** and **operation** impacts. Wherever possible, quantify these impacts such as the amount of each vegetation community or species habitat to be cleared or impacted, or any fragmentation of a wildlife corridor;
  - g. Identification of the **avoidance, mitigation** and **management measures** that will be put in place as part of the proposal to avoid or minimise impacts, including details about alternative options considered and how long term management arrangements will be guaranteed;
  - h. Description of the residual impacts of the proposal. **If the proposal cannot adequately avoid or mitigate impacts on biodiversity, then a biodiversity offset package is expected** (see the requirements for this at point 6 below); and
  - i. Provision of specific Statement of Commitments relating to biodiversity.
4. An assessment of the significance of **direct** and **indirect** impacts of the proposal must be undertaken for threatened biodiversity **known or considered likely to occur** in the study area based on the presence of suitable habitat. The Assessment of Significance is a statutory mechanism which allows decision makers to assess whether a proposed development or activity is

likely to have a significant effect on threatened species, populations or ecological communities, or their habitats. This assessment must take into account:

- a. the factors identified in s.5A of the EP&A Act<sup>1</sup>; and
  - b. the guidance provided by *The Threatened Species Assessment Guideline – The Assessment of Significance (DECCW, 2007)*. This guideline is available on the OEHL website:  
<http://www.environment.nsw.gov.au/resources/threatenedspecies/tsaguide07393.pdf>
5. Where an offsets package is proposed by a proponent for impacts to biodiversity (and a BioBanking Statement has not been sought) this package should:
- a. Meet the OEHL's *Principles for the use of biodiversity offsets in NSW*<sup>2</sup>, which are available at: <http://www.environment.nsw.gov.au/biodivoffsets/oehoffsetprincip.htm>
  - b. Identify the conservation mechanisms to be used to ensure the long term protection and management of the offset sites; and
  - c. Include an appropriate Management Plan (such as vegetation or habitat) that has been developed as a key amelioration measure to ensure any proposed compensatory offsets, retained habitat enhancement features within the development footprint and/or impact mitigation measures (including proposed rehabilitation and/or monitoring programs) are appropriately managed and funded.
6. **Where appropriate**, likely impacts (both **direct** and **indirect**) on any adjoining and/or nearby OEHL estate reserved under the *National Parks and Wildlife Act 1974* or any marine and estuarine protected areas under the *Fisheries Management Act 1994* or the *Marine Parks Act 1997* should be considered. Refer to the [\*Guidelines for developments adjoining land and water managed by the Department of Environment, Climate Change and Water\*](#) (DECC, 2010).

<sup>1</sup> Following threatened species assessment via the Assessment of Significance, it may be necessary to prepare a **Species Impact Statement (SIS)**. The proponent will need to prepare a SIS in the following circumstances:

- If (after having addressed Section 5A) the flora/fauna assessment concludes that there is likely to be a significant impact to threatened species, or
- The proposed development is likely to affect critical habitat declared under the TSC Act.

If a SIS is required, the proponent (not the consultant) must write to OEHL for any formal requirements for the SIS that he might deem appropriate. The SIS must then be prepared in accordance with these requirements and provided to the OEHL. In some instances the Minister for the Environment will also need to be consulted for approval.

Methods to reduce the impact on the protected and threatened species should be considered fully, and are considered an integral requirement within any SIS document.

Conducting an Assessment of Significance or an SIS according to the provisions of the *EP&A Act* and the *TSC Act* is a complex task and should be undertaken by suitably qualified person(s).

<sup>2</sup> **Please note** that the OEHL's *Principles for the use of biodiversity offsets in NSW* ('the Principles') require offsets to be based on a **quantitative assessment** of the loss in biodiversity from the proposal and the gain in biodiversity from the offset. The methodology must be based on the best available science, be reliable, and used for calculating both the impact and offset sites. Even where a proponent does not intend to use the BioBanking Assessment Methodology and Credit Calculator (Scenario 1), use of a **suitable alternative metric**, justified in the EA, is necessary to demonstrate that the proposal is consistent with the Principles or the Interim policy. Ultimately the proponent is expected to demonstrate quantitatively that the biodiversity losses associated with the project will be adequately compensated for by the improvement in vegetation condition and security expected from the offset site. This cannot be properly determined by a hectare comparison alone.

7. With regard to the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*, the assessment should identify any relevant Matters of National Environmental Significance and whether the proposal has been referred to the Commonwealth or already determined to be a controlled action.

## Attachment B – Guidance Material

Title	Web Address
<i>Commonwealth Environment Protection &amp; Biodiversity Conservation Act 1999</i>	<a href="http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/">http://www.austlii.edu.au/au/legis/cth/consol_act/epabca1999588/</a>
<i>Environmental Planning and Assessment Act 1979</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+203+1979+cd+0+N</a>
<i>Fisheries Management Act 1994</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+38+1994+cd+0+N</a>
<i>National Parks and Wildlife Act 1974</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+80+1974+cd+0+N</a>
<i>Threatened Species Conservation Act 1995</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+101+1995+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+101+1995+cd+0+N</a>
<i>Water Management Act 2000</i>	<a href="http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N">http://www.legislation.nsw.gov.au/maintop/view/inforce/act+92+2000+cd+0+N</a>
<b>Aboriginal Cultural Heritage</b>	
Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (2005)	Available from DoPI.
Aboriginal Cultural Heritage Consultation Requirements for Proponents (DECCW, 2010)	<a href="http://www.environment.nsw.gov.au/licences/consultation.htm">http://www.environment.nsw.gov.au/licences/consultation.htm</a>
Code of Practice for the Archaeological Investigation of Aboriginal Objects in New South Wales (DECCW, 2010)	<a href="http://www.environment.nsw.gov.au/licences/archinvestigations.htm">http://www.environment.nsw.gov.au/licences/archinvestigations.htm</a>
Due Diligence Code for the Protection of Aboriginal Objects in NSW (DECCW 2010)	<a href="http://www.environment.nsw.gov.au/resources/cultureheritage/ddcop/10798ddcop.pdf">http://www.environment.nsw.gov.au/resources/cultureheritage/ddcop/10798ddcop.pdf</a>
Aboriginal Site Impact Recording Form	<a href="http://www.environment.nsw.gov.au/licences/DECCAHIMSSiteRecordingForm.htm">http://www.environment.nsw.gov.au/licences/DECCAHIMSSiteRecordingForm.htm</a>
Aboriginal Heritage Information Management System (AHIMS) Registrar	<a href="http://www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm">http://www.environment.nsw.gov.au/contact/AHIMSRegistrar.htm</a>
<b>Biodiversity</b>	
BioBanking Assessment Methodology (DECC, 2008)	<a href="http://www.environment.nsw.gov.au/resources/biobanking/08385bbassessmentmethod.pdf">http://www.environment.nsw.gov.au/resources/biobanking/08385bbassessmentmethod.pdf</a>
BioBanking Assessment Methodology and Credit Calculator Operational Manual (DECCW, 2008)	<a href="http://www.environment.nsw.gov.au/biobanking/calculator.htm">http://www.environment.nsw.gov.au/biobanking/calculator.htm</a>
Threatened Species Survey and Assessment Guidelines: Field Survey Methods for Fauna –Amphibians (DECCW, 2009)	<a href="http://www.environment.nsw.gov.au/resources/threatenedspecies/09213amphibians.pdf">http://www.environment.nsw.gov.au/resources/threatenedspecies/09213amphibians.pdf</a>
Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities – Working Draft (DEC, 2004)	<a href="http://www.environment.nsw.gov.au/resources/nature/TBSAGuidelinesDraft.pdf">http://www.environment.nsw.gov.au/resources/nature/TBSAGuidelinesDraft.pdf</a>
Survey requirements (birds, bats, reptiles, frogs, fish and mammals) for species listed under the EPBC Act	<a href="http://www.environment.gov.au/epbc/publications/guidelines.html">http://www.environment.gov.au/epbc/publications/guidelines.html</a>
DECCW Threatened Species website	<a href="http://www.environment.nsw.gov.au/threatenedspecies/">http://www.environment.nsw.gov.au/threatenedspecies/</a>

Atlas of NSW Wildlife	<a href="http://www.environment.nsw.gov.au/wildlifeatlas/about.htm">http://www.environment.nsw.gov.au/wildlifeatlas/about.htm</a>
BioBanking Threatened Species Database	<a href="http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/home_species.aspx">http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/home_species.aspx</a>
Vegetation Types databases	<a href="http://www.environment.nsw.gov.au/biobanking/vegtypedatabase.htm">http://www.environment.nsw.gov.au/biobanking/vegtypedatabase.htm</a>
PlantNET	<a href="http://plantnet.rbgsyd.nsw.gov.au/">http://plantnet.rbgsyd.nsw.gov.au/</a>
Online Zoological Collections of Australian Museums	<a href="http://www.ozcam.org/">http://www.ozcam.org/</a>
Threatened Species Assessment Guideline - The Assessment of Significance (DECCW, 2007)	<a href="http://www.environment.nsw.gov.au/resources/threatenedspecies/tsaguide07393.pdf">http://www.environment.nsw.gov.au/resources/threatenedspecies/tsaguide07393.pdf</a>
Principles for the use of biodiversity offsets in NSW	<a href="http://www.environment.nsw.gov.au/biodivoffsets/oehoffsetprincip.htm">http://www.environment.nsw.gov.au/biodivoffsets/oehoffsetprincip.htm</a>



Transport  
Roads & Maritime  
Services

WST13/00067/02

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

**Attention: Mr Nicholas Brbot**

Dear Mr Brbot

**DGR ID No.766: Avoca Tank Project;  
Request for input into Director-General's Requirements (DGRs)**

Thank you for your email on 21 August 2013 requesting input into DGRs for the Avoca Tank Project from Roads and Maritime Services (RMS).

RMS notes that extracted materials from the proposed mine will be transported by road to the Tritton Copper Mine for processing and then onto Hermidale for transportation by rail.

The Background Paper submitted for this project has been reviewed and RMS provides the following key issues which should be addressed in the Environmental Impact Statement:

- A traffic impact study prepared in accordance with the methodology set out in Section 2 of the RTA's Guide to Traffic Generating Developments and including:
  - Hours and days of construction and operation for each stage of the project and how proposed operations will interact with other road users;
  - Road transport volumes and types broken down into origin and destination, travel routes and peak hours for the construction, operation and decommissioning of the project. The study should provide details of projected transport operations including volumes of traffic and tonnage to be transported. Volumes should also include mine input related traffic generation (e.g. fuel deliveries, potable water deliveries, maintenance, services) and impacts of mine related traffic generation on public roads. The traffic study should address internal traffic movements and parking facilities;
  - An assessment of cumulative impacts during construction and operation of the project. In particular, the cumulative impacts of project traffic and traffic generated by the existing operations at the nearby Girilambone and Tritton Copper Mines;
  - Any over size and over mass vehicles and loads expected for the construction, operation and decommissioning of the project. The shortest and least trafficked route should be given

Roads and Maritime Services

14-15 Conning Green, Parramatta NSW 2150  
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priority for the movement of construction materials and machinery to minimise the risk and impact to other motorists so far as is reasonably practicable;

- o Temporary and permanent staff numbers (including employees and contractors) and staff parking arrangements during construction, operation and decommissioning of the project. Modes and volumes of transportation of mining staff to and from the site, details of measures proposed to minimise staff commuter traffic on the local and classified road network and measures to improve commuter safety should also be included;
  - o The impact of generated traffic and measures employed to ensure efficiency and safety on the public road network during construction, operation and decommissioning of the project;
  - o Any mitigating measures required to address expected traffic generation.
- Proposed access treatments should be identified and be in accordance with Austroads Guide to Road Design 2010 and RMS Supplements including safe intersection sight distance;

RMS appreciates the opportunity to contribute to the DGRs and requests that a copy of the DGRs be forwarded to RMS at the same time they are sent to the applicant. Should you require further information please contact Andrew McIntyre on (02) 6861 1453.

Yours faithfully

  
Tony Hendry  
Road Safety & Traffic Manager  
Western

5 SEP 2013



Department of  
Primary Industries

V13/969#21  
out13/34928

Mr Chris Dickson  
Environmental Consultant  
RW Corkery and Co Pty Ltd  
PO Box 239  
BROOKLYN NSW 2083

Dear Mr Dickson

Thank you for your email dated 25 October 2013 concerning any further issues regarding the Avoca Tank Project proposal.

As a result of reviewing the Tritton Resources Pty Ltd Background Paper for the Avoca Tank Project supplied, my Department have no further specific requests to the Director General Requirements dated 25 September 2013.

The nature of the proposal as a designed local development under Part 4 of the *Environmental Planning and Assessment Act 1979*, and its development as a box cut and underground mine in a semi-arid environment is noted. The agricultural use of the areas mainly for extensive grazing indicates its low intensity use in a semi-arid environment. The preliminary project documentation risk analysis (Table 3, page 26) proposes that the impact on agricultural land capability and productivity and soil resources and erosion will be low. Hence the assessment of land resources as outlined in the Director General Requirements is sufficient to assess the land and soil capability, and its use for agriculture. Also if any of the land is to be reinstated for agriculture, through rehabilitation that this also is shown in terms of areas and restoration techniques.

Please contact myself if you have any further queries.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Mary Kovac'.

Mary Kovac  
Resource Management Officer  
Central and Far West  
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20 November 2013

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