Appendix 1 – Director General's Requirements

Department of Planning advice of the Director General's Requirements together with responses from:

- Roads and Traffic Authority
- Industry & Investment
- Department of Planning – Heritage Office
- Department of Environment Climate Change and Water
- Office of Water

NSW GOVERNMENT | Planning

Mining and Industry
Contact: Haley Rich
Phone: 9228 6156
Fax: 9228 6466
Email: haley.rich@planning.nsw.gov.au

Mr Trevor Shard
Cobar Consolidated Resources Limited
PO Box 7693
ST KILDA ROAD VIC 8004

Dear Mr Shard

Director-General's Requirements
Development of Wonawinta Silver Project - Cobar

I refer to your request for the Director-General's requirements for the preparation of an Environmental Impact Statement (EIS) for the development of the Wonawinta Silver Project, in the Cobar Shire local government area.

Statutory Issues

Attachment 1 outlines the statutory matters that must be included in any EIS under clauses 71 and 72 of the *Environmental Planning and Assessment Regulation 2000* (the EP&A Regulation).

Specific Issues

Under clause 73(1) of the EP&A Regulation, the Director-General requires the EIS to address the following specific issues:

- **Description of the Proposal:** The EIS must include a full description of the proposal, clearly identifying the resource, the site, the proposed works (including rehabilitation works) and the duration and intensity of mining operations, and any likely interactions between the proposed operations and existing/approved development and landuse in the area.
- **Justification for the Proposal:** The EIS must include a detailed justification of the proposal.
- **Environmental Planning Instruments:** The EIS must assess the proposal against the relevant provisions of *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007; State Environmental Planning Policy (SEPP) No. 33 – Hazardous and Offensive Developments; SEPP No. 55 – Remediation of Land; SEPP (Rural Lands) 2008; Australian Natural Resources Atlas: Rangeland overview – the Cobar Peneplain; Western CMA – Catchment Action Plan; SEPP (Major Development) 2005; the Cobar LEP 2001* and relevant development control plans and section 94 plans.
- **Key Issues:** The EIS must assess the following potential impacts, including any accumulative impacts, of the proposal during all phases of development (construction, operation and rehabilitation) and describe what measures would be implemented to avoid, minimise, and if necessary offset the potential impacts:
  - flora and fauna (particularly critical habitats; threatened species, populations or ecological communities, or their habitats);
  - heritage (both Aboriginal and non-Aboriginal);
  - transport management (intersection design and operation);
  - surface water, groundwater and waste water (the transport and disposal of waste water is a prime consideration);

- soils (including erosion and sediment controls);
- contamination and containment of waste;
- noise;
- air quality;
- waste management;
- hazards;
- land rehabilitation;
- visual;
- bushfire management;
- utilities and services; and
- social and economic impacts (including impacts on local agriculture).

- **State Government Policies and Guidelines** The EIS must take into account relevant State Government policies and guidelines, in particular the *New South Wales Groundwater Protection Policy*, the *Industrial Noise Policy* (EPA 2001), and *Soils and Construction: Managing Urban Stormwater* (Landcom 2004).
- **Rehabilitation and Final Land Use:** The EIS must:
  - justify the final land use in relation to the strategic land use objectives for the area;
  - describe in detail how the site would be progressively rehabilitated; and
  - describe what measures would be put in place for the ongoing management of the site following cessation of mining activities, including consideration of the most appropriate mechanisms for securing sufficient financial resources for the implementation of these measures in the long term.
- **Environmental Monitoring and Management:** The EIS must describe in detail how the environmental performance of the proposal would be monitored and managed over time.
- **Cumulative Impacts:** The EIS must assess the potential cumulative impacts of the proposal.

Guidelines

During the preparation of the EIS, you must consult the Department's EIS Guidelines - *Extractive Industries – Quarries.*

The guideline is available for purchase from the Department's Information Centre, 23-33 Bridge Street, Sydney or by calling 1300 305 695.

Integrated Development

Under section 91 of the *Environmental Planning and Assessment Act 1979* the development is "integrated development" if it requires certain approvals (in addition to development consent) before it may be carried out.

In your Form A, you indicated that your proposal will require an approval from the Department of Environment, Climate Change and Water (DECCW) under the *Protection of the Environment Operations Act 1997*; the NSW Office of Water (NOW) under the *Water Management Act 2000*; the Heritage Branch of the Department of Planning under the *Heritage Act 1977*; and the Department of Industry and Investment (DI&I) under the *Mining Act 1992*.

The detailed EIS requirements from DECCW and the Heritage Branch are included as Attachment 2. However, requirements have not yet been received by DI&I and NOW. You are required to consult directly with these agencies to obtain the detailed requirements for approval to be included in the EIS. If further integrated approvals are identified before the Development Application (DA) is lodged, you must conduct your own consultation with the relevant agencies, and address their requirements in the EIS.

Also, detailed EIS requirements have not yet been received from the Cobar Shire Council. Please note that you are required to liaise directly with the Council's development assessment team to obtain any further requirements for the EIS. If further integrated approvals are identified before the Development Application (DA) is lodged, you must conduct your own consultation with the relevant agencies, and address their requirements in the EIS.

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

- Three (two hard and one electronic) copies of the EIS to the Department;
- Two (one hard and one electronic) copies of the EIS directly to DECCW; and
- A cheque for $250 to each integrated approval authority, to offset costs involved in the review of the DA and EIS.

Consultation

During the preparation of the EIS, you must consult 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 Council, DECCW, NOW, DI&I, the Land and Property Management Authority, the NSW Rural Fire Service, the Western Catchment Management Authority, the Roads and Traffic Authority (RTA) and surrounding landowners and occupiers that are likely to be impacted by the proposal.

The RTA has provided comments on the proposal (see Attachment 3).

Details of the consultations carried out and issues raised must be included in the EIS.

Commonwealth Environment Protection and Biodiversity Conservation Act

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 Environment Protection Biodiversity Conservation Act 1999* (EPBC Act). This approval is in addition to any approvals required under NSW legislation. It is your responsibility to contact the Department of the Environment, Water, Heritage and the Arts in Canberra ((02) 6274 1111 or http://www.environment.gov.au) to determine if the proposal is likely to have a significant impact on matters of National Environmental Significance, and would require an approval under the EPBC Act. If it is determined that an approval is required under the EPBC Act, please contact the Department of Planning immediately, as consultation will be needed with the Commonwealth to determine whether it will accredit the Department's assessment processes or will conduct it's own assessment. If the Commonwealth accredits the Department's assessment process for this project, supplementary Director General's requirements may also need to be issued.

Mines Inspection Act 1901

Should the consent authority approve the proposal, then under section 44 of the *Mines Inspection Act 1901,* the owner or general manager of a mine or quarry must give notice to a Mines Inspector of the commencement (or continuation) of mining or quarrying operations. The Applicant should contact the Department of Primary Industries' Mine Safety Operations Branch in their local area in regard to compliance with the *Mines Inspection Act 1901.*

Administration

You should note that if the DA to which these requirements relate is not made within two years of the date of this letter, you must re-consult with the Director-General prior to lodging the application in order that these requirements may be revised if necessary.

Enquiries

If you have any enquiries about the above, please contact Haley Rich.

Yours sincerely

David Kitto
Director
Mining and Industry
as delegate of the Director-General

RTA

88.5395 10/1-1; C10/57

Manager, Mining
Major Development Assessment
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Dear Sir

Development of Wonawinta Silver Project

I refer to correspondence from Mr Howard Reed dated 20 January 2010 requesting Roads and Traffic Authority (RTA) input for key issues to assist the preparation of Director-General's requirements for the Wonawinta Silver Project.

The following points are to be addressed in preparation of the Environmental Assessment:

- A Traffic Impact Study is to be undertaken which includes, but is not limited to, origin-destination of vehicles, including staff, contractors, construction and maintenance personnel during both the construction and operation phases of the development. The study should include vehicle types, volumes and times of peak travel and include existing, proposed and 10 year projected figures for the Kidman Way and Manuka Yarranvale Road. The traffic study should also address internal traffic movement and parking facilities.
- Intersection treatments and mitigation measures to cater for predicted traffic impacts on the Kidman Way. This is to include any required temporary or staged treatments and other measures. Treatments are to be provided for any proposed new junctions as well as any other temporary junctions or existing intersection upgrades. The intersections are to cater for all heavy and over dimensional vehicles that will be accessing the development. Intersection design will be assessed on RTA Road Design Guide requirements.
- Details of other anticipated impacts on the Kidman Way including blasting, lighting, visual and drainage impacts.
- Speed and fatigue management requirements are to be addressed. Employee and contractor vehicle speed on public roads and employee and contractor driver fatigue are of significance under the conditions proposed for this development with 24 hour operation.
- Address potential conflict between employee and contractor vehicles with school buses. Consideration should be given to the timing of shift changes to be outside the normal operating times of school buses.

Should you require further information, please contact Fiona Francis on (02) 6861 1688.

Yours faithfully

8 FEB 2010

Tony Hendry
Road Safety and Traffic Manager
Western

Roads and Traffic Authority ABN 64 480 155 255

51-55 Cunnajong Street Parkes NSW 2870
PO Box 334 Parkes NSW 2870 DX20256
www.rta.nsw.gov.au | 13 17 82

NSW GOVERNMENT | Industry & Investment

Your Reference: DGR 486
Our Reference: V10/305
OUT10/1705

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

Attention Ms Haley Rich

Dear Mr Reed

Proposed Wonawinta Silver Project
Director General's Requirements No. 486

I refer to your letter of 20 January 2010 regarding the request for Director General's requirements (DGRs) for the development of the proposed Wonawinta Silver project.

The following comments are provided by Industry and Investment NSW (I&I NSW) to assist in the framing of the DGRs for the preparation of an Environmental Impact Statement (EIS).

MINERAL RESOURCES ISSUES:

Mining Tenure
The mining of silver and lead, and associated mining purposes for this proposal, requires a mining title issued under the *Mining Act 1992*. The boundary of the proposed mining area is to be delineated in the EIS, identifying the mining title or current application for title in which operations will be conducted. The EIS is also to document the tenure of the proposed pipeline from the McKinnons mine site to the Wonawinta site.

Resource Assessment
The EIS is to provide details on the volume and grade of material to be recovered and treated from each pit and provide details on the geochemistry and mineralogy of the ore (is it consistent or does it vary from zone to zone).

Environmental Management
- The various elements of the proposed project should be described in the EIS, including active mine areas, waste rock disposal, tailings storages, infrastructure and processing facilities.
- Provide a detailed rehabilitation strategy which proposes final land use and provide a conceptual plan depicting the final land use/s and landforms. Discuss alternative final land use/s and provide reasons for selecting proposed final land use.

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Level 6, 201 Elizabeth Street, Sydney NSW 2000
PO Box K220 HAYMARKET NSW 1240
Tel: (02)8289 3930 Fax: 02 9286 3208
ABN 51 734 124 190
www.industry.nsw.gov.au

- Describe rehabilitation objectives for the project and how each rehabilitation objective complies with relevant Government legislation or policies, research or industry leading practice.
- Identify each rehabilitation domain and propose strategic completion criteria for each domain having regard to the various stages of rehabilitation and outline proposed timeframes for progressive rehabilitation.
- Outline the proposed rehabilitation methods and techniques and proposed monitoring and research program.
- Describe any post rehabilitation maintenance requirements for the project site and how these will be managed.
- Incorporate a detailed review of waste rock disposal options for the project. This should include full consideration, documentation and evaluation of all disposal or use options considered. Demonstrate that waste rock geochemistry has been considered. The proposed waste rock disposal must be justified in the context of other possible approaches to managing this aspect of the project.

FISHERIES ISSUES

The management of fish and fish habitat throughout NSW is the responsibility of I&I NSW. The EIS should specifically address impacts on the aquatic ecology and controls to be established for the mine and the corridor of the proposed pipeline from McKinnons mine to the proposed mine site as indicated below:

Aquatic Ecological Assessment

The aquatic ecological environmental assessment should include the following information;

- A recent aerial photograph (preferably colour) of the mine site (or reproduction of such a photograph) and pipeline should be provided.
- Area which may be affected either directly or indirectly by the mine site and development of the corridor of the proposed pipeline should be identified and shown on an appropriately scaled map (and aerial photographs).
- Description of aquatic and riparian vegetation should be presented and mapped.
- The extent of aquatic habitat removal or modification which may result from the proposed development,
- Details of the location of all waterways crossings along the pipeline, including any access tracks with details of various phases of construction.
- Details of the methodology (e.g directional drilling, trenching, boring) for the pipeline.
- Aspects of the management of the proposal, both during construction and after completion, which relate to impact minimisation e.g. Environment Management Plans. A vegetation rehabilitation plan is to include the rehabilitation of the riparian zone damaged during pipeline construction activities or mining activities.

KEY ISSUES

Waterway Crossings and Pipelines

I&I NSW needs to be consulted with regards to the pipeline construction including details on crossing methodology and site specific mitigation measures for watercourses, particularly methods of dredging, trenching or directional drilling and the proposed mitigation measures to protect riparian and aquatic habitat. The Department supports the use of directional drilling under sensitive waterways. While directional drilling generally achieves good outcomes, it is highlighted that appropriate contingency actions be detailed addressing potential problems that could be experienced during the process. Recovery operations for a damaged drill for instance may require dredging and reclamation activities.

A classification scheme such as that used by I&I NSW which classifies waterways into Class 1-4 habitats is available in the document Why Do Fish Need to Cross the Road? Fish Passage Requirements for Waterway Crossings available on the website at http://www.dpi.nsw.gov.au/fisheries/habitat/protecting-habitats/toolkit#Policies-&-guidelines. This should be used to classify watercourses along the pipeline corridor. Badly designed and constructed waterway crossings or pipelines can have significant impacts on fish populations. The design and construction of roads and tracks across all waterways should be undertaken in accordance with the document outlined above.

Threatened Species, populations and ecological communities-- *Fisheries Management Act 1994*

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

Riparian Buffer Zones

I&I NSW policy advocates the use of terrestrial buffer zones as per the *Policy and Guidelines Aquatic Habitat Management and Fish Conservation 1999* available on the Department's website at http://www.fisheries.nsw.gov.au/pub/aquahab.htm which states that "Terrestrial areas adjoining freshwater, estuarine or coastal habitats be carefully managed in order to minimise land use impacts on these aquatic habitats. As a precautionary approach, buffer zones at least 50 metres wide should be established and maintained, with their natural features and vegetation preserved".

SUMMARY

I&I NSW considers that Cobar Consolidated Resources Wonawinta silver mine proposal should prove beneficial to the State and the region by utilising the silver and lead resource within western NSW and providing fulltime employment opportunities for up to 80 persons, provided the relevant potential impacts are appropriately assessed and mitigated.

Should you have any queries regarding this correspondence, please contact Vince Fallico, Project Officer, Industry Coordination on 8289 3930.

Yours sincerely

p/ Brad Mullard
Executive Director Mineral Resources 11/2/10

cc Mr Trevor Shard
Cobar Consolidated Resources Limited
PO Box 7693
St Kilda Road VIC 3004

NSW GOVERNMENT | Planning

Contact: Cathy Colville
Telephone: 02 9873 8588
Email: Catherine.Colville@planning.nsw.gov.au

Manager Mining
Department of Planning
GPO BOX 39
Sydney NSW 2001

Attention: Howard Reed

Dear Sir/Madam

RE: Environmental Impact Statement – Wonawinta Silver Project, Cobar Shire

I refer to your letter dated 20 January 2010, requesting information regarding the NSW Heritage Council's requirements for the preparation of the above mentioned Environmental Impact Statement (EIS).

The Heritage Branch has checked heritage listings for the area in which the Wonawinta Silver Project will occur. It would appear that no heritage items or heritage conservation areas exist within this site. However given the relatively undeveloped nature of the site and its surrounds in a rural setting, the likelihood of potential archaeological and Aboriginal relics and sites could be high. It is therefore recommended in accordance with the provisions of Clause 73 of the Environmental Planning and Assessment Regulation 2000, that the EIS addresses the following issues:

- The heritage significance of the site and any impacts the development may have upon this significance should be assessed. This assessment should include natural areas and places of Aboriginal, historic or archaeological significance. It should also include a consideration of wider heritage impacts in the area surrounding the site.

- The Heritage Council maintains the State Heritage Inventory which lists some items protected under the Heritage Act, 1977 and other statutory instruments. This register can be accessed through the Heritage Branch home page on the internet (http://www.heritage.nsw.gov.au).

- In addition, lists maintained under the Australian Government's Environment Protection and Biodiversity Conservation Act 1999, the National Trust and the Cobar Shire should be consulted in order to identify any existing items of heritage significance in the area affected by the proposal. Please be aware, however, that these lists are constantly evolving and that items with potential heritage significance may not yet be listed.

Heritage Branch, 3 Marist Place, Parramatta NSW 2150 | Locked Bag 5020, Parramatta NSW 2124 | DX 8225 PARRAMATTA
Phone 61 2 9873 8500 Fax 61 2 9873 8599 Email heritagebranch@heritage.nsw.gov.au Website www.heritage.nsw.gov.au

- Non-Aboriginal heritage items within the area affected by the proposal should be identified by field survey. This should include any buildings, works, relics (including relics underwater), gardens, landscapes, views, trees or places of non-Aboriginal heritage significance. A statement of significance and an assessment of the impact of the proposal on the heritage significance of these items should be undertaken. Any measures to conserve their heritage significance should be identified. This assessment should be undertaken in accordance with the guidelines in the NSW Heritage Manual. The field survey and assessment should be undertaken by a qualified practitioner/consultant with historic sites experience.

- The proposal should have regard to any impacts on places, items or relics of significance to Aboriginal people. Where it is likely that the project will impact on Aboriginal heritage, adequate community consultation should take place regarding the assessment of significance, likely impacts and mitigation measures. For guidelines regarding the assessment of Aboriginal sites, please contact the National Parks and Wildlife Division of the Department of Environment, Climate Change and Water (DECCW).

- Research should be conducted to determine the existence of any known or potential archaeological relics. This includes consulting any archaeological zoning plans or archaeological management plans held by Cobar Council if they exist. It is recommended that the proposed development avoids any known or potential archaeological relics.

It would be appreciated if the above comments were considered and incorporated into the DGRs. It would be further appreciated if the EIS would be referred to the Heritage Branch for comment following its preparation. The Heritage Branch would be happy to review any further documentation that may address any likely heritage impacts.

I trust these comments are of assistance. If you have any further enquiries regarding this matter, please contact Cathy Colville on (02) 9873 8588.

Yours sincerely

Petula Samios 5·2·10
Director
Heritage Branch
Department of Planning

PCU002593

Notice No: 1110916

Howard Reed
Manager Mining
Major Project Assessment
Department of Planning NSW
GPO Box 39
SYDNEY NSW 2001

Dear Mr Reed

RE: Development of Wonawinta Siler Project DGR ID No. - 486

I refer to your request for the Department of Environment, Climate Change and Water's (the DECCW) requirements for the preparation of an Environmental Impact Statement (EIS) in regard to the above proposal received by DECCW on 20 January 2010.

DECCW has considered the details of the proposal as provided by the applicant and has determined that the proposal is Integrated Development (IDA) for the purposes of DECCW as the applicant will require an environment protection licence for the project. Should the applicant obtain development consent, the applicant will need to make a separate application to DECCW for a licence .

In summary, from the information presented, the key issues the EIS must focus on include:

- the potential impacts on Flora, Fauna, Threatened Species and Endangered Ecological Communities and their habitats (and a suitable offset);
- the potential impact on native vegetation (and a suitable offset);
- water management including the potential impact of water pollution on local watercourses;
- the impact on ground water, including impact on groundwater dependant ecosystems and other water users especially in relation to the use of cyanide;
- the impact of potential acid generation from waste rock, including proposed methods of encapsulation;
- the potential impact on noise amenity of the local area;
- the potential impacts on Aboriginal Cultural Heritage, and;
- the management of cyanide onsite.

Other environmental issues which must be addressed in the EA are:

- The potential impact on air quality in the local area, including greenhouse gas emissions; and
- The handling and management of all mining wastes and potential pollutants in general, and especially in relation to the potential for acid mine drainage and cyanide and tailings management.

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

- the Department of Environment and Heritage's Best Practice Environmental Management in Mining series; and
- the Australian Minerals Industry Code for Environmental Management.

Based on the information provided to DECCW, the applicant will require an environment protection licence to:

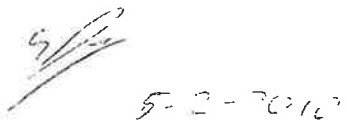
- carry out scheduled development work; and
- carry out scheduled activities.

The applicant will need to make a separate application to DECCW to obtain this licence should consent be granted.

DECCW requests that the proponent provide three (3) hard copies of the EA and one (1) electronic version to assist DECCW's assessment. These documents should be lodged with DECCW's Dubbo Office- postal address PO Box 2111 Dubbo NSW 2830.

Should you have any further enquiries regarding this matter please contact Kharl Turnbull at the Dubbo Office of DECCW by telephoning (02) 6883 5367.

Yours sincerely



CARMEN DWYER
Head Pesticides, Operations and Planning- Dubbo
Environment Protection and Regulation

Attachment A - DECC EA Requirements
Attachment B – General Guidance Material
Attachment C – Guidelines for Aboriginal Cultural Heritage
Attachment D – Guidelines for Threatened Species Assessment
Attachment E – Offset Strategy Requirements
Attachment F - Principles for the use of biodiversity offsets in NSW

Attachment A – DECC EA requirements

Environmental Impacts of the Project

1. The following environmental impacts of the project need to be assessed, quantified and reported on:
   - Air quality;
   - Noise and vibration;
   - Water quantity and quality (surface and groundwater);
   - Waste management (waste rock, tailings, sewage, general waste such as oils, chemicals etc). Please note recent changes to the Protection of the Environment Operations (Waste) Regulation;
   - Threatened species, populations, ecological communities and their habitats
   - Native vegetation;
   - Aboriginal cultural heritage, and
   - Mine subsidence.

2. These should be assessed in accordance with the relevant guidelines listed in Attachment B.

3. Describe mitigation and management options that will be used to prevent, control, abate or mitigate identified environmental impacts associated with the project and to reduce risks to human health and prevent the degradation of the environment.

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

Cumulative Impacts

The EA must consider the cumulative impact of other similar developments in the region in regards to the environmental impacts identified above.

Impacts on Air Quality

The goal should be to maintain existing rural air quality and protect sensitive receptors, both on and off site, from adverse impacts of dust and odour in particular and other relevant air pollutants. Background ambient air levels should be identified to inform the assessment.

Dust is of primary concern with potential emissions from roads, conveyors, transfer points, loading facilities and from coal stockpiles.

Analysis of local meteorologic and terrain data is necessary to undertake an appropriate assessment of impact and to inform decisions about design and management options.

The proponent should assess air impacts in accordance with the DECCW document "*Approved Methods and Guidance for the Modelling and Assessment of Air Pollutants in New South Wales 2005*". Appropriate dust and odour mitigation measures should be outlined in the EA.

Greenhouse Gas Emissions

The EA should also include a comprehensive assessment of the projects predicted greenhouse gas emissions (tCO_2e) and associated impact. Emissions should be reported down to include:

a) direct emissions (scope 1 as defined by the Greenhouse Gas Protocol- refer reference in Attachment B);

b) indirect emissions from electricity generation (scope 2); and

c) scope 3 indirect emissions (all other emissions that are a consequence of the mine's activities, including annual emissions for each year of the project (construction, operation and decommissioning).

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

Greenhouse emissions should be estimated using an appropriate methodology, in accordance with NSW, Australian and International Guidelines (refer guidelines mentioned in Attachment B).

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

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

For emissions covered by the CPRS, any evaluation should include a consideration of expected price increases due to the CPRS. This could include a consideration of energy efficiency opportunities or undertaking an energy use audit for the site.

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

IMPACTS OF NOISE AND VIBRATION

Potential impacts on the noise amenity of the surrounding area should be assessed in accordance with the NSW Government's Industrial Noise Policy (INP) accounting for all noise sources associated with the mine.

The noise assessment must include an assessment of the C- Weighted noise (low frequency) as well as A- Weighted noise.

The noise assessment should be based on adequate monitoring (minimum of 1 week) of pre-mine background noise which represents seasonal variations and the influence of weather factors such as temperature inversions and other unusual features which influence noise.

A copy of the policy and supporting documentation may be obtained from the following link:

http://www.environment.nsw.gov.au/noise/industrial.htm

Blasting and vibration impacts should also be assessed against the relevant guidelines listed in Appendix B.

IMPACTS ON WATER QUANTITY AND QUALITY

The environmental outcomes of the project in relation to water should be that:

- There is no pollution of waters (including surface and groundwater);
- Polluted water (including process waters, wash down waters, polluted stormwater or sewage) is captured onsite and collected, treated and beneficially reused, where safe and practical to do so.

- The project is assessed in relation to the relevant NSW Water Quality Objectives as defined in the individual catchment action plans and against ANZECC 2000 water quality criteria.

The EA should document the measures that will achieve the above outcomes in both the construction, operation and post operation phases of the development. Construction activities will need to demonstrate best practice sediment and erosion control and management in accordance with the reference document *Managing Urban Stormwater: Soils and Construction (NSW Landcom 2004).*

The EA should identify potential impact on watercourses and the management/mitigation measures that will be implemented where works are conducted in the vicinity of watercourses.

The EA should demonstrate how the project will contribute to achieving the most current government endorsed Water Quality and River Flow Objectives for each of the relevant catchments and should utilise the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000).

A detailed water balance must be prepared to model water management through the life cycle of the mine.

Where an off site discharge is proposed, the EA will need to identify:

- Details regarding proposed discharges i.e. treatment requirements, infrastructure to enable a discharge etc
- All proposed discharge points;
- Estimates of the frequency and volume of discharges; and
- Likely water quality to be discharged:

Impacts of the project on Aboriginal Cultural Heritage Values

DECC's Interim Community Consultation Requirements for applicants are designed to provide a framework for inclusive consultation with all Aboriginal groups/individuals with an interest in the Aboriginal cultural heritage values of a proposed development area.

This consultation is designed to enable any such group or individual the opportunity to be involved in all aspects of the assessment and determination of the impacts of the proposed development on Aboriginal objects and/or places and in all decision making about the form and processes required for mitigation of impacts to these objects or places.

The onus is on the proponent to ensure that it meets all of its obligations with respect to the Aboriginal cultural heritage provisions of the *National Parks & Wildlife Act* (1974). It must be noted that it is only the required authorisations under s87 and/or 90 in relation to the movement, damage and or destruction of objects that are no longer required under Section 75U of the Part 3a provisions of the EPA Act and all other provisions of the *National Parks & Wildlife Act* (1974) remain.

1. The EA should address and document the information requirements set out in the draft "Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation" involving surveys and consultation with the Aboriginal community.
2. The EA needs to clearly demonstrate that comprehensive and effective consultation with Aboriginal communities has been undertaken. This consultation should allow Aboriginal community input into the survey, assessment and determination of the Aboriginal cultural heritage values of the mine development area. In addition this consultation should enable Aboriginal input into the assessment of the impacts of the proposed mine works on identified Aboriginal cultural heritage values inclusive of the development of avoidance and mitigation options and in making final recommendations. This consultation should be conducted in accordance with the "Interim Community Consultation Guidelines for Applicants" (Dec, 2004).

3. Identify the nature and extent of Aboriginal cultural heritage values across the project area and assess the nature and extent of the likely impacts on this heritage of all proposed mine related activities. This assessment should consider the cumulative impact of the proposal and do so in a regional context by assessing the cumulative impact to cultural heritage of proposed and approved developments throughout the region.
4. Describe the actions that will be taken to avoid or mitigate impacts or compensate to prevent unavoidable impacts of the project on Aboriginal cultural heritage values. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.
5. Where it is determined that impacts are unavoidable and excavation and/or salvage and/or destruction of Aboriginal objects is proposed, detailed methodologies for the conduct of these activities should be provided. These methodologies should conform to archaeological best practice and include strategies for the effective reporting of all actions, results and required amendments to the AHIMS site Register to DECCW.
6. Where transfer of Aboriginal objects to local community members is proposed in any salvage methodology, the EA should demonstrate both a commitment to and a process for meeting the statutory obligation to seek a Care and Control Permit under s85A of the NPW Act 1974 for such transfer.
7. Where new sites are located during the assessment process and/or at any time during the life of the mine in accordance with s91 of the NPW Act the DECCW requires that it be notified. This notification is expected to be in the form of the completion of DECCW Aboriginal Heritage Site Cards, available on the DECC website. The EA should include all details of any new sites recorded during the assessment process and include a procedure for the formal identification, recording and notification of any new sites located during any mine related activities, and for the life of the mine.

IMPACTS OF THE PROJECT ON BIODIVERSITY VALUES

1. The EA must follow the 'Draft Guidelines for Threatened Species Assessment'. These guidelines deal specifically with applications under Part 3A of the EP&A Act:
    a. A field survey should be conducted and documented in accordance with the guidelines.
    b. Likely impacts on threatened species and their habitat need to be assessed, evaluated and reported on. The EA should specifically report on the considerations listed in Step 3 of the draft guidelines.
    c. The EA must describe the actions that will be taken to avoid impacts, or to mitigate unavoidable impacts of the project on threatened species and their habitat. This should include an assessment of the effectiveness and reliability of the measures and any residual impacts after these measures are implemented.
    d. Step 4 of the draft guidelines requires that where measures to avoid or mitigate are not possible, offset strategies need to be considered.
    e. The EA must clearly state whether it meets each of the key thresholds set out in Step 5 of the draft guidelines.

Impacts on Native Vegetation

As you would be aware, DECC is also responsible for administering the Native Vegetation Act 2003. An important aspect of the Act is that it aims to prevent broadscale clearing of vegetation, unless the clearing improves or maintains environmental outcomes (i.e. suitable offsets for the loss of lawfully cleared native vegetation).

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

1. The hectares of native vegetation that will have to be cleared to accommodate all infrastructure.

2. Full floristics of the vegetation types that will need to be cleared.

3. A description and map of the dominate vegetation types must be provided. Vegetation types mapped should be assigned to corresponding vegetation types included in the Biometric tool vegetation database. These are available from:

http://www.environment.nsw.gov.au/resources/nature/BioMetric_Vegetation_Type_CMA.xls

4. The extent of native vegetation on the site which may be remnant vegetation, protection re-growth or non-protected re-growth as defined by the Native Vegetation Act 2003.

5. The general requirements of the Native Vegetation Act 2003, especially in relation to Vulnerable Land.

Biodiversity Offset Strategy

Regarding biodiversity impacts, where the EA finds that a loss of native vegetation will occur as a result of the proposal and biodiversity impacts cannot be avoided or mitigated against, an acceptable biodiversity offset will be an important component of the project.

The Biodiversity Offset strategy should address the data collection requirements set out in Attachment E and meets the guiding principles of Attachment F. Provision of the offset strategy will allow DECC to make an assessment as to whether biodiversity values are maintained or improved.

The NSW Biobanking Scheme is one method that allows for the assessment of all biodiversity values, which are defined by the *Threatened Species Conservation Act 1995* as the composition, structure and function of ecosystems, and including (but not limited to) threatened species, threatened populations and threatened ecological communities and their habitats.

The proposal should aim to meet an 'improve or maintain' outcome, which requires the use of the methodology to:

- assess impacts upon threatened species and biodiversity;
- determine offset requirements; and
- identify high conservation value areas and design the proposal accordingly.

It is recommended that the proponent address the data requirements of the Biometric and Threatened Species tool methodology (PVP tools) as one means of determining a maintain or improve outcome for a biodiversity offset.

Waste

The EA should identify all wastes to be generated by all aspects of the project and identify procedures for the handling and management of all wastes produced. The handling of overburden material is an important aspect for consideration.

Assessment of the potential for acid mine drainage from acid forming materials should be assessed and management/mitigation measures identified.

Management actions for washery fines/tailings material during processing should be identified, including actions to prevent potential impacts to groundwater, surface water or any other environmental aspect.

Impacts on Conservation Reserves

The EA must assess potential impacts on adjoining conservation reserves and conservation reserves in vicinity of the site, including DECCW Estate. This should be assessed in the context of the DECC guideline *"Guidelines for developments adjoining Department of Environment and Climate Change Land"* which can be obtained via the following link. http://www.environment.nsw.gov.au/protectedareas/developmentadjoiningdecc.htm

Attachment B – General Guidance Material

Assessing Environmental Impacts

Air quality

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

Greenhouse Gas Emissions

- The Greenhouse Gas Protocol: Corporate Standard, World Council for Sustainable Business Development and World Resources Institute http://www.ghgprotocol.org/standards/corporate-standard
- National Greenhouse Accounts (NGA) Factors, Australian Department of Climate Change (Latest Release) http://climatechange.gov.au/workbook/index.html

Noise and vibration

- NSW Industrial Noise Policy (EPA, 1999)
- NSW Environmental Criteria for Road Traffic Noise (EPA, 1999)
- Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration (ANZECC 1990)
- Environmental Noise Management Assessing Vibration: A technical Guide (DEC 2006).
- Interim Construction Noise Guideline (DECC 2009)

Water

Water quality

- Most current government endorsed Water Quality and River Flow Objectives for relevant catchments.
- National Water Quality Management Strategy: Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC 2000)
- NWQMS Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC 2000)

Waste water

- National Water Quality Management Strategy: Guidelines for Sewerage Systems - Effluent Management (ARMCANZ/ANZECC 1997)
- National Water Quality Management Strategy: Guidelines for Sewerage Systems – Use of Reclaimed Water (ARMCANZ/ANZECC 2000)
- Environmental Guidelines for the Utilisation of Treated Effluent by Irrigation (NSW DEC 2004)

Stormwater

- Managing Urban Stormwater: Soils and Construction (Lancôm 2004)
- Managing Urban Stormwater: Source Control (EPA 1998)
- Managing Urban Stormwater: Treatment Techniques (EPA 1998)

The above two documents may be found at the following link:

http://www.epa.nsw.gov.au/stormwater/usp/docs.htm

Groundwater

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

Waste

- Guideline for the Use and Disposal of Biosolids Products (NSW EPA 1997)
- Environmental Guidelines: Solid Waste Landfills (NSW EPA 1996)
- Draft Environmental Guidelines - Industrial Waste Landfilling (April 1998)
- Waste Classification Guidelines
- Resource Recovery Exemptions (Land Application Guidelines)

These documents may be obtained from the following link:

http://www.environment.nsw.gov.au/waste/envguidlns/index.htm

Assessing Threatened Species Impacts

Threatened Biodiversity Survey and Assessment: Guidelines for Development and Activities' [Nov 2004]
http://www3.environment.nsw.gov.au/pdfs/tbsa_guidelines_draft.pdf

Draft Guidelines for Threatened Species Assessment - Available from the Department of Planning.

Assessing Aboriginal Cultural Heritage Impacts

Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (July 2005). A copy of which is attached.

DECC would like to draw your attention to page 5 of this document which provides that community consultation should be conducted in accordance with:

Interim Community Consultation Requirements for Applicants (DECC Dec 2004)

Aboriginal Cultural Heritage Standards and Guidelines Kit (National Parks and Wildlife Sept 1997)

These two documents may be found at the following link:

http://www.environment.nsw.gov.au/conservation/aboriginalculture.htm

Fire

Planning for Bushfire Protection: A Guide for Councils, Planners, Fire Authorities, Developers and Home Owners [December 2001].

DECC Estate

Guidelines for developments adjoining Department of Environment and Climate Change land'

http://www.environment.nsw.gov.au/protectedareas/developmntadjoiningdecc.htm

Attachment E – Offset Strategy Requirements

A. Purpose

The following information is required to guide the layout and content for reporting the

Biodiversity values of the development and offset lands and determine whether a "maintain and improve" outcome will be achieved. In order to satisfy "maintain or improve" objectives, secured offsets are generally required to mitigate areas and values lost from development impacts.

B. Principles

DECCW has developed principles for the use of biodiversity offsets in NSW. These principles are attached in Attachment F.

C. Background Information for Assessment

Assessment Zones

The clearing and offset proposal areas must be divided into relatively homogenous or discrete zones for assessment. Each Zone should represent a distinct vegetation type (according to the vegetation types provided in *BioMetric*) and broad condition state. These vegetation types are to be matched against the NSW and Australian listed endangered ecological communities where appropriate. Zones within proposals do not need to be continuous (i.e. a single zone could occupy two or more discrete areas). Each zone must be > 0.25ha in area (equivalent to 50m x 50m). These zones should be mapped (digitized) and labelled, with zone labels corresponding with *BioMetric* assessment.

Note that vegetation in low condition must always form a separate zone to vegetation not in low condition.

All areas containing native vegetation are to be mapped. Treeless areas to be cleared that have been recently cropped or pasture improved (unlikely to contain a predominantly native ground cover) don't require mapping. Areas containing paddock trees even with a predominately exotic ground cover require mapping and the number of trees (and their characteristics) to be removed calculated.

Assessment within Assessment Zones

DECCW will assess the data provided using one or more calculator tools to guide its assessment as to whether the offset scenario maintains or improves biodiversity values.

Much of the assessment is desktop based, however field information is required in order to assess landscape, biodiversity and threatened species impacts and mitigation options. In order to calculate the offsets required to achieve "no net loss" principles for developments involving native vegetation and habitat removal, information in **Tables 1 to 4** is required.

DECCW requests that the proponent collect data on the development and offset site using the Biometric methodology. The following 2 documents are key references to aid in providing adequate information to assess impacts and offset opportunities:

- *BioMetric* Operation Manual (current version is v1.8)
- *BioMetric* Field data sheets

Latest versions of these can be found at:

http://www.environment.nsw.gov.au/projects/BiometricTool.htm.

The *BioMetric* Operation Manual provides detail on data collection methodologies, with the *BioMetric* Field data sheets providing suitable proformas to collect field data.

Also found at this link is the Reviewed Interim Vegetation Condition Benchmarks, which are required as a comparison to BioMetric plot data.

Data collected from *BioMetric* field data sheets must be summarised in table 2 below.

Mapping

The below maps are required to assist in determining impacts of offset options.

Map 1 should show all areas of 'native vegetation' identified and marked in the study area. This should include native vegetation that is:

- Areas of contiguous 'forest' or 'woodland'.
- 'Forest' and 'Woodland' patches > 0.25 ha in area.
- Areas with 'Paddock Trees' with a predominantly native ground cover.
- Treeless areas where native species comprise >50% ground-cover (i.e., derived grasslands).
- Areas with 'Paddock Trees' with a predominantly exotic ground-cover.

Other areas which may provide habitat for threatened species should also be included. Table 4 provides a list of features to be included.

Map 2 should show all 'vegetation types' identified in Map 1.

Map 3 should split vegetation types into mapped zones to be impacted by development or that are the subject for assessment as an offset (Assessment Zones) based on relatively uniform condition. These assessment zones will be the basis of BioMetric plot assessment.

All shapefiles included in final maps are to be provided electronically (Datum: AGD66, Zone: unprojected)

Tabulation of Data

Information collected in the field should be tabulated as per Tables 1 to 4 below, and provided both as hard copies and in electronic format.

Copies of all raw data sheets are to be provided as an Appendix.

Table 1: Assessment Zones (polygons) of the study area

Assessment Zone	Area (ha)	Vegetation Type	Mitchell Landscape	Apparent condition; other comments
1				
2				
3				
4				
*n**				

* For multiple assessment zones, create a table and insert information

Table 2: Site assessment sheet to be used for each assessment zone (refer also to Biometric Manual)

Assessment Zone: _____ NB. Refer to *BioMetric* Operations Manual to determine the number of plots required in each assessment zone.

Site attribute	Benchmarks		Plots within each assessment zone				
	From	To	1	2	3	4	5
Native plant species							
Native over-storey cover							
Native mid-storey cover							
Native ground cover (grasses)							
Native ground cover (shrubs)							
Native ground cover (other)							
Exotic plant cover							
No. of trees with hollows							
Over-storey regeneration							
Length of logs							

Table 3. Threatened flora targeted surveys

Scientific Name	**Sampling Season**	**No of Individuals per vegetation zone**	**Ha of habitat (include a map)**
All appropriate flora			

Table 4 Fauna Habitat feature

Habitat Feature	**Attributes**	**Output**
Tree Hollows	- Trees with hollows, live or dead - >2cm < 5cm - > 5 cm < 15 cm diameter - > 15cm <20 cm diameter - >20 cm diameter that are > 4 m above the ground	Quantity by each vegetation zone
Feed Shrubs	*Allocasuarina* or *Casuarina* (Glossy Black Cockatoo)	Quantity by each veg zone, mapped
Rock	- Caves - Crevices in cliffs, old mines, - Rocky outcrops or scarps	Point locations

	- Boulder-fields and rocky-cliff faces	

Attachment F - Principles for the use of Biodiversity Offsets in NSW

The following principles are a guide for DECCW when it is negotiating and developing biodiversity offsets to achieve conservation outcomes in situations where a loss of biodiversity is expected. These principles are relevant to areas without an existing biodiversity offsets program. The principles do not apply where there is legislation defining requirements for biodiversity offsets (e.g. under the *Native Vegetation Act 2003*).

The principles are based on ideas/information from a number of publications (NSW Government 2002; NSW Government 2005) and expert knowledge.

The appropriateness of biodiversity offsets will need to be determined in relation to the circumstances and the standard required by legislation for which the offset is proposed. For example, to obtain biodiversity certification under the *Threatened Species Conservation Act 1995*, the required standard is to improve or maintain biodiversity values. Clearing or development proposed in certain areas, such as high conservation significance communities in good condition, will not meet the improve or maintain requirements under this Act.

1. Impacts must be *avoided first* by using prevention and mitigation measures.

Offsets are then used to address remaining impacts. This may include modifying the proposal to avoid an area of biodiversity value or putting in place measures to prevent offsite impacts.

2. All regulatory requirements must be met.

Offsets cannot be used to satisfy approvals or assessments under other legislation, e.g. assessment requirements for Aboriginal heritage sites, pollution or other environmental impacts (unless specifically provided for by legislation or additional approvals).

3. Offsets must never reward ongoing poor performance.

Offset schemes should not encourage landholders to deliberately degrade or mismanage offset areas in order to increase the value from the offset.

4. Offsets will complement other government programs.

A range of tools is required to achieve the NSW Government's conservation objectives, including the establishment and management of new national parks, nature reserves, state conservation areas and regional parks and incentives for private landholders.

4. Offsets must be underpinned by sound ecological principles.

They must:

- include the consideration of structure, function and compositional elements of biodiversity, including threatened species;
- enhance biodiversity at a range of scales;
- consider the conservation status of ecological communities; and

• ensure the long-term viability and functionality of biodiversity.

Biodiversity management actions, such as enhancement of existing habitat and securing and managing land of conservation value for biodiversity, can be suitable offsets. Reconstruction of ecological communities involves high risks and uncertainties for biodiversity outcomes and is generally less preferable than other management strategies, such as enhancing existing habitat.

5. Offsets should aim to result in a net improvement in biodiversity over time.

Enhancement of biodiversity in offset areas should be equal to or greater than the loss in biodiversity from the impact site. Setting aside areas for biodiversity conservation without additional management or increased security is generally not sufficient to offset against the loss of biodiversity. Factors to consider include protection of existing biodiversity (removal of threats), time-lag effects, and the uncertainties and risks associated with actions such as revegetation.

Offsets may include enhancing habitat, reconstructing habitat in strategic areas to link areas of conservation value, or increasing buffer zones around areas of conservation value and removal of threats by conservation agreements or reservation.

6. **Offsets must be enduring – they must offset the impact of the development for the period that the impact occurs**.

As impacts on biodiversity are likely to be permanent, the offset should also be permanent and secured by a conservation agreement or reservation and management for biodiversity. Where land is donated to a public authority or a private conservation organisation and managed as a biodiversity offset, it should be accompanied by resources for its management. Offsetting should only proceed if an appropriate legal mechanism or instrument is used to secure the required actions.

7. Offsets should be agreed prior to the impact occurring.

Offsets should minimise ecological risks from time-lags. The feasibility and in-principle agreements to the necessary offset actions should be demonstrated prior to the approval of the impact. Legal commitments to the offset actions should be entered into prior to the commencement of works under approval.

8. **Offsets must be quantifiable – the impacts and benefits must be reliably estimated**.

Offsets should be based on quantitative assessment of the loss in biodiversity from the clearing or other development 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 loss from the development and the gain from the offset. The methodology should include:

• the area of impact;

• the types of ecological communities and habitat/species affected;

• connectivity with other areas of habitat/corridors;

• the condition of habitat;

• the conservation status and/or scarcity/rarity of ecological communities;

• management actions; and

• level of security afforded to the offset site.

The best available information/data should be used when assessing impacts of biodiversity loss and gains from offsets. Offsets will be of greater value where:

- they protect land with high conservation significance;
- management actions have greater benefits for biodiversity;
- the offset areas are not isolated or fragmented; and
- the management for biodiversity is in perpetuity (e.g. secured through a conservation agreement).

Management actions must be deliverable and enforceable.

9. Offsets must be targeted.

They must offset impacts on the basis of like-for-like or better conservation outcome. Offsets should be targeted according to biodiversity priorities in the area, based on the conservation status of the ecological community, the presence of threatened species or their habitat, connectivity and the potential to enhance condition by management actions and the removal of threats. Only ecological communities that are equal or greater in conservation status to the type of ecological community lost can be used for offsets. One type of environmental benefit cannot be traded for another: for example, biodiversity offsets may also result in improvements in water quality or salinity but these benefits do not reduce the biodiversity offset requirements.

10. Offsets must be located appropriately.

Wherever possible, offsets should be located in areas that have the same or similar ecological characteristics as the area affected by the development.

11. Offsets must be supplementary.

They must be beyond existing requirements and not already funded under another scheme. Areas that have received incentive funds cannot be used for offsets. Existing protected areas on private land cannot be used for offsets unless additional security or management actions are implemented. Areas already managed by the government, such as national parks, flora reserves and public open space cannot be used as offsets.

13. Offsets and their actions must be enforceable through development consent conditions, licence conditions, conservation agreements or a contract.

Offsets must be audited to ensure that the actions have been carried out, and monitored to determine that the actions are leading to positive biodiversity outcomes.

NSW GOVERNMENT | Office of Water

PCU002196

Howard Reed
Department of Planning
GPO Box 39
SYDNEY NSW 2001

Contact: Tim Baker
Phone: 02 6841 7403
Fax: 02 6884 0096
Email: Tim.Baker@dnr.nsw.gov.au

Our ref: ER20927
Your ref: DGRID:486

Attention: Haley Rich

22 January 2010

Dear Ms Rich

Subject: PROPOSED WONAWINTA SILVER PROJECT, COBAR – DIRECTOR GENERAL REQUIREMENTS

I refer to your email and letter dated 20 January 2010 requesting input to Director-General's requirements for the abovementioned project. The NSW Office of Water (NOW) provides the following advice for inclusion in the response to the proponent.

Key Issues

NSW Office of Water requires the Environmental Impact Statement (EIS) for the proposal to demonstrate the following:

1. Adequate and secure water supply for the proposal.
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. This is to also include details of any water reticulation infrastructure that supplies water to the site.
3. Proposed water management on the site based on the site water balance. This is to also include a surface water management plan to identify the existing and proposed surface water management structures and flow paths.
4. 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.
5. Proposed water licensing requirements in accordance with the *Water Act 1912*, *Water Management Act 2000* and NSW Inland Groundwater Water Shortage Zones Order No. 2, 2008 (19 December 2008). This is to demonstrate that existing licences (include licence numbers) and licensed uses are appropriate, and to identify where additional licences are proposed.
6. An assessment of impact on adjacent licensed water users, basic landholder rights, and groundwater-dependent ecosystems.

7. Requirement to intercept groundwater and predicted dewatering volumes, water quality and disposal/retention methods for the life of the mine.
8. An impact assessment of the construction, operation and final landform of the proposed on-site waste dumps, tailings dam and other potentially contaminating facilities to meet the requirements of the NSW State Groundwater Policy framework document.
9. Proposal to construct watercourse crossings and carry out works within 40m of a watercourse in accordance with former DWE Controlled Activity Approval Guidelines.
10. Adequate mitigating and monitoring requirements to address surface and groundwater impacts.

A general list of environmental assessment requirements to be addressed in the EIS is provided in Attachment 1.

NOW advises the project site is located within the Lachlan Fold Belt Groundwater Management Area 811. This GWMA is covered by Order 2 of the NSW Inland Groundwater Shortage Zone Embargo under the *Water Act 1912* (shown in Attachment 2). The embargo places restrictions on groundwater access and interception which will need to be considered in the EIS where modifications to existing licences and new licences are proposed. It is advised the applicant contact NOW immediately to confirm the legislative requirements where the proposal includes the additional take of groundwater via either production bores or aquifer interception activities, the use of an existing license or where a change of purpose is required for an existing licence.

State Government Technical and Policy Documents

The proposal must address the NSW State Government natural resource management policies, as applicable. Policies to address but not to be limited to include:

Relevant Policy

NSW State Rivers and Estuaries Policy (1992)

NSW State Groundwater Policy Framework Document (1997)

NSW State Groundwater Quantity Management Policy (1998)

NSW State Groundwater Quality Protection Policy (1998)

NSW State Groundwater Dependent Ecosystems Policy (2002)

Australian and New Zealand Guidelines for Fresh and Marine Water Quality (2000)

Australian and New Zealand Guidelines for Water Quality Monitoring and Reporting (2000)

Guidelines for the Assessment and Management of Groundwater Contamination (2007)

Guidelines for Groundwater Protection in Australia (1995)

MDBC Guidelines on Groundwater Model Development

The Department has provided this information to assist in the development of a comprehensive environmental impact statement for the proposed development. For general enquiries please do not hesitate to contact myself on (02) 6841 7403.

Yours sincerely

Tim Baker
Senior Planning & Assessment Coordinator - Central

ATTACHMENT 1 – GENERAL EIS ASSESSMENT REQUIREMENTS

General Environmental Risk Analysis – the EIS must include the following for all water-related aspects of the proposal:

- an environmental risk analysis to identify potential environmental impacts associated with the project (construction and operation);
- proposed mitigation measures and potentially significant residual environmental impacts after the application of proposed mitigation measures; and
- where additional key environmental impacts are identified through this environmental risk analysis, an appropriately detailed impact assessment of these additional key environmental impacts must be included in the EIS.

Key issue: Water supply and water balance

The EIS must include assessment of water supply and/or water interception and extraction against any Water Sharing Plan and water licences affecting the site or potential water supply to the proposal. A full description of water supply to all stages of the proposal must be included, which includes:

- water source(s) which may be used to supply water to the proposal, existing licences, additional water requirements, and a checklist against any regulatory water sharing or other ministerial plans or other instruments applying to that water source
- explanation of any embargoes or full commitment declarations for the proposal, and any identified means to source water supply for the proposal
- examination of reliability of water supply to the proposal, including alternatives to site rainfall runoff harvesting in the event of drought
- demonstration of priorsation and effective reuse of saline or other contaminated water within the proposal
- explanation of water circuitary and means to segregate contaminated, sediment-laden and clean water volumes within the proposal and proposal site. This would require development of surface water management plan.

Key Issue: Groundwater Resource Protection

• **Groundwater** – the EIS must include demonstration that the project is consistent with the principles of the NSW State Groundwater Policy Framework Document, the NSW State Groundwater Quality Protection Policy, the NSW State Groundwater Dependent Ecosystems Policy and the Draft NSW State Groundwater Quantity Management Policy. This must include, for the pre-, during, and post- development phases of the project the following:

- identification of surrounding water users and any groundwater dependent ecosystems;
- detailed explanation of potential groundwater volume, piezometric level, water table heights and the direction of flow and quality, any identified connected water sources impacted by extraction
- detailed explanation of groundwater drawdown or other impacts upon connected groundwaters.
- explanation of the site water balance, including any changes to water balance inputs from rainfall runoff, additional supplies, dewatering requirements and/or groundwater seepage;
- detailed description of any proposed water supply system utilising groundwater as a source, and identification of licensing requirements;

- detailed analysis of the impacts of dewatering if required for the project, identifying the magnitude and duration of pumping, the areal extent of water level drawdown, the likely quality of extracted groundwater, alterations to site water balance, and the monitoring and reporting protocols to be adopted to meet licensing requirements;
- measures to prevent contamination of the groundwater.
- identification of potential and likely groundwater-dependent ecosystems, and any impact upon these ecosystems which may result from the proposal; this must include
    - Terrestrial vegetation with seasonal or episodic reliance on groundwater, and
    - Aquatic and riparian ecosystems in, or adjacent to, streams or rivers dependent upon the input of groundwater to minimum base flows

Key Issue: Landform or Void Rehabilitation

Rehabilitation, Final Landform– the EIS must include:

- justification of the proposed final landform with regard to its impact on local and regional groundwater systems and surface water systems;
- a detailed description of how the site would be progressively rehabilitated and integrated into the surrounding landscape;
- detailed modelling of potential groundwater volume, flow and quality impacts of the presence of an inundated final void on identified receptors specifically considering those environmental systems that are likely to be groundwater dependent;
- a detailed description of the measures to be put in place to ensure that sufficient resources are available to implement the proposed rehabilitation; and
- the measures that would be established for the long-term protection of local and regional aquifer and surface water systems and for the ongoing management of the site following the cessation of the project.

WATER ACT 1912

Order under section 113A

Embargo on any further applications for Part 5 Water Licences

New South Wales Inland Groundwater Shortage Zones Order No. 2 2008

PURSUANT to section 113A of the Water Act 1912, I, David Harriss, having delegated authority from the Water Administration Ministerial Corporation, upon being satisfied that the Water Shortage Zones specified in Schedule 1 are unlikely to have more water available than is sufficient to meet the requirements of the licensees of the bores situated within the Water Shortage Zones, and the other requirements determined for water from the Water Shortage Zones, do, by this order, place an embargo to prevent any further applications for licences being made under Part 5 of the Water Act 1912 with respect to the Water Shortage Zones specified in Schedule 1, except as specified in Schedule 2 of this Order.

Any terms that are defined in Schedule 3 of this Order have the meanings set out in that Schedule.

This Order takes effect on and from the date it is published in the NSW Government Gazette and remains in force until this Order is revoked by a subsequent Order published in the NSW Government Gazette.

This Order repeals any previous Orders made under section 113A of the Water Act 1912 for those water shortage zones specified in Schedule 1 of this Order.

Dated at Sydney this Eighteenth day of December 2008.

DAVID HARRISS,
Deputy Director General,
NSW Department of Water and Energy
Signed for the Water Administration Ministerial Corporation
(by delegation).

Note:

In accordance with s. 113A(6) of the Water Act 1912 this order does not apply to:

a) an application for a renewal of a licence, or

b) an application for a licence for a bore to replace some other licensed bore that the applicant has ceased to use, or

c) an application for a licence for a bore to produce water to satisfy a water allocation arising from the transfer of a water allocation under section 117J.

SCHEDULE 1

Water Shortage Zones

This order applies to any groundwater located within those parts of the State of New South Wales Wales falling within the eastern boundary of the Murray Darling Basin and the Queensland, South Australian and Victorian borders as shown by the shaded areas in Map 1, except for:

1. groundwater within those groundwater management areas and parishes listed in Table 1; and
2. groundwater within the water sources to which the following water sharing plans apply:
   a) Water Sharing Plan for the Upper and Lower Namoi Groundwater Sources 2003
   b) Water Sharing Plan for the Lower Gwydir Groundwater Sources 2003
   c) Water Sharing Plan for the Lower Lachlan Groundwater Sources 2003
   d) Water Sharing Plan for the Lower Macquarie Groundwater Sources 2003
   e) Water Sharing Plan for the Lower Murray Groundwater Sources 2003
   f) Water Sharing Plan for the Lower Murrumbidgee Groundwater Sources 2003
   g) Water Sharing Plan for the NSW Great Artesian Basin Groundwater Sources 2008.

SCHEDULE 2

Exemptions

Applications for licences under Part 5 of the Water Act 1912 can continue to be made for the following purposes:

1. A bore to supply water for stock watering or domestic consumption.
2. Water supply for town water supply by a water supply authority, or a council or county council exercising water supply functions under Division 2 or Part 3 of Chapter 6 of the Local Government Act 1993.
3. Water supply for community recreational facilities located on public land up to 5 megalitres per annum.
4. Monitoring and test bores for groundwater investigation and/or environmental management purposes.
5. Bores for environmental management purposes including control of saline water table mounds.

6. Water supply for Aboriginal cultural purposes provided that the annual extraction does not exceed 10 megalitres per annum.
7. Bores on property where there is an existing licence under Part 5 of the Water Act 1912 and there is no increase in entitlement.
8. Bores providing water supply for emergency services including, but not limited to fire fighting.
9. Conversion to a test bore licence where a test bore licence is currently in force and was granted on or before 1 July 2007. This exemption expires on 30 June 2009.
10. Bores required for integrated development where general terms of approval with respect to such bores have been provided by the Department of Water and Energy prior to the commencement of this Order and for which a development consent has been granted.
11. Water supply for a person where the Minister determines that a failure to supply the water would cause a prohibitively high social, economic or national security cost and the supply of the water will cause no more than minimal environmental harm to any aquifer, or its dependent ecosystems.
12. A dewatering activity provided that the annual extraction does not exceed 10 megalitres per annum.
13. Water supply for the purpose of dust suppression in the construction of a public road provided that the annual extraction does not exceed 10 megalitres per annum.
14. Bores for the use of saline water where the salinity level exceeds 14,000 milligrams per litre (ppm).
15. Water supply for teaching purposes up to 3 megalitres per annum.

SCHEDULE 3

Dictionary

Development consent: has the same meaning as defined in the Environmental Planning and Assessment Act 1979;

Domestic consumption: has the same meaning as defined in section 52 of the Water Management Act 2000;

Groundwater management areas: Area defined by maps held by the Department of Water and Energy and for the purposes of this order includes all groundwater below the ground surface within these mapped boundaries;

Integrated development: has the same meaning as defined in the Environmental Planning and Assessment Act 1979;

Murray Darling Basin: has the same meaning as defined in section 4 of the Water Act 2007 (Cth);

Public land: has the same meaning as defined in the Local Government Act 1993 Dictionary;

Public road: has the same meaning as defined in the Roads Act 1993;

Recreational facilities: includes, but is not limited to parks, playgrounds, ovals, sporting grounds, golf courses and gymnasiums but excludes any commercial operations relating to those activities;

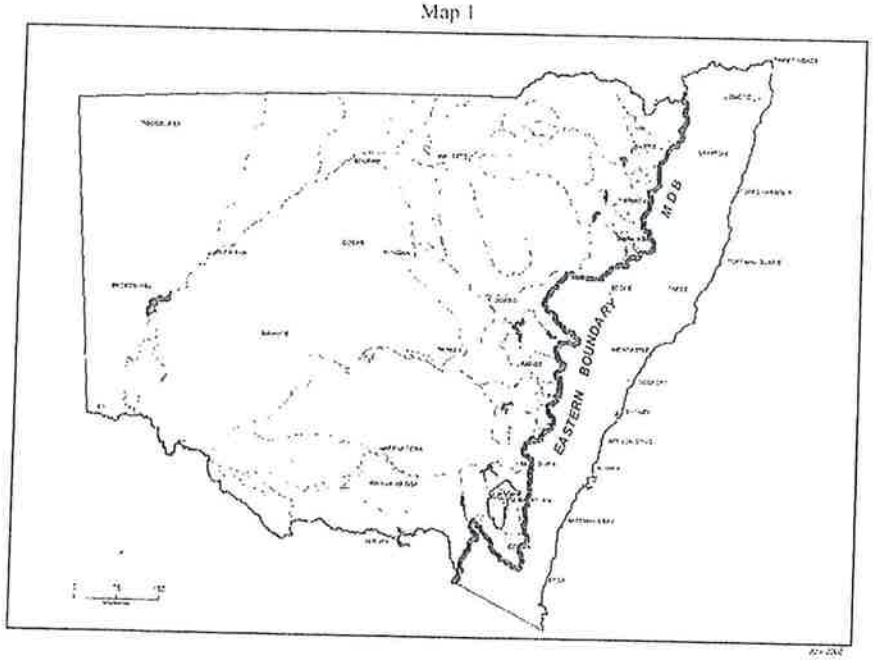
Stock watering: has the same meaning as defined in section 52 of the Water Management Act 2000;

Table 1

Ground Water Management Area (GWMA)	GMMA No.
Peel Valley Alluvium	005
Upper Macquarie Alluvium	009
Cudgegong Valley Alluvium	10
Upper Lachlan Alluvium	11
Mid Murrumbidgee Alluvium	13
Billabong Creek Alluvium	14
Upper Murray Alluvium	15
Lower Murray Alluvium (d/s Corowa)	16 (shallow)
Coolaburragundy-Talbragar Valley	19
Bell Valley Alluvium	20
Belubula Valley Alluvium	21
Border Rivers Alluvium	22
Miscellaneous Alluvium of Barwon Region	23
Lower Darling Alluvium	45
Upper Darling Alluvium	46

Bungendore Alluvium	54
Great Artesian Basin Alluvial	63
Castlereagh Alluvium	66
Orange Basalt	801
Young Granite	802
Yass Catchment	806
Peel Valley Fractured Rock	819
Parishes	
The Parishes of Goran, Brothers, Howes Hill, Calala, Merrigula, Tamarang, Trinkey, Coolanbilla, Springfield, Weston, Doona, Mema, Rodd, Pringle, Lawson, Moredevil, Coomoo Coomoo, Yarraman and Kickerbell in the County of Pottinger, all being within the Oxley Basin.	Part 608
The Parishes of Windy, Telford, Hudson and Moan in the County of Bucklan, all being within the Oxley Basin.	Part 608
The Parishes of Galambine, Wilbertree, Eurundury and Bumberra in the County of Phillip, all being within the Lachlan Fold Belt.	Part 811

Map 1



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