



Planning & Infrastructure

Major Projects Assessment

Mining & Industry Projects

Contact: George Mobayed

Phone: 9228 6467

Fax: 9228 6466

Email: george.mobayed@planning.nsw.gov.au

Our Ref: 11/20728-1

Mr Ray Roberts
BEMAX Resources Limited
PO Box 4032
MILDURA VIC 3052

Dear Mr Roberts

State Significant Development - Director-General's Requirements Atlas – Campaspe Mineral Sands Project (SSD-5012)

I have attached a copy of the Director General's environmental assessment requirements (DGRs) for the preparation of an Environmental Impact Statement (EIS) for the Atlas – Campaspe Mineral Sands Project.

These requirements are based on the information you have provided to date and have been prepared in consultation with relevant government agencies and the affected councils. Their comments, which you should address appropriately in preparing the EIS, are also attached (see Attachment 2). Please note that the Department may alter these requirements at any time, and that you must consult further with the Department if you do not lodge a development application and EIS for the project within two years of the date of issue of these DGRs. The Department will review the EIS for the project carefully before putting it on public exhibition, and will require you to submit an amended EIS if it does not adequately address the DGRs.

The Department also advises that there are recent key policy and planning documents that are relevant to the project. These include the draft Aquifer Interference Policy, which is available on the Department's website. These DGRs may be amended to reference these documents once they are finalised, to ensure that they are appropriately considered during the preparation of the EIS.

Your project may require separate approval under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Department encourages you to confirm whether such an approval will be required as soon as possible. If an EPBC Act approval is required, I would appreciate it if you would advise the Department accordingly, as the Commonwealth approval process may be integrated into the NSW approval process, and supplementary DGRs may need to be issued.

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

- confirm the applicable fee (see Division 1AA, Part 15 of the *Environmental Planning and Assessment Regulation 2000*); and
- determine the number of copies (hard-copy and CD-ROM) of the EIS required for review.

If you have any enquiries about these requirements, please contact George Mobayed.

Yours sincerely

Howard Reed

19.3.12

A/Director Mining and Industry Projects
Delegate of the Director-General

Director General's Environmental Assessment Requirements

Section 78A(8A) of the *Environmental Planning and Assessment Act 1979*

State Significant Development

Application Number	SSD 5012
Development	<p>The Atlas – Campaspe Mineral Sands Project, which includes:</p> <ul style="list-style-type: none"> • developing an open cut mineral sands mine and associated infrastructure; • extracting and processing up to 100 million tonnes of ore over a period of up to 15 years; • transporting processed ore from the mine via road to a new rail loading facility at Ivanhoe, thence via rail to the Broken Hill mineral separation plant for further processing and thence to market; and • rehabilitating the site.
Location	30 km west of Hatfield, in the Balranald LGA
Applicant	BEMAX Resources Limited
Date of Issue	19 March 2012
General Requirements	<p>The Environmental Impact Statement (EIS) for the development must meet the form and content requirements in Clauses 6 and 7 of Schedule 2 of the <i>Environmental Planning and Assessment Regulation 2000</i>.</p> <p>In addition, the EIS must include a:</p> <ul style="list-style-type: none"> • detailed description of the development, including: <ul style="list-style-type: none"> – need for the proposed development; – information on the amount of ore to be mined and its mineralogy; – justification for the proposed mine plan, including efficiency of resource recovery, mine safety, and environmental protection; – likely staging of the development - including construction, operational stage/s and rehabilitation; – likely interactions between the development and existing, approved and proposed mining operations in the vicinity of the site; – plans of any proposed building works; • consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments; • risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment; • detailed assessment of the key issues specified below, and any other significant issues identified in this risk assessment, which includes: <ul style="list-style-type: none"> – a description of the existing environment, <u>using sufficient baseline data</u>; – an assessment of the potential impacts of all stages of the development, including any cumulative impacts, taking into consideration relevant guidelines, policies, plans and statutes; and – a description of the measures that would be implemented to avoid, minimise and if necessary, offset the potential impacts of the development, including proposals for adaptive management and/or contingency plans to manage any significant risks to the environment; and • consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS.
Key issues	<p>The EIS must address the following specific issues:</p> <ul style="list-style-type: none"> • Land Resources – including a detailed assessment of the potential impacts on: <ul style="list-style-type: none"> - soils and land capability (including salinisation and contamination); - landforms and topography; and

- land use, including agricultural and conservation use;
- **Water Resources** – including:
 - detailed assessment of potential impacts on the quality and quantity of existing surface and ground water resources, including:
 - o detailed modelling of potential groundwater impacts;
 - o impacts on affected licensed water users and basic landholder rights; and
 - o impacts on riparian, ecological, geomorphological and hydrological values of watercourses, including environmental flows;
 - a detailed site water balance, including a description of site water demands, water disposal methods (inclusive of volume and frequency of any water discharges), water supply infrastructure and water storage structures;
 - an assessment of proposed water discharge quantities and quality/ies against receiving water quality and flow objectives;
 - identification of any licensing requirements or other approvals under the *Water Act 1912* and/or *Water Management Act 2000*;
 - demonstration that water for the construction and operation of the development can be obtained from an appropriately authorised and reliable supply in accordance with the operating rules of any relevant Water Sharing Plan (WSP);
 - a description of the measures proposed to ensure the development can operate in accordance with the requirements of any relevant WSP or water source embargo; and
 - a detailed description of the proposed water management system (including sewage), water monitoring program and other measures to mitigate surface and groundwater impacts;
- **Biodiversity** – including:
 - measures taken to avoid, reduce or mitigate impacts on biodiversity;
 - accurate estimates of proposed vegetation clearing;
 - a detailed assessment of potential impacts of the development on any:
 - o terrestrial or aquatic threatened species or populations and their habitats, endangered ecological communities and groundwater dependent ecosystems; and
 - o regionally significant remnant vegetation, or vegetation corridors;
 - an assessment of the potential impacts on the Mungo National Park and other conservation reserves and land usage, including impacts on conservation and recreational values; and
 - a comprehensive offset strategy to ensure the development maintains or improves the biodiversity values of the region in the medium to long term;
- **Heritage** – including:
 - an Aboriginal cultural heritage assessment (including both cultural and archaeological significance) which must:
 - o demonstrate effective consultation with Aboriginal communities in determining and assessing impacts, and developing and selecting mitigation options and measures;
 - o outline any proposed impact mitigation and management measures (including an evaluation of the effectiveness and reliability of the measures); and
 - a Historic heritage assessment (including archaeology) which must:
 - o include a statement of heritage impact (including significance assessment) for any State significant or locally significant historic heritage items; and
 - o outline any proposed mitigation and management measures (including an evaluation of the effectiveness and reliability of the measures);
- **Air Quality** – including a quantitative assessment of potential:
 - construction and operational impacts, with a particular focus on dust emissions, including PM_{2.5} and PM₁₀ emissions;
 - reasonable and feasible mitigation measures to minimise dust emissions, including evidence that there are no such measures

available other than those proposed; and

- monitoring and management measures, in particular real-time air quality monitoring;
- **Greenhouse Gases** – including:
 - a quantitative assessment of potential Scope 1, 2 and 3 greenhouse gas emissions;
 - a qualitative assessment of the potential impacts of these emissions on the environment; and
 - an assessment of reasonable and feasible measures to minimise greenhouse gas emissions and ensure energy efficiency;
- **Noise & Vibration** – including a quantitative assessment of potential:
 - construction, operational and transport noise impacts;
 - reasonable and feasible mitigation measures, including evidence that there are no such measures available other than those proposed; and
 - monitoring and management measures, in particular real-time, attended noise monitoring and predictive meteorological forecasting;
- **Traffic & Transport** – including:
 - accurate predictions of the road and rail traffic generated by the project;
 - an assessment of the capacity of the rail network to accommodate the transport of concentrate, back-loaded waste material and product;
 - an assessment of potential traffic impacts on the safety and efficiency of the road network; and
 - a detailed description of the measures that would be implemented to maintain and/or improve the capacity, efficiency and safety of the road and rail networks in the surrounding area over the life of the project;
- **Visual** – including:
 - a detailed assessment of the:
 - o changing landforms on the site during the various stages of the project; and
 - o potential visual impacts of the project on private landowners in the surrounding area as well as key vantage points in the public domain, including lighting impacts; and
 - a detailed description of the measures that would be implemented to minimise the visual impacts of the project;
- **Waste** – including:
 - accurate estimates of the quantity and nature of the potential waste streams of the development and their acid-generating potential; and
 - a description of measures that would be implemented to minimise production of other waste, and ensure that that waste is appropriately managed;
- **Hazards** – including:
 - a detailed description of the management of concentrate and back-loaded waste material during transport, storage and handling; and
 - bushfires; and
- **Social & Economic** – including an assessment of the:
 - potential direct and indirect economic benefits of the project for local and regional communities and the State;
 - potential impacts on local and regional communities, including:
 - o increased demand for local and regional infrastructure and services (such as housing, childcare, health, education and emergency services); and
 - o impacts on social amenity;
 - a detailed description of the measures that would be implemented to minimise the adverse social and economic impacts of the project, including any infrastructure improvements or contributions and/or voluntary planning agreement or similar mechanism; and
 - a detailed assessment of the costs and benefits of the development as a whole, and whether it would result in a net benefit for the NSW community; and
- **Rehabilitation** – including the proposed rehabilitation strategy for the site, having regard to the key principles in the Strategic Framework for Mine Closure, including:

	<ul style="list-style-type: none"> - rehabilitation objectives, methodology, monitoring programs, performance standards and proposed completion criteria; - nominated final land use, having regard to any relevant strategic land use planning or resource management plans or policies; and - the potential for integrating this strategy with any other rehabilitation and/or offset strategies in the region.
Plans and Documents	The EIS must include all relevant plans, architectural drawings, diagrams and relevant documentation required under Schedule 1 of the <i>Environmental Planning and Assessment Regulation 2000</i> . These documents should be included as part of the EIS rather than as separate documents.
Consultation	<p>During the preparation of the EIS, you must consult with relevant local, State and Commonwealth Government authorities, service providers, community groups and affected landowners.</p> <p>In particular you must consult with the:</p> <ul style="list-style-type: none"> • Commonwealth Department of Sustainability, Environment, Water, Population and Communities; • Office of Environment and Heritage (including the Heritage Branch); • Environment Protection Authority; • Division of Resources and Energy within the Department of Trade and Investment, Regional Infrastructure and Services; • Department of Primary Industries (including the NSW Office of Water, NSW Forestry, Agriculture and Fisheries sections, Catchments and Lands (Crown Lands Division)); • Transport for NSW (including the Centre for Transport Planning and Roads and Maritime Services); • Transgrid; • Lower Murray Darling Catchment Management Authority; • Balranald Shire Council; • Central Darling Shire Council; and • Broken Hill City Council. <p>The EIS must describe the consultation process and the issues raised, and identify where the design of the development has been amended in response to these issues. Where amendments have not been made to address an issue, a short explanation should be provided.</p>
Further consultation after 2 years	If you do not lodge a DA and an EIS for the development within 2 years of the issue date of these DGRs, you must consult further with the Director-General in relation to the requirements for lodgement.
References	The assessment of the key issues listed above must take into account relevant guidelines, policies, and plans as identified. While not exhaustive, Attachment 1 contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this development.

ATTACHMENT 1

Technical and Policy Guidelines

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

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

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

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

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

Policies, Guidelines & Plans

Risk Assessment	
	AS/NZS 4360:2004 Risk Management (Standards Australia)
	HB 203: 203:2006 Environmental Risk Management – Principles & Process (Standards Australia)
Land Resources	
	Draft Agricultural Impact Assessment Guidelines 2011 (DP&I)
	Agfact AC25: Agricultural Land Classification (NSW Agriculture)
	State Environmental Planning Policy No. 55 – Remediation of Land
	Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC)
Biodiversity	
	Threatened Species Survey and Assessment Guidelines: Field Survey Methods for Fauna – Amphibians (DECCW 2009)
	Threatened Biodiversity Survey and Assessment: Guidelines for Developments and Activities – Working Draft (DECC 2004)
	Threatened Species Assessment Guidelines: the Assessment of Significance (DECC 2007)
	Guidelines for Threatened Species Assessment (DoP 2005)
	BioBanking Assessment Methodology and Credit Calculator Operational Manual (DECCW 2008)
	NSW State Groundwater Dependent Ecosystem Policy (DLWC)
	Policy & Guidelines - Aquatic Habitat Management and Fish Conservation (NSW Fisheries)
	Policy & Guidelines - Fish Friendly Waterway Crossings (NSW Fisheries)
	State Environmental Planning Policy No. 44 – Koala Habitat Protection
Water Resources	
<i>Surface Water</i>	National Water Quality Management Strategy: Australian Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems – Effluent Management (ARMCANZ/ANZECC)
	National Water Quality Management Strategy: Guidelines for Sewerage Systems – Use of Reclaimed Water (ARMCANZ/ANZECC)
	Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC)
	State Water Management Outcomes Plan
	Water Sharing Plan for the Hunter Unregulated and Alluvial Water Sources 2009
	NSW Government Water Quality and River Flow Objectives (DECC)
	Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC)
	Managing Urban Stormwater: Soils & Construction (Landcom) and associated Volume 2E: Mines and Quarries.
	Managing Urban Stormwater: Treatment Techniques (DECC)

Groundwater	Managing Urban Stormwater: Source Control (DECC)
	Floodplain Development Manual (DIPNR)
	Floodplain Risk Management Guideline (DECC)
	A Rehabilitation Manual for Australian Streams (LWRRDC and CRCCH)
	Technical Guidelines: Bunding & Spill Management (DECC)
	Environmental Guidelines: Use of Effluent by Irrigation (DECC)
	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC)
	NSW State Groundwater Policy Framework Document (DLWC, 1997)
	NSW State Groundwater Quality Protection Policy (DLWC, 1998)
	NSW State Groundwater Quantity Management Policy (DLWC, 1998)
	Murray-Darling Basin Groundwater Quality. Sampling Guidelines. Technical Report No 3 (MDBC)
	Murray-Darling Basin Commission. Groundwater Flow Modelling Guideline (Aquaterra Consulting Pty Ltd)
	Guidelines for the Assessment & Management of Groundwater Contamination (DECC, 2007)
Air Quality	
Air Quality	Protection of the Environment Operations (Clean Air) Regulation 2002
	Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (DEC)
	Approved Methods for the Sampling and Analysis of Air Pollutants in NSW (DEC)
Noise & Blasting	
Noise & Blasting	NSW Industrial Noise Policy (DECC)
	Environmental Noise Management – Assessing Vibration: a technical guide (DEC)
	NSW Road Noise Policy (DECCW)
	Interim Guidelines for the Assessment of Noise From Rail Infrastructure Projects (DECC)
	Technical basis for guidelines to minimise annoyance due to blasting overpressure and ground vibration (ANZECC)
Traffic & Transport	
Traffic & Transport	Guide to Traffic Generating Development (RTA)
	Road Design Guide (RTA)
Heritage	
Aboriginal	Draft Guidelines for Aboriginal Cultural Heritage Assessment and Community Consultation (DEC 2005)
	The Burra Charter (The Australia ICOMOS charter for places of cultural significance)
Historic	NSW Heritage Manual (NSW Heritage Office)
	The Burra Charter (The Australia ICOMOS charter for places of cultural significance)
Greenhouse Gases	
Greenhouse Gases	National Greenhouse Accounts Factors (Australian Department of Climate Change (DCC))
	Guidelines for Energy Savings Action Plans (DEUS)
Waste	
Waste	Waste Classification Guidelines (DECC)
Hazards	
Hazards	State Environmental Planning Policy No. 33 – Hazardous and Offensive Development
	Hazardous and Offensive Development Application Guidelines - Applying SEPP 33
	Hazardous Industry Planning Advisory Paper No. 6 – Guidelines for Hazard Analysis

Rehabilitation

Mine Rehabilitation – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth of Australia)

Mine Closure and Completion – Leading Practice Sustainable Development Program for the Mining Industry (Commonwealth of Australia)

Strategic Framework for Mine Closure (ANZMEC-MCA)

Socio-Economic

Draft Economic Evaluation in Environmental Impact Assessment (DoP)

Techniques for Effective Social Impact Assessment: A Practical Guide (Office of Social Policy, NSW Government Social Policy Directorate)

ATTACHMENT 2
Agency Input into Key Assessment Issues

BALRANALD SHIRE COUNCIL

ALL COMMUNICATIONS
MUST BE ADDRESSED TO
THE GENERAL MANAGER

PO BOX 120
BALRANALD NSW 2715

Contact: JS:JLS:193

TELEPHONE: (03) 5020 1300
FAX: (03) 5020 1620
EMAIL: council@balranald.nsw.gov.au

19 January 2012

Mr Mobayed
Email george.mobayed@planning.nsw.gov.au

Dear George,

Re: Bemax Resources Limited Atlas-Campaspe Mineral Sands Project

Thank you for your invitation to provide Council's comments towards the Director General's requirements for the proponents EIS for this development. Council's interests principally are centered around two aspects.

Balranald Local Environmental Plan

1. Transport. Clearly the intended route from the Atlas and Campaspe sites traverses roads which require three differing standards of attention:
 - a) Local shire roads 42km of existing link road, Magenta Road and Hatfield The Vale Road, will be required to be reconstructed to a safe and trafficable standard by the proponent. This will involve reformation, drainage structures and a bitumen sealed surface.
 - b) MR67 Northerly. This existing sealed Main Road for the 71.45km section between Hatfield-The Vale Road intersection and the end of bitumen seal will require the proponent's involvement towards regular maintenance of both the sealed pavement and shoulders.
 - c) MR67 North Current Unsealed Sections. These sections (24km) will require the proponent's involvement in upgrading to a standard equivalent to the existing sealed section of this main road in addition to the ongoing maintenance components (as per b).

Cessation of haulage during and after inclement weather events.

Due to the flat terrain Council regularly experiences considerable inundation of road networks following significant rain events. The proponent would be expected to cease haulage during periods of road closures as result of weather events.

State Environmental Planning Policy 55

2. Rehabilitation of Mine Sites. Council has a keen desire to ensure that the present pastoral use of these mine sites can continue with future generations following the expiration of mine life, the rehabilitation process of the sites should eliminate major excavations and level the terrain reasonably in conjunction with a re vegetation process.

Yours Faithfully,



John Stevenson

**Director Infrastructure and Development
For the GENERAL MANAGER**

George Mobayed - Atlas Campaspe Mineral Sands Project SSD-5012 Request for DGRs

From: "Oldsen Peter" <Peter.Oldsen@brokenhill.nsw.gov.au>
To: <george.mobayed@planning.nsw.gov.au>
Date: 21/12/2011 5:36 PM
Subject: Atlas Campaspe Mineral Sands Project SSD-5012 Request for DGRs
CC: "Filed Mail" <Filed.Mail@brokenhill.nsw.gov.au>

Dear Sir,

Thank you for the opportunity to comment on the DGRs in relation to this particular project. Broken Hill City Councils interest is in relation to any potential impacts. In particular the Social, Economic and Environmental impacts from this development in relation to the City of Broken Hill. Specific details in relation to transportation methods and what measures are in place to minimise any potential impacts from transportation of the mineral sands along the rail corridor within the city, and the social and economic impacts for the city as a result of the secondary processing of the mineral sands within the city including the existing plant capacity.

Regards

Peter Oldsen

Group Manager Sustainability

Broken Hill City Council

Ph 08 80803342

Fax 0880803357

envserv@brokenhill.nsw.gov.au



Department of Primary Industries

Reference: DOC11/153482

Mr Howard Reed
Manager- Mining Projects
Major Projects Assessments
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Date: 22 December 2011

Proposal: Atlas and Campaspe Mineral Sands Mine Project (SSD-5012) - Director- General's Requirements (DGR) -

Dear Mr Reed,

I refer to the recent correspondence (dated 13/12/2011) requesting input into the Director-General's requirements for the above application and the supplied Preliminary Environmental Assessment (PEA) dated November 2011 from Bemax Resources Ltd.

Thank you for providing the Crown Lands Directorate (within the Catchment and Lands Division of the Department of Primary Industries- DPI) the opportunity to provide comment on this project.

The Department has reviewed the PEA and has determined it is willing to support the proposal, conditional to the Department of Planning and Infrastructure incorporating the following comments and recommendations from the Department:

Current Land Status

The Catchments and Lands Division of the Department of Primary Industries (DPI) is responsible for administering all Western Lands Leases under the *Western Lands Act 1901* and any Crown lands under the *Crown Lands Act 1989*. In this case, the proposed 'Atlas and Campaspe Mineral Sands Mine' is to be located on:

- 'Wampo' Station (WLL 1849 for the purpose of 'Grazing'- Lot 4727 in Deposited Plan 767893), leased by Anthony Michael Curran and Trudi Lyn Curran;
- 'Boree Plains' Station (WLL 2604 for the purpose of 'Pastoral and Recreational Hunting'- Lot 616 in Deposited Plan 761603), leased by Alan John Miles;
- 'Carawatha' Station (WLL 2609 for the purpose of 'Grazing'- Lot 613 in Deposited Plan 761600), leased by Minto Glen Pastoral Co. Pty Ltd; and
- 'Iona' Station (WLL 2611 for the purpose of 'Pastoral Purposes'- Lot 614 in Deposited Plan 761603), being leased by Minto Glen Pastoral Co. Pty Ltd.

In regard to land tenure details, it is strongly recommended that tenure details include all the above-mentioned information.

Furthermore, Section 4.2 (Planning Provisions) of the PEA makes no mention of either the *Crown Lands Act 1989* or the *Western Lands Act 1901*. Both Acts are key pieces of legislation that underlie the administration and management of the lands to be impacted upon by the proposal.

Licences

A Crown Lands Licence (issued under the *Crown Lands Act 1989*, and subject to the written consent of all affected registered lessee(s)) will be required by the Department to authorise occupation over the affected land tenures for any of the following:

- (a) Infrastructure not located within the MLA, such as the STP and mine accommodation camp (MAC);
- (b) Extracted materials (including gravel, sand, loam and hard rock) used for construction of the mine and associated infrastructure;
- (c) Sewage pipelines from mine buildings within the MLA and the MAC, but only where the pipelines do not traverse the MLA; and
- (d) Water supply pipelines from the nominated bore field to the mine site and other infrastructure, but only where the pipelines do not traverse the MLA.

It is a Department requirement that any and all licences must be obtained prior to any activity occurring.

It is noted that the proposal (as per Table 1 of the PEA) involves obtaining water from a bore field located at the north-western end of the Atlas Mine path. From the information provided in the PEA, it is unclear if a water supply pipeline(s) from the bore field to one or both of the mine pits and/or the off-MLA infrastructure (eg. STP and MAC) will be required. If pipelines are required (which is assumed to be the case), the PEA does not show or indicate whether the pipeline(s) will traverse areas not covered by the MLA- ie. the siting/location of the pipelines is not known.

Easements

The PEA does not appear to mention how electricity will be supplied to the MLA, MAC, and sewage treatment plant (STP) etc. It is likely that electricity transmission lines (ETLs) will be required in some form, however the siting/location of the ETLs is not known.

If these ETLs traverse areas not covered by the MLA, an easement will be required by the Department to authorise occupation over the affected land tenures, in addition to consent being provided by each affected registered lessee. Please note that unless the applicant is a prescribed authority, the easement will have to benefit a Lot/DP.

Easements may be created in the usual fashion under the provisions of the *Conveyancing Act 1919* and *Real Property Act 1900*. Provision also exists under the *Crown Lands Act 1989* to create easements. Bemax Resources Ltd will be required to negotiate with the Department and the various lessees for the creation of the easements and payment of compensation.

Easements can take 12 months to register, therefore if early occupation of the affected lands is required, the proponent can apply for the grant of a Crown Lands Licence over a lease (again requiring written consent from all affected registered lessee(s)). Once the easement is registered, the licence can be terminated.

It is a Department requirement that any and all easements (or its respective licence) must be obtained prior to any activity occurring.

Consultation

Section 6.2 (Page 15) lists the DPI as being one of the Government Department to be consulted. Please note that the DPI includes numerous Divisions, including NSW Agriculture, Catchment Management Authorities (CMAs), and Crown Lands. As such, it is formally requested that the Crown Lands Directorate of the Catchments and Lands Division of the DPI be included in any future consultations, such as the Planning Focus Meeting, and other meetings and correspondence.

It is also the Department's formal request that Bemax Resources Ltd demonstrate that sufficient consultation (including negotiation and liaison) with the surround lessees/landholders has occurred.

Environmental Assessment Requirements

In order to fully assess the environmental impacts, the Department requires that the following points be fully discussed in the Environmental Assessment Report for the proposed Atlas and Campaspe Mineral Sands Mine Project:

Environmental Issues

- Topographic character of the site, including slopes, aspects, and elevations;
- Size of total development footprint of the mine site during construction, operation and decommissioning;
- Description of how electricity will be generated and/or supplied to the Atlas and/or Campaspe mine sites, the STP and the MAC- Will this be via a diesel generator or electricity transmission lines?
- Method and schedule of construction, and location of all mine infrastructure (including electricity transmission lines, water pipeline(s), STP, MAC, and other buildings), and access tracks, as well as machinery to be used (*Note: Will any demountable buildings be used during the construction and decommissioning phase? If so, how many, where will they be located etc.*)?
- Weed and feral animal control during construction, operation and decommissioning of the mine site, including noxious weeds;
- Impacts on threatened flora and fauna species, populations and ecological communities, and habitats, including full outline of survey methods, survey results, and methods for minimising. The Department understands that the area is covered by very heavy mallee, with known records of Mallee Fowl (*Leipoa ocellata*), an endangered species, and three vulnerable bat species, being the Inland Forest Bat (*Vespadelus baverstocki*), Little Pied Bat (*Chalinolobus picatus*), and Greater Long-eared Bat (*Nyctophilus timoriensis*).
- Ecological effects, including impacts on corridors and connectivity, isolation, and vegetation diversity;
- Soil issues, including soil types, amount and effect of disturbance, and reversibility of any soil degradation;
- Wind and water erosion potential, including control methods, and methods for site stabilisation of excavation sites and access tracks;
- A detailed, comprehensive Surface Water Management Plan for the entire MLA and roads, detailing any alteration to water sources, including water flow and run-off regimes (magnitude, timing, frequency, duration), groundwater levels and quality, and likelihood of sedimentation of local water courses;
- Amount, source and quality of water for construction and operation of the mine site, including dust suppression activities. (*Note: Need to ensure that water quality will not lead to dryland salinisation of access tracks, mine site and hardstand areas etc. and areas of adjacent native vegetation over time, especially if the water is sourced from potentially hyper-saline groundwater bores*);
- Location of the bore fields need to be known as the location may be critical, particularly if there is a draw-down of the local water table as this may affect other bores in the area. The main bore for 'Borree Plains' Station is located at the homestead, and if this is affected, the watering system for the whole property could be impacted upon negatively.
- Amount and source of gravel, sand and other materials for the construction of the mine site infrastructure, STP, MAC, other buildings and infrastructure, and construction / upgrade / maintenance of roads and access tracks;
- Assessment of potential land contamination impacts associated with the transportation (both rail and road) and handling of mineral concentrate and back-loaded waste from MSP, and details of transportation methods to be implemented to ensure mineral concentrate and back-loaded waste does not contaminate either road ways or the rail corridor;
- Air quality issues, including type and amount of greenhouse gases, dust, smoke, chemicals, and odours generated during the construction, operation and decommissioning/recommissioning of the mine;
- Noise and vibration issues, including maximum noise travel vs direction plot during the construction, operation and decommissioning of the mine, and during the construction and maintenance of any tracks, roads and railways, impacts on residents/neighbours during transportation of the mineral concentrate and back-loaded waste;
- Proposed locations and methods for the safe storage of construction and operating materials, including bunding of hydrocarbons, and storage of sand/gravel for any concrete batching plant;

- Timing, duration and location of blasting (if relevant), including any relevant notices being given to adjacent Western Lands leaseholders;
- Methods for contamination control, and clean-up of hydrocarbon spills and other contamination sources;
- Waste disposal, including overburden from concrete slab sites, left-over construction material (such as concrete and steel), hydrocarbons, general waste/rubbish, and sewage/grey water;
- Description of and justification for the depth of any saline slurry overburden (if produced), with an depth needed to prevent capillary rise into the root zone of the rehabilitated vegetation (particularly trees and shrubs);
- A detailed rehabilitation plan for all impacted areas, including retention and maintenance of topsoil stockpiles, proposed revegetation/regeneration and monitoring programs (timing and method of rehabilitation, species to be reintroduced to stabilise and rehabilitate the site). The Department would like a commitment by Bemax Resources Ltd to progressive rehabilitation which attempts to replicate the structure and floristics of the vegetation communities removed as a result of the construction and operation of the mine project. The Department believes that local seed-stock of all species (groundcover, forbs, shrubs, understory and tree species) to be cleared should be collected and used as the medium for rehabilitation. Furthermore, the Department would like Bemax Resources Ltd to commit to and implement a sound process to measure the success of the rehabilitation, and recommends the use of the Landscape Function Analysis from Tongway and Hindley (2004) to monitor the reconstruction of landscape processes;
- Proposed end land use for all areas impacted upon by the mine and associated infrastructure (buildings, tracks and roads, pipelines, bore fields, ETLs). The Department notes that the Campaspe mine appears to travel through an area that is licensed by the Department for cropping. If the rehabilitation of the cultivation area(s) is to be returned to prior use, and the post-extraction topography is lower than the surrounding area, this may cause some problems for agricultural machinery and possibly alter the soil parameters for crops. As such, consideration must be given to the final landform for these cultivation areas; and
- Justification for retention and proposed use and management of final mine voids to remain at the north-western most extent of each mine path, as these voids could have potential dangers to public, stock and wildlife.

Cultural Heritage Issues

- Impacts on European and Aboriginal cultural heritage, including full outline of survey methods, survey results, and methods for minimising impacts on identified sites and artefacts.

Socio-Economic Issues

- Traffic generation, including impacts on main roads and bridges, proposed road upgrades, and impacts on residents/neighbours during transportation of construction components, mineral concentrate and back-loaded waste;
- Transport route- The Balranald Local Environmental Plan (LEP) part of Section 4.2 (Page 12) of the PEA indicates that the proposed mineral concentrate transport route is over roads within the Balranald and Central Darling Local Government Areas (LGAs) area that are proposed for public roadways and which are not governed by the respective LEPs. It should be noted that the Balranald - Ivanhoe Road (also known as Main Road 67- MR 67) is the responsibility of the Central Darling Shire Council and Balranald Shire Council as the declared roads authority for their respective LGAs. Furthermore, Link Road, Magenta Road and Hatfield - The Vale Road (also collectively known as Magenta - Wampo Road) is dedicated public road (being Western Division Roads 8, 74 and 76) and is the responsibility of the Balranald Shire Council as the declared roads authority.
- Impacts on the visual/aesthetic/scenic amenity of the local landscape;
- Project costs, incomes, and other expenditures for the construction, operation and decommissioning of the mine project, including rehabilitation costs;
- Proposed construction time frame for the mine development, including hours of work during both construction and operation;
- Utility needs of the proposed mineral sands mine, including potable water requirements, and electricity requirements for the construction and operational phase;

- Employment opportunities, including number of full-time equivalent jobs during the construction, operation and decommissioning phases of the mine project, and any associated secondary jobs (such as service personnel);
- Concurrent land-use opportunities, including tourism (such as mine tours), film-making, and grazing;
- Site security and access details, including fences, locked gates, and access by emergency services (if required);
- Site signage details, including road usage/access (eg. trucks turning), construction area signs, OH&S requirements (such as Personal Protective Equipment), substation/high voltage signs, and other signage requirements;
- OH&S issues, including public safety control and management (such as accidents or injury), and other Work Cover Authority of NSW requirements; and
- Human health issues associated with mineral sand mining, such as radiation.

As such, it is requested that the Department be:

- (a) Given an opportunity to review and comment on the Environmental Assessment prepared by Bemax Resources Ltd for the project; and
- (b) Given an opportunity to review and provide conditions of consent, prior to any consent being issued from the Minister for Planning and Infrastructure.

If you have any further queries in relation to this matter, please contact me on 02 6883 5411 (phone) or shaun.barker@lands.nsw.gov.au (email).

Yours sincerely,



Shaun Barker
Group Leader- Natural Resources and Property Services
Far West Area
West Region
Catchment and Lands Division

George Mobayed - Atlas - Campaspe Mineral Sands Project

From: Leeanne Ryan <ryanl@centraldarling.nsw.gov.au>
To: "George.Mobayed@planning.nsw.gov.au" <George.Mobayed@planning.nsw.gov.au>
Date: 9/01/2012 5:06 PM
Subject: Atlas - Campaspe Mineral Sands Project

Hi George,

As promised, please find below Council's comments and input into the DGR's for the Atlas – Campaspe Mineral Sands Project (SSD-5012).

Traffic and Transport

Accurate predictions of the projects road traffic generation and a detailed assessment of the potential impacts of project related traffic on the structural sustainability, safety and efficiency of the road network within Central Darling Shire Council.

A detailed description of the measures that would be implemented to upgrade and/or maintain these networks over the life of the project.

A detailed assessment of off-site road noise impacts and any mitigation measures proposed, particularly in Ivanhoe.

Ivanhoe Rail Facility

A detailed description of the proposed infrastructure to be constructed at the Ivanhoe Rail Siding, where will it be located, how large, truck parking and movements, expected impacts and how these will be mitigated against. (I understand this is subject to separate approval, I don't believe this should be the case as the mineral sands project needs this infrastructure for the project to become operational). At this stage there is no infrastructure at the Ivanhoe Rail Siding that could support this proposal.

Is the material toxic or hazardous – if so, what measures will be in place for spills, truck rollovers and derailling events if they occur. We have limited skilled persons on the ground in any emergencies, without the added risk of dealing with toxic or hazardous materials.

An outline of the impact on the local economy.

Kind regards

Leeanne Ryan
Manager Environmental Services
Central Darling Shire Council
PO Box 165 WILCANNIA NSW 2836
Ph: 0880838900 or 0429 915905

Please consider the environment before printing



**Resources
& Energy**

Our Reference: V11/108
OUT11/23920

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

Attention: George Mobayed

Dear Mr Reed

**Proposed Atlas – Campaspe Mineral Sands Project (SSD-5012)
Request for input to Director-General's Requirements**

I am writing to you in relation to the request for Director General's Requirements for the proposed *Atlas – Campaspe Mineral Sands Project Preliminary Environmental Assessment* as requested by BEMAX Resources Limited.

Officers of the Department of Trade and Investment, Regional Infrastructure and Services (DTIRIS) Division of Resources & Energy (DRE) attended an on site meeting for the project on 17 August 2011. The proponent presented a Preliminary Environmental Assessment (PEA) and conducted an inspection of the planned mine site.

The following comments are provided by DRE as follows:

1. Project Description

To ensure that the project and its environmental interactions can be understood, the Environmental Assessment (EA) 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 EA that are likely to have a bearing on rehabilitation and mine closure.

- Groundwater impacts associated with mining operations and water supply purposes. Long term recovery patterns of groundwater and any bearing these may have on subsequent land uses.
- 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.
- Land use issues and impacts. The EA must 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.

3. Rehabilitation and Mine Closure

The DRE 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 EA 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 Material Emplacements:** The EA must include a detailed consideration of the final rehabilitation options for the voids and waste material dumps. Issues associated with final voids and waste material landforms such as stability, ground and surface water and aesthetics need to be addressed. Options for the open pits must include the staging of operations such that waste from one pit is used to back fill a previous pit. The number, location and geometry of any final voids in the landscape must be fully justified.
- **Final Land Use:** Describe proposed final land uses for each disturbance domain (infrastructure areas, waste materials storages, final voids 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. revegetation) and indicative completion criteria (e.g. number of surviving trees/ha 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 Rehabilitation Considerations

Mining Operations Plan (MOP)

Assuming the project is approved by the Department of Planning & Infrastructure, prior to commencement, the proponent will be required to submit and have approved a Mining Operations Plan (MOP). This should be referred to in the Development Consent as a Rehabilitation Management Plan.

5. Mineral Resources

- No resource and/or reserves are given for either the Atlas or the Campaspe deposits. The amount/volume of ore to be mined for each deposit should be stated in the EA as well as the total and breakdown of the resource(s) present (JORC compliant) within each deposit (i.e. we need to know and understand the resource utilisation).
- The breakdown of the mineralogy should be included for each deposit. This should include not only the minerals of economic interest but also accessory minerals that will not be recovered as part of the treatment process. This should be quantified for each deposit and if it varies in different parts of each deposit then this variation should also been quantified.
- A plan showing the outline of each deposit to be mined should be included. This plan needs to show the area/volume of the deposit to be mined (and treated) and any areas of mineralisation that extend beyond the area to be mined and/or will be left behind or sterilised as part of the mining process.
- If the mining voids/pits are to be back filled then will any zones of mineralisation be sterilised?
- Sections showing pit outline, ore body shape and adjacent zones of mineralisation including low grade material would be useful for understanding resource utilisation, water table, overburden and related issues.
- A brief outline of the local geology should be included with sufficient information so that impacts on hydrology and pit stability can be understood.

Mining Title

As mineral sands are a prescribed mineral under the *Mining Act 1992*, the proponent is required to lodge a Mining Lease Application with DRE in order to mine this mineral. The project is within Exploration Licence 5359 held by the proponent.

Should you have any enquires regarding this matter please contact Steve Cozens, Senior Project Officer on (02) 8289 3932.

Yours sincerely


William Hughes
A/Director Minerals Operations

22/12/11



ENVIRONMENT PROTECTION AUTHORITY

Your reference: SSD-5012
Our reference: FIL07/5805-02;DOC11/57721
Contact: Jason Price 02 6969 0700

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

Dear Mr Reed

Re Atlas – Campaspe Mineral Sands Project (SSD-5012)

Thank you for your letter dated 13 December 2011 to the Environment Protection Authority (EPA) requesting our information requirements for the Environmental Impact Statement (EIS) to be prepared by Bemax Resources Limited (BRL) for the proposed Atlas – Campaspe Mineral Sands Project in the Balranald local government area.

We have considered the details of the proposal as provided with your letter and information supplied by BRL. From this we have identified the information required to issue our general terms of approval as outlined in Attachment 'A'. Our key information requirements for the project are as follows.

- Assess the impacts on threatened species associated with the development and if necessary, determine offsets, using the BioBanking Assessment Methodology, to mitigate these impacts;
- An assessment of the impacts the project will have on threatened species and their habitat and Aboriginal cultural heritage;
- Details on the proposed surface water and groundwater collection, storage, processing and disposal systems including demonstration that surface and ground waters will be protected through adequate design, construction and management;
- The actions that will be taken to avoid or mitigate impacts or compensate for unavoidable impacts identified in the above.

In carrying out the assessment BRL should refer to the relevant guidelines identified at Attachment 'B'.

The EIS needs to clearly identify the nature and scope of the complete project including any ancillary activities associated with the project.

We recommend that BRL consult with us during the assessment period and prior to the EIS being submitted for exhibition.

PO BOX 397 Griffith NSW 2680
Suite 7, 130-140 Banna Avenue Griffith NSW
Tel: (02) 6969 0700 Fax: (02) 6969 0710
ABN 30 841 387 271
www.environment.nsw.gov.au

If you have any further enquiries about this matter please contact Jason Price by telephoning 02 6969 0700.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'D Wallett', with a stylized flourish at the end.

31/1/12

DARREN WALLETT
Head, Griffith Unit
Environment Protection and Regulation

ATTACHMENT 'A'

Potential environmental impacts of the project

1. The following potential environmental impacts of the project need to be assessed, quantified and reported on.

- (a) Air;
- (b) Noise;
- (c) Water;
- (d) Land; and
- (e) Waste and chemicals.

The Environmental Impact Statement (EIS) should address how the required environmental goals outlined below will be met for each potential impact

The EIS should describe mitigation and management options that will be used to prevent, control, abate or mitigate identified potential 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.

Potential impacts on air quality

The goal of the project in relation to air quality should be to ensure sensitive receptors are protected from any adverse impacts from dust.

Details would need to be provided on the proposed measures to manage dust from all sources. Measures to prevent or control the emission of dust from sand mining activities must be detailed based on the outcome of an assessment for dust undertaken in accordance with our guidelines the 'Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales' (EPA, 2005). The assessment must identify all sensitive receptors in proximity to the proposed development.

Emissions from any plant must meet the design criteria detailed in the *Protection of the Environment Operations (Clean Air) Regulation 2002*. Details need to be provided on the proposed air pollution control techniques, including proposed measures to manage and monitor efficiency and performance.

Potential impacts of noise

The goals of the project should include design, construction, operation and maintenance of plant and equipment in accordance with relevant EPA policy, guidelines and criteria, and in order to minimise potential impacts from noise.

We expect that potential noise sources are assessed in accordance with the 'NSW Industrial Noise Policy' (EPA, 2000), and where required mitigation measures are proposed (e.g. appropriate equipment chosen to minimise noise levels). All residential or noise sensitive premises likely to be impacted by the development must be identified and included in the assessment.

The proposed development will result in increased traffic movements. The potential noise impacts associated with any traffic increases need to be assessed in accordance with the 'NSW Road Noise Policy' (EPA, 2011).

Potential impacts on water quantity and quality

The goals of the project should include:

- No pollution of waters (including surface and groundwater), except to the extent authorised by the EPA (i.e. in accordance with an Environment Protection Licence) and appropriate consideration should be given to a flood risk assessment.
- Polluted water (including process waters, wash down waters, polluted stormwater or sewage) captured on the site and collected, treated and beneficially reused, where this is safe and practicable to do so; and
- It is acceptable in terms of the achievement or protection of the NSW Water Quality and River Flow Objectives.

The EIS should document the measures that will achieve the above goals.

Details of the site drainage and any natural or artificial waters within or adjacent to the development must be identified and where applicable measures proposed to mitigate potential impacts of the development on these waters. The EIS should provide details of the proposed design and construction of water management systems for the site to ensure surface and ground waters are protected from contaminants.

Potential impacts on land

The goals of the project should include:

- No pollution of land, except to the extent authorised by the EPA (ie in accordance with an Environment Protection Licence);
- The potential impact of land erosion from the development is mitigated;
- That landscapes impacted by stockpiling and vehicle movements are appropriately monitored and managed in accordance with relevant EPA guidelines.

The EIS should document the measures that will achieve the above goals.

Waste and chemicals

The goals of the project should include:

- To ensure that environmental risks from hazardous waste emissions and hazardous chemicals are minimised. The EIS must identify the potential hazardous chemical emissions from the all processes and the proposed type, quantity and location of chemicals to be stored on site;
- No waste disposal occurs on site except in accordance with an Environment Protection Licence;
- Spill management measures, including items such as bunding, and emergency procedures should be clearly outlined;
- Waste products from the development must be processed in accordance with the relevant EPA waste guidelines.

Impacts of the project on threatened species and their habitat

The primary aims of the EIS for the proposal, as it relates to biodiversity, will be to:

1. Establish the area, character and conservation value of existing ecosystems, and dependent species to be impacted on the site;
2. Provide detailed information about the measures required to avoid and minimise impacts to natural and biological values on the proposed site; and
3. Demonstrate how the development will improve or maintain biodiversity.

The *Environmental Planning and Assessment Act 1979* requires that proponents of a development/activity and the determining authority adequately assess the impact of a development or activity on flora and fauna, including threatened species, populations or ecological communities, or their habitats in any environmental assessment documents.

Under the provisions of the *Threatened Species Conservation Act 1995* (TSC Act), the proponent is required to avoid and protect any habitats for threatened flora and fauna. If an activity or development is proposed in a locality which is known to, or may potentially be occupied by a threatened species, population, ecological community or critical habitat, any potential impact to that threatened species must be taken into account during the development assessment process.

A licence may be required under the TSC Act if a development/activity is likely to harm a threatened species, population or ecological community, or damage critical habitat or the habitat of a threatened species, population or ecological community. Further information about the TSC Act is available from the EPA website at www.threatenedspecies.environment.nsw.gov.au

It is up to the proponent (and later the consent and/or determining authorities after appropriate consultation) to determine the detail and comprehensiveness of assessment required to form legally defensible conclusions regarding the impact of the proposal.

It is important that all conclusions are supported by adequate data and that these data are clearly presented in the EIS.

Other vegetation clearing

The EIS should clearly outline the extent to which the development footprint will impact on areas of threatened species habitat. It should also describe the tenure and conservation status of each parcel of land to be affected by the proposal or used as an offset.

Offsetting biodiversity and habitat loss is required as identified in the threatened species guidelines. There are formulas associated with the "maintain and improve" principle of the Government's vegetation reforms that the EPA considers should apply. If offsets are required, it is recommended that the BioBanking Assessment Methodology be utilised to calculate the offset requirements, and the adequacy of the proposed offset.

Biodiversity Offset Principles

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.

5. 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
- 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.

6. 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.

7. Offsets must be enduring and 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.

8. 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.

9. Offsets must be quantifiable and 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
- 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
 - the management for biodiversity is in perpetuity (e.g. secured through a conservation agreement).
- Management actions must be deliverable and enforceable.

10. 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.

11. 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.

12. 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.

Impacts of the project on Aboriginal cultural heritage values

The *Environmental Planning and Assessment Act 1979* requires that proponents of a development/activity and the determining authority adequately assess the impact of a development or activity on Aboriginal cultural heritage.

The *National Parks and Wildlife Act 1974* protects Aboriginal objects and Aboriginal places in NSW. Under the *National Parks and Wildlife Act 1974*, it is an offence to do any of the following things without an exemption or defence provided for under the *National Parks and Wildlife Act 1974* (penalties apply) –

- knowingly harm or desecrate an Aboriginal object (the 'knowing' offence)
- harm or desecrate an Aboriginal object or Aboriginal place (the 'strict liability' offence)

The *National Parks and Wildlife Act 1974* provides a number of exemptions and defences to these offences and also excludes certain acts and omissions from the definition of harm. Further information about the regulation of Aboriginal cultural heritage is available from the EPA website at <http://www.environment.nsw.gov.au/licences/achregulation.htm>.

It is in the interest of proponents to ensure that all reasonable precautions are taken to prevent the occurrence of damage to Aboriginal objects. The proponent should assess and document information on Aboriginal cultural heritage issues that the EPA consider standard, specifically the following.

- A search of the AHIMS register of sites;
- Evidence of consultation with the local Aboriginal community;
- An assessment of the need for an archaeological survey, and if so, to what level of detail; and
- The outcome of the survey (if any) to determine what sites can be avoided, and what ones cannot.

You should also refer to the Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010. These guidelines are available at;

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

ATTACHMENT 'B'

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 New South Wales (EPA, 2005)
- Approved Methods for the Modelling and Assessment of Air Pollutants in New South Wales (EPA, 2005)
- Assessment and Management of Odour from Stationery Sources in NSW (EPA, 2006)

Noise and vibration

- NSW Industrial Noise Policy (EPA, 2000)
- NSW Road Noise Policy (EPA, 2011)
- Assessing Vibration: a technical guideline (EPA, 2006)
- Technical Basis for Guidelines to Minimise Annoyance Due to Blasting Overpressure and Ground Vibration (ANZECC, 1990)
- Interim Construction Noise Guidelines (EPA, 2009)

Water quality

- National Water Quality Management Strategy: Australian and New Zealand Guidelines for Fresh and Marine Water Quality (ANZECC/ARMCANZ, 2000)
- National Water Quality Management Strategy: Australian Guidelines for Water Quality Monitoring and Reporting (ANZECC/ARMCANZ, 2000)
- Using the ANZECC Guidelines and Water Quality Objectives in NSW (EPA, 2006)

Groundwater

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

Stormwater

- Managing Urban Stormwater: Soils and Construction (Landcom, 2004)
- Managing Urban Stormwater: Treatment Techniques (Draft) (EPA, 1997)

Wastewater

- Environmental Guidelines: Use of Effluent by Irrigation (EPA, 2004)
- Environmental Guidelines: Storage and Handling of liquids (EPA, 2007)

Waste

- Waste Classification Guidelines (EPA, 2008)
- Environmental Guidelines: Use and Disposal of Biosolids Products (EPA, 1997)
- Environmental Guidelines: Composting and Related Organics Processing Facilities (EPA, 2004)
- Environmental Guidelines: Solid Waste Landfills (EPA, 1996)

Assessing Threatened Species & Aboriginal Cultural Heritage Impacts

- General Guidelines for Flora and Fauna and Aboriginal Heritage Impact Assessment (EPA, undated)
[Note: Hard copies of these guidelines are available from the EPA on request]
- Aboriginal Cultural Heritage Consultation Requirements for Proponents (EPA, 2010)
[<http://www.environment.nsw.gov.au/resources/cultureheritage/commconsultation/09781ACHconsultreq.pdf>]
- Principles for the use of biodiversity offsets in NSW
[<http://www.environment.nsw.gov.au/biocertification/offsets.htm>]
- Biobanking Assessment Tools
[<http://www.environment.nsw.gov.au/biobanking/tools.htm>]
- Threatened species assessment guidelines (EPA, 2007)
[<http://www.environment.nsw.gov.au/threatenedspecies/>]



Lower Murray Darling

CMA CATCHMENT MANAGEMENT AUTHORITY

32 Enterprise Way,
PO Box 363
Buronga, NSW, 2739
☎ 03 5021 9460
Fax 03 5021 1308

21 December 2011

Our Ref (A719907)

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

Dear Mr Reed

**Re: Atlas - Campaspe Mineral Sands Project (SSD-S0f 2)
Request for Input into Director-General's Requirements (DGRs)**

Thank you for the opportunity to comment on Atlas – Campaspe Minerals Sands Project Preliminary Environmental Assessment. The Lower Murray Darling Catchment Management Authority (LMD CMA) can offer comments in the following areas.

Aboriginal Cultural Heritage

LMD CMA Staff are familiar with this area and consider it likely there would be significant cultural heritage in the mine path and suggest a thorough site investigation be conducted. It is likely the small relict lake basins in the project area would contain significant cultural heritage.

Flora and Fauna

A privately managed reserve established as an offset for clearing under the South West Land Management Planning Group (Southern Mallee) scheme exists in the vicinity of the mine. As a result significant biodiversity and threatened species surveys have been carried out on Boree Plains. These surveys identified 13 threatened bats, 7 threatened mammals and 8 threatened birds in this area.

A detailed biodiversity and threatened species survey of the mine path will therefore be required.

Lower Murray Darling CMA

Respect for our communities
& the environment



Additionally the breadth and length of the mine path will have a major impact on connectivity of the landscape which will need to be considered in determining the biodiversity offset strategy.

LMD CMA believe vegetation offsets required by mining development should be consistent with those required under the *Native Vegetation Act 2003* by adjacent landholders clearing for agricultural purposes, whilst recognising provision could be made for these to be reduced once the mine path has been rehabilitated back to the original vegetation communities and habitat condition. LMD CMA would also request that offsets be secured by an appropriate mechanism and be registered on the Title of the Property. LMD CMA are able to assist with this through Conservation Property Vegetation Plans (PVPs). We would also appreciate being kept informed of areas which have been put aside as offsets for mining development so these can be incorporated in our databases and allow improved catchment planning.

Environmentally Sensitive Areas

In regard to Environmentally Sensitive Area, it should be investigated to determine if any of the small relict lakebeds contain lunettes or other sensitive areas.

Once again thank you for allowing us comment and we look forward to hearing more as the project progresses.

Sincerely,



Lesley Palmer
General Manager

LP/NH/nh



**Department of
Primary Industries**
Office of Water

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

Contact Tim Baker
Phone 02 6841 7403
Mobile 0428 162 097
Fax 02 6884 0096
Email Tim.Baker@water.nsw.gov.au

Our ref ER21736
Your ref

Attention: Howard Reed

Dear Howard

Subject: ATLAS – CAMPASPE MINERAL SANDS PROJECT (SSD-5012) – REQUEST FOR DGRs

I refer to your letter dated 13 December 2011, requesting input to the Director Generals Requirements for the abovementioned project. The NSW Office of Water has reviewed the Preliminary Environmental Assessment (PEA) and requires the Environmental Impact Statement (EIS) to demonstrate the following:

Key Issues

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. 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 assessment of any proposed modification to groundwater including modelling of groundwater removal and groundwater disposal options. This is to include an assessment of impact to aquifer water quality, volume, flow gradients and water table heights and any connected water sources and dependent ecosystems. Any groundwater drawdown or mounding characteristics are to be modelled during a number of stages of the project and post project life until equilibrium is achieved. This modelling is to also include any evaporative losses from voids containing water which are replenished from groundwater.
4. The viability of groundwater disposal options is to be assessed for the life of the project and post mine impacts. The assessment is to address the risk of groundwater mounding and associated terrestrial and surface water impacts, and modifications to aquifer water quality.
5. An assessment of any proposed modification to surface water management including modelling of redistribution of surface waters and an assessment of impact on neighbouring properties and the existing surface water system.
6. Proposed water licensing requirements in accordance with the *Water Act 1912/ Water Management Act 2000*. This is to demonstrate that existing licences (include licence numbers) and licensed uses are appropriate, and to identify where additional licences and/or licensed entitlements are required. Licence requirements are detailed further in Section 2 below.

7. An assessment of impact on adjacent licensed water users, basic landholder rights, and groundwater-dependent ecosystems.
8. An impact assessment of the construction, operation and final landform of the proposed on-site overburden dumps, mine path and final voids; and storage of any acid generating sulphides, saline wastewater and other potentially contaminating or water diverting/capturing facilities to meet the requirements of the NSW State Groundwater Policy framework document and the objects and principles of the *Water Management Act 2000*.
9. Proposal to construct watercourse crossings and/or carry out works in or within 40m of a watercourse are consistent with NSW Office of Water's Controlled Activity Guidelines.
<http://www.water.nsw.gov.au/Water-Licensing/Approvals/Controlled-activities/default.aspx>
10. Adequate mitigating and monitoring requirements to address surface and groundwater impacts.

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

2. WATER LICENSING

Water Management Act 2000

The Office advises that the project site is located within the Western Murray Porous Rock Groundwater Source of the Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources 2011. Based on the information provided to date the following activities would require consideration of approval requirements under the *Water Management Act 2000*.

- Dewatering or water supply bores and the necessary volume to be extracted/intercepted.
- Excavation into the water table within the open cut and the necessary volume to be extracted/intercepted and any ongoing water take post mining life.
- Monitoring bores
- Test bores

In regard to the above activities which require a volume (licensed entitlement) the proponent must obtain an access licence under the WMA 2000 for the required volume prior to commencement of excavation. It is the proponent's responsibility to obtain the relevant entitlement. If there is expected to be variable water take requirements over the mining life it is critical that groundwater modelling is supported by ongoing monitoring and model updates to inform the necessary licensing requirements.

The Office of Water has provided this information to assist in the development of a comprehensive environmental assessment of the proposed development. For general enquiries please do not hesitate to contact Tim Baker on (02) 6841 7403.

Yours sincerely



Mark Mignanelli
Manager Major Projects, Mines and Assessment
18 January 2012



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 Office of Water), as applicable:

- *Water Management Act 2000 (WMA)* where a Water Sharing Plan (WSP) has commenced.
- *Water Act 1912*; where a WSP is not yet in place.

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>

Relevant Policies

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

- *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 Management Policy (1996)*
- *NSW Farm Dams Policy (1999)*
- *NSW Weirs Policy*
- *NSW Inland Groundwater Shortage Zones Embargo Order 1 and 2 (December 2008)*
- *Water Sharing Plan for the NSW Murray Darling Basin Porous Rock Groundwater Sources (2011)*

These documents can be found at:

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

<http://www.water.nsw.gov.au/Water-Management/Water-availability/Groundwater/default.aspx>

http://www.water.nsw.gov.au/Water-management/Water-availability/Groundwater/avail_ground_embargo/default.aspx

Guidelines

The assessment is required to take into account the following Office of Water Guidelines for Controlled Activities (August 2010), as applicable:

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

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

Groundwater

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.
- An assessment of any groundwater source/aquifer that may be sterilised as a consequence of the proposal.
- Identification of any nominal thresholds as to the level of impact beyond which remedial measures or contingency plans would be initiated (this may entail water level triggers or a beneficial use category).
- Description of the remedial measures or contingency plans proposed.
- Any funding assurances covering the anticipated post development maintenance cost, for example on-going groundwater monitoring for the nominated period.
- Any other assurances to account for the post-closure impacts such as retiring held water licences or ongoing pumping return proposals to minimise base flow losses.

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 Office of Water prior to their installation.
- All predicted groundwater extractions 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 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 to 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.

The Office of Water administers the controlled activity provisions of the *Water Management Act 2000* which relate to managing development within waterfront land. Although State Significant Developments are exempt from requiring a controlled activity approval (s91 of *WMA*), the assessment of the proposal is required to take into account the requirements of relevant water related legislation and guidelines and this forms the basis of our advice to DP&I.

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.

Note: Recommended Core Riparian Zones (as applicable):

- Minimum of 10m for any intermittently flowing 1st order watercourse;
- 20m for any permanently flowing 1st order watercourse or any 2nd order watercourse;
- 20m – 40m (merit based assessment) for any 3rd order or greater watercourse.

Refer to Office of Water Guidelines for Controlled Activities (August 2010) – Riparian Corridors available via: <http://www.water.nsw.gov.au/Water-Licensing/Approvals/Controlled-activities/default.aspx>

Water Management Structures/Dams

Office of Water 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.

The 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 Office of Water 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 of Attachment A
18 January 2012

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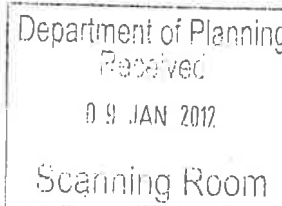


Transport
Roads & Maritime
Services

21 December 2011

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

Attn: George Mobayed



ATLAS - CAMPASPE MINERAL SANDS PROJECT (SSD-5012) – REQUEST FOR INPUT INTO DIRECTOR GENERAL'S REQUIREMENTS (DGR).

I refer to your letter dated 13 December 2011 and the Preliminary Environmental Assessment dated November 2011 prepared for the Atlas-Campaspe Mineral Sands Project which were referred to the Roads and Maritime Services (RMS) for the provision of key issues and assessment requirements to be included in the Director-General's Requirements.

It is noted that the proposal represents the establishment and operation of the Atlas and Campaspe open cut mines pits and associated infrastructure and the transportation of the concentrate from the site by road to Ivanhoe and then by rail to the separation plant at Broken Hill. From the information in the Preliminary Environmental Assessment it is considered that both the establishment and operational phases of the development potentially have a significant impact on the transport (road and rail) infrastructure required to service the development.

Roads and Maritime Services (RMS) advises that in relation to traffic and transportation related issues the development should be considered and addressed in 2 distinct stages as follows;

- Establishment phase – the transport of materials and equipment/components for the establishment of the facility and ancillary infrastructure, the movement and parking of construction related vehicles, including personal vehicles, during the construction of the facility.
- Operational phase – the ongoing traffic generation due to the haulage of the extracted material and the operation, maintenance and servicing of the various elements of the project.

For guidance in the preparation of a Traffic Impact Assessment for the proposal and the statement of commitment/management plans Roads and Maritime Services (RMS) refers the applicant to the "Guide to Traffic Generating Developments" and the Austroads publications, particularly Austroads Guide to Traffic Management Part 12; Traffic Impacts Of Development. The analysis is to address the existing and expected additional traffic generation and consider the cumulative impacts of the total development on the subject site. Based on the assumptions outlined above this should give consideration to (but not necessarily be limited to) the following points:

- Traffic generation/attraction and trip generation of the development.
- The direction of travel of all vehicles entering and exiting the site including delivery and construction, service and employee vehicles.
- Types and volumes of vehicles to access the site.

Roads & Maritime Services ABN 76 236 371 088

- Annual Average Daily Traffic (AADT) and historical trends on key roads.
- Peak period traffic volumes and congestion levels at key adjacent intersections.
- Impact of generated traffic on the road network and key intersections, the road environment and other major traffic generating developments in close proximity.
- Accident history of the road network in the area.
- Safety and efficiency of access between the site and the adjacent road network including access location, design and sight distance at access locations.
- Assessment of traffic noise and dust effects.
- Recommendations to address any impacts on the road network

In addition to that above, the following are offered for advice to the developer as these may aid in the consideration of the logistics associated with the transportation of materials for the development;

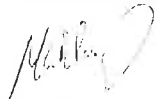
- Transport route assessment guidelines for the transport of materials and specialised construction equipment having consideration for the loads, weights and lengths of haulage vehicles,
- The requirements outlined in the "Operators Guide to Oversize & Over Mass Vehicle Movements" need to be followed. Note that Special Permits will need to be obtained for all over mass and over dimension loads.
- A full and independent risk analysis and inspection of the route may be required to be prepared and supplied to Roads and Maritime Services (RMS) for comment. Further analysis and reporting to assess possible damage to, and repair of the route will be required on a regular basis.

The submitted documentation is to address the actual road transport related issues such as impacts on existing road infrastructure, during the lifetime of the project. The application should include an independent Road Safety Audit of the proposed haulage route and the adequacy of the route to safely service the development and other road users. Further to this a transport management plan shall be prepared to outline measures to manage traffic related issues generated by the development. The plan shall detail the potential impacts associated with the development, the works required to the existing road infrastructure, the measures to be implemented to maintain the standard and safety of the road network, and the procedures to monitor and ensure compliance.

Please note that the above does not purport to represent an exhaustive listing of all the issues to be considered in the assessment of the traffic impact of the development proposal. The RTA emphasises that the proponent, in the design and construction of the development, is to minimise the impacts on the existing road network and maintain the safety, efficiency and standard of maintenance along the existing road network. The submitted documentation is to include a Traffic Impact Statement to address the impacts of traffic generated by this development upon the local and classified road network particularly the Balranald – Ivanhoe Road (MR 67).

Any enquiries regarding this correspondence may be referred to the Land Use Manager for Roads and Maritime Services (South West Region), Maurice Morgan, phone (02) 69371611.

Yours faithfully



R Elrington
Acting Regional Manager
South West Region