NSW GOVERNMENT
Department of Planning

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Mr Visko Sulicich
General Manager, Rasp Mine
Broken Hill Operations Pty Ltd
PO Box 5073
BROKEN HILL NSW 2880

Our ref: S06/01265-1

Dear Mr Sulicich

Rasp Mine Project (07_0018)
Director-General's Requirements

I refer to your letter dated 5 March 2009 concerning the Rasp Mine Project.

As you are aware, the Director-General's requirements for the environmental assessment for the project expired on 19 March 2009. Consequently, I have attached updated Director-General's requirements for the project. Please ensure that any future environmental assessment of the project complies with these requirements.

For your information, I have also attached a copy of DECC's comments on the previous version of the environmental assessment. Please ensure these comments are also addressed in any future environmental assessment of the project.

I would appreciate it if you would advise the Department at least two weeks before you propose to submit the next version of the environmental assessment of the project to the Department for review.

If you have any enquiries about these requirements, please contact Kane Winwood.

Yours sincerely

29.3.09

Chris Wilson
Executive Director
Major Project Assessment
As delegate of the Director-General

Director-General's Requirements

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

Application number	07_0018
Project	The proposed Rasp Mine Project which includes: • extracting up to 8.5 million tonnes of ore by open cut and underground mining methods at a rate of up to 750,000 tpa; • processing ore using a surface crusher and flotation concentrator and managing tailings using a settling facility; • constructing and/or extending associated infrastructure, plant, equipment and activities; and • reinstatement of a rail spur and transport of concentrate in rail wagons to a smelter and/or port.
Location	Within Broken Hill township in the Far West Region of New South Wales.
Proponent	Broken Hill Operations Pty Ltd
Date of Issue	29 March 2009
General Requirements	The Environmental Assessment must include • an executive summary; • a detailed description of: - historical mining operations on site; - existing and approved mining operations and infrastructure on site, including a copy of all statutory approvals that apply to these operations and infrastructure; and - the existing environmental management and monitoring regime on site; • a detailed description of the project, including the: - need for the project; - alternatives considered; - likely interactions between existing and approved mining operations and the project; - likely staging of the project; and - plans of any proposed building works; • a risk assessment of the potential environmental impacts of the project, identifying the key issues for further assessment; • a detailed assessment of the key issues specified below, and any other significant issues identified in the risk assessment (see above), which includes: - a description of the existing environment, using sufficient baseline data; - an assessment of the potential impacts of all stages of the project, including any cumulative impacts associated with the concurrent operation of the project with any other existing or approved mining operations in the region, taking into consideration any relevant policies, guidelines, plans and statutory provisions (see below); and - a description of the measures that would be implemented to avoid, minimise, mitigate and/or offset the potential impacts of the project, including detailed contingency plans for managing any significant risks to the environment; • a statement of commitments, outlining all the proposed environmental management and monitoring measures; • a conclusion justifying the project on economic, social and environmental grounds, taking into consideration whether the project is consistent with the objects of the *Environmental Planning & Assessment Act 1979*; • a signed statement from the author of the Environmental Assessment certifying that the information contained in the report is neither false nor misleading.

Key Issues	• **Air** – including:
	  ○ assessment of all potential airborne lead and dust emissions from construction, traffic movements, open exposed areas including tailings dams, material processing and handling, transfer points, mine exhaust, loading facilities etc;
	  ○ a health risk assessment identifying all potential pathways of lead exposure from proposed mining operations, including full toxicological profiles of all potential contaminants, and taking into account potential additional long-term exposure to lead and other emissions from proposed mining operations (including transport of ore and the tailings dam);
	  ○ a lead monitoring program based on current best practice with respect to monitoring impacts of off-site lead exposures on the community; and
	  ○ a greenhouse gas assessment;
	• **Noise & Blasting** – including construction and operational, and off-site road impacts;
	• **Soil and Water** – including erosion controls;
	• **Heritage** - both Aboriginal and non-Aboriginal (particularly mining heritage);
	• **Waste** – including detailed information on the proposed measures to manage the tailings and waste rock generated by the project;
	• **Transport** – including off-site rail impacts;
	• **Rehabilitation and Final Landform** – including a Rehabilitation and Landscape Management Strategy which provides
	  ○ a detailed overview of the final land use and closure criteria; and
	  ○ identification and discussion of opportunities to improve rehabilitation and environmental outcomes for existing disturbed areas within the project site; and
	• **Social and Economic.**

References	The environmental assessment of the key issues listed above must take into account relevant guidelines, policies, and plans. While not exhaustive, the following attachment contains a list of some of the guidelines, policies, and plans that may be relevant to the environmental assessment of this project.
Consultation	During the preparation of the Environmental Assessment, you should consult with the relevant local, State or Commonwealth Government authorities, service providers, community groups or affected landowners. In particular you should consult with: • Department of Environment and Climate Change; • Department of Water and Energy; • Department of Primary Industries; • NSW Health; • Roads and Traffic Authority; • Broken Hill City Council; • Country Water; and • Australian Rail Track Corporation. The consultation process and the issues raised must be described in the Environmental Assessment.
Deemed refusal period	90 days

Policies, Guidelines & Plans

Aspect	Policy /Methodology
Risk	
	AS/NZS 4360:2004 Risk Management (Standards Australia)
	HB 203: 203:2006 Environmental Risk Management – Principles & Process (Standards Australia)
Air	
	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)
Health	
	Environmental Health Risk Assessment - Guidelines for assessing human health risks from environmental hazards (Commonwealth) Department of Health and Ageing, and enHealth Council (June 2002).
Greenhouse Gas	
	AGO Factors and Methods Workbook (AGO)
	Guidelines for Energy Savings Action Plans (DEUS, 2005)
Noise & Blasting	
	NSW Industrial Noise Policy (EPA) Jan 2000
	Environmental Criteria for Road Traffic Noise (NSW EPA) May 1999
	Environmental Noise Management Manual (RTA) Dec 2001
	Interim Guideline for the Assessment of Noise from Rail Infrastructure Projects (DECC DoP) April 2007
	NSW Construction Noise Guideline – Draft August 2008 (DECC)
	Technical Basis for Guidelines to Minimise Annoyance due to Blasting Overpressure and Ground Vibration (ANZEC) Sep 1990
	Assessing Vibration: a technical guideline (DEC) Feb 2006
	Environmental Noise Control Manual (DECC)
Soil and Water	
Soil	Australian and New Zealand Guidelines for the Assessment and Management of Contaminated Sites (ANZECC & NHMRC)
	National Environment Protection (Assessment of Site Contamination) Measure 1999 (NEPC)
	Draft Guidelines for the Assessment & Management of Groundwater Contamination (DECC)
	State Environmental Planning Policy No. 55 – Remediation of Land
	Managing Land Contamination – Planning Guidelines SEPP 55 – Remediation of Land (DOP)
Surface Water	National Water Quality Management Strategy: Water quality management - an outline of the policies (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Policies and principles - a reference document (ANZECC/ARMCANZ)
	National Water Quality Management Strategy: Implementation guidelines (ANZECC/ARMCANZ)
	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)

	Using the ANZECC Guideline and Water Quality Objectives in NSW (DEC)
	State Water Management Outcomes Plan
	Approved Methods for the Sampling and Analysis of Water Pollutants in NSW (DEC)
	Managing Urban Stormwater: Soils & Construction (Landcom)
	Managing Urban Stormwater: Treatment Techniques (DECC)
	Managing Urban Stormwater: Source Control (DECC)
	Technical Guidelines: Bunding & Spill Management (DECC)
Groundwater	National Water Quality Management Strategy Guidelines for Groundwater Protection in Australia (ARMCANZ/ANZECC)
	NSW State Groundwater Policy Framework Document (DLWC)
	NSW State Groundwater Quality Protection Policy (DLWC)
	NSW State Groundwater Quantity Management Policy (DLWC) Draft
	Murray-Darling Basin Groundwater Quality. Sampling Guidelines. Technical Report No 3 (MDBC)
	Murray-Darling Basin Commission. Groundwater Flow Modelling Guideline (Aquaterra Consulting Pty Ltd)
Heritage	
Aboriginal	Ask First; A Guide to Respecting Indigenous Heritage Places and Values (AHC) 2002
	Aboriginal Cultural Heritage; Standards and Guidelines Kit (NSW NPWS) Working Draft 1997
	Aboriginal History and Heritage: A Guide (NSW Heritage Office)
	NPW Act 1974: Part 6 Aprovals: Interim Community Consultation Requirements for Applicants (NSW NPWS) 2004
	Aboriginal Cultural Heritage Consultation and Investigation (RTA) 2008
	Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC)
Non- Aboriginal	The Australia ICOMOS Burra Charter for Places of Cultural Significance 1999
	The Australian Natural Heritage Charter (For the Conservation of Places of Natural Heritage Significance) 2nd ed. 2002
	Statements of Heritage Impact (NSW Heritage Office)
	NSW Heritage Manual: Assessing Heritage Significance (NSW Heritage Office) 2001
	NSW Heritage Manual: Conservation Management Documents 1996
	NSW Heritage Manual: Heritage Terms and Abbreviations 1996
	Historical Archaeology Code of Practice (NSW Heritage Council DoP) 2006
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)
Social & Economic	
	Draft Economic Evaluation in Environmental Impact Assessment (DOP)
	Techniques for Effective Social Impact Assessment: A Practical Guide (Office of Social Policy, NSW Government Social Policy Directorate)

Our reference : LIC07/2213-02;DOC07/47607
Contact : Denis Harvey, 03 5021 8919

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

Attention: Paul Freeman

Dear Mr Reed

Re Proposed Rasp Mine at Broken Hill

I refer to the Project Application and accompanying information provided for the above proposal received by the Department of Environment and Climate Change (DECC) on 15 April 2008.

We have reviewed the information provided and consider the air quality assessment in the draft environmental assessment to be inadequate. Specifically, the Director-General's Requirements require that the air quality assessment must include an assessment of all potential air borne lead and dust emissions from construction, traffic movements, open exposed areas including tailings dams, material processing and handling, transfer points, mine exhaust and loading facilities. In particular, significant sources of emissions are omitted from the assessment.

To assist the proponent in addressing these key areas further information on our review of the proposal and the key emission sources that have not been included in the modelling are outlined at Attachment 'A'. In light of the above advice, DECC does not support the public exhibition of the environmental assessment.

For your information we do however consider the environmental assessment to have satisfactorily addressed the following key issues from the Director-General's Requirements.

- Noise;
- Blast overpressure and ground vibration;
- Water quality; and
- Aboriginal heritage.

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If you have any enquiries about this matter please contact Denis Harvey by telephoning 03 5021 8919.

Yours sincerely

C. Bretherton 16.5.2008

CRAIG BRETHERTON
Acting Manager South West Region
Environment Protection and Regulation

ATTACHMENT 'A'

Best Practice
The proposal includes open cut and underground mining and truck hauling of ores containing high levels of heavy metals. These metals will be present in dust from the site.

In this situation it is apparent that only best practice operational design, dust control and management can be acceptable, but potentially even this may not be sufficient to protect against impact on human health and the environment.

Previously the DECC requested that the proponent clearly demonstrate in the Environmental Assessment that it is proposing best practice in all relevant aspects of the proposal.

Examples of best practice operational design and dust controls that a mine can incorporate include:

- Use of slurry pumps to move material instead of truck haulage;
- Sealed haul and other roads that are regularly washed and swept;
- Fully enclosed conveyors;
- All processing within enclosed structures operating under negative pressure with filtered ventilation;
- Tailings dams well removed from inhabited areas;
- Minimal or nil exposed stockpiling of material;
- Stockpiling, if necessary, below ground level
- Regular wind breaks across the site and/or vegetation to minimise wind blown dust;

DECC considers that best practice operational design, dust control and management has not been incorporated into the proposal.

DECC will not be able to recommend that the proposal proceed without the incorporation of best practice operational design, dust control and management in all relevant aspects of the proposal.

Technical Issues Related to the Assessment of Impacts
DECC does not concur with the results of the modelling conducted for a number of reasons. These include:

1. **Incorrect emissions factor equations and/or incorrect emission rates are used:** For example, the equations for dust emissions from unpaved roads are incorrect. They equations used appear to be a hybrid of equations for industrial and public roads.
   Even if correct emissions equations were used, the subsequent application of the equations is incorrect. For example:
   a. It is impossible to have TSP emissions that are less than PM_{10} emissions e.g. ROM ore pad loading and dumping;
   b. It is incorrect to further reduce emissions to account for watering when watering has already been factored into the equation;
   c. The emission rates are in some cases are 10 times or so lower than best practice emission rates, e.g. emissions for hauling to ROM stockpile;
   d. The fraction of PM_{10} in emissions varies from 20 to 52% for no apparent reason;
   e. The tonnage of ore extracted from the open cut varies from 80,000 to 100, 000 tonnes between the text and the tables – this introduces a possible 20% underestimation of a significant source.

2. **Significant sources of emissions are omitted.** Key sources that have not been included in the modelling include:

a. The remainder of the exposed areas on the site;
b. Operation and completion of tailings dam;
c. Loading haul trucks and material handling in the Kintore pit;
d. Dumping and material handling in the BHP pit;
e. Conveyor from ROM;
f. Rail loading and transport;
g. Various ore transfers and conveying near the crushing/ screening plant;
h. Drilling; and,
i. Other vehicle movements and miscellaneous sources.

3. **Inappropriate modelling of some sources**; for example crushing/screening plant is modelled as an area source, whereas it is a volume source.

4. **Metals in water have not been considered as requested by DECC.** Metals will be present in the water used for dust suppression. Due to enhanced evaporation from traffic on roads the metals are likely to concentrate, potentially leading to significant metals emissions from roads.

The presentation of the modelling assessment could be improved
The manner in which what was done/modelled is presented in the air assessment makes it time consuming and difficult to confirm what was actually done.

The information necessary for DECC to confirm how a specific matter was dealt with does not appear to be present for all situations. For example,

- the width to the haul roads is not provided, which makes if difficult to check whether emission rates in units of mass of emissions per unit time per unit area are correctly derived from emission factors of say mass of emissions per kilometre travelled;
- the source of the emission factor equations used is not provided for all cases;
- many assertions/ assumptions for the equations are not supported and in some cases values used appear to be outside of the range of applicability for the equations used, e.g. silt content of 1% is well outside the range of possible silt content that the equations are derived for;
- the manner that in-pit reductions were applied is unclear.

In terms of modelling, the issues DECC raised in regard to how PM_{10} was treated, such as omission of some max results etc do not appear to have been explained.

Issues related to statement of commitments and operational management
The proponent has stated that it will develop various monitoring and dust management plans. In the absence of such details it is difficult to support the assertions in the assessment regarding the level of controls and management that will be applied. Such plans need to be provided at least in draft from and must include all key elements, for example quantitative confirmation that sufficient clean water is available to implement what was modelled.

The statement of commitments must also reflect the plans for operational monitoring and management. For example will the operation alter/ cease/ or something else if blood lead level monitoring confirms increasing or excessive lead levels? What will the proponent do?

Further issues
At this time the DECC has not reviewed the EA in detail. Further issues may arise upon detailed review. With this in mind, and to ensure transparency and rigour, it is strongly recommended that the proponent engage an independent third party(ies) to conduct a detailed review prior to re-submitting further information to DECC. The review should validate that the project itself is commensurate with best practice operational design, dust control and management, and also that the air quality impact assessment is accurate.