

# **Appendix 2**

## **Director-General's Requirements issued 4 May 2012 and Supplementary Director- General's Requirements issued 1 March 2013**

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Planning &  
Infrastructure

**Major Projects Assessment  
Mining & Industry Projects**

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Our Ref: 11/22089-1

Mr Ian Chalmers  
Australian Zirconia Limited  
PO Box 4384  
VICTORIA PARK WA 6979

Dear Mr Chalmers

**State Significant Development - Director-General's Requirements  
Dubbo Zirconia Project (SSD-5251)**

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 Dubbo Zirconia 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 council. 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.

I wish to emphasise the importance of effective and genuine community consultation and the need for proposals to proactively respond to the community's concerns. Accordingly a comprehensive, detailed and genuine community consultation and engagement process must be undertaken during preparation of the EIS. This process must ensure that the community, including key special interest, is both informed of the proposal and is actively engaged in issues of concern to them. Sufficient information must be provided to the community so that it has a good understanding of what is being proposed and of the potential impacts.

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 Kane Winwood.

Yours sincerely

David Kitto  
**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

<b>Application Number</b>	SSD 5251
<b>Development</b>	<p>The Dubbo Zirconia Project, which includes:</p> <ul style="list-style-type: none"> <li>• developing an open cut Zirconium and rare earth mine and associated infrastructure, including water pipeline, gas pipeline, electricity transmission line, rail loading facility, rail upgrade and road upgrade;</li> <li>• extracting and processing approximately 18 million tonnes of ore over a period of up to 20 years;</li> <li>• transporting the processed ore from the mine via road and rail; and</li> <li>• rehabilitating the site.</li> </ul>
<b>Location</b>	Toongi, 25 km south of Dubbo, in the Dubbo LGA
<b>Applicant</b>	Australian Zirconia Limited
<b>Date of Issue</b>	4 May 2012
<b>General Requirements</b>	<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"> <li>• detailed description of the development, including: <ul style="list-style-type: none"> <li>– need for the proposed development;</li> <li>– justification for the proposed mine plan, including efficiency of resource recovery, mine safety, and environmental protection;</li> <li>– likely staging of the development - including construction, operational stage/s and rehabilitation;</li> <li>– likely interactions between the development and existing, approved and proposed mining operations in the vicinity of the site;</li> <li>– plans of any proposed building works;</li> </ul> </li> <li>• consideration of all relevant environmental planning instruments, including identification and justification of any inconsistencies with these instruments;</li> <li>• risk assessment of the potential environmental impacts of the development, identifying the key issues for further assessment;</li> <li>• 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"> <li>– a description of the existing environment, <u>using sufficient baseline data</u>;</li> <li>– 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</li> <li>– 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</li> </ul> </li> <li>• consolidated summary of all the proposed environmental management and monitoring measures, highlighting commitments included in the EIS.</li> </ul>
<b>Key issues</b>	<p>The EIS must address the following specific issues:</p> <ul style="list-style-type: none"> <li>• <b>Land Resources</b> - including a detailed assessment of the potential impacts on: <ul style="list-style-type: none"> <li>- soils and land capability (including salinisation and contamination);</li> <li>- landforms and topography; and</li> <li>- land use, including agricultural use;</li> </ul> </li> <li>• <b>Water Resources</b> – including: <ul style="list-style-type: none"> <li>- detailed assessment of potential impacts on the quality and quantity of existing surface and ground water resources, including: <ul style="list-style-type: none"> <li>o detailed modelling of potential groundwater impacts;</li> <li>o impacts on affected licensed water users and basic landholder</li> </ul> </li> </ul> </li> </ul>

	<p>rights; and</p> <ul style="list-style-type: none"> <li>o impacts on riparian, ecological, geomorphological and hydrological values of watercourses, including environmental flows;</li> <li>- 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;</li> <li>- an assessment of proposed water discharge quantities and quality/ies against receiving water quality and flow objectives;</li> <li>- an assessment of proposed modifications to surface water management, including modelling the redistribution of waters and an assessment of the impact on neighbouring properties and the associated watercourse and floodplain;</li> <li>- identification of any licensing requirements or other approvals under the <i>Water Act 1912</i> and/or <i>Water Management Act 2000</i>;</li> <li>- 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);</li> <li>- 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</li> <li>- a detailed description of the proposed water management system (including sewage), water monitoring program and other measures to mitigate surface and groundwater impacts;</li> </ul> <ul style="list-style-type: none"> <li>• <b>Air Quality</b> – including a quantitative assessment of potential: <ul style="list-style-type: none"> <li>- construction and operational impacts, with a particular focus on dust emissions (including PM<sub>2.5</sub> and PM<sub>10</sub> emissions) and processing emissions;</li> <li>- reasonable and feasible mitigation measures to minimise dust and processing emissions, including evidence that there are no such measures available other than those proposed; and</li> <li>- monitoring and management measures, in particular real-time air quality monitoring;</li> </ul> </li> <li>• <b>Greenhouse Gases</b> – including: <ul style="list-style-type: none"> <li>- a quantitative assessment of potential Scope 1, 2 and 3 greenhouse gas emissions;</li> <li>- a qualitative assessment of the potential impacts of these emissions on the environment; and</li> <li>- an assessment of reasonable and feasible measures to minimise greenhouse gas emissions and ensure energy efficiency;</li> </ul> </li> <li>• <b>Waste</b> – including: <ul style="list-style-type: none"> <li>- accurate estimates of the quantity and nature of the potential waste streams of the development, including tailings, coarse reject and acid-generating potential;</li> <li>- a tailings and coarse reject disposal strategy; and</li> <li>- a description of measures that would be implemented to minimise production of other waste, and ensure that that waste is appropriately managed;</li> </ul> </li> <li>• <b>Hazards and Risks</b> – including a screening of potential hazards off and on site to determine the potential for offsite impacts and if a Preliminary Hazard Analysis (PHA) is required. If required, a PHA must be prepared in accordance with the <i>Department's Hazardous Industry Planning Advisory Paper No. 6 - Guidelines for Hazard Analysis</i> and must: <ul style="list-style-type: none"> <li>- consider the risks from the proposal; and</li> <li>- demonstrate that the proposal would comply with the criteria set out in <i>Hazardous Industry Planning Advisory Paper No. 4 - Risk Criteria for Land Use Safety Planning</i>;</li> </ul> </li> <li>• <b>Biodiversity</b> – including: <ul style="list-style-type: none"> <li>- measures taken to avoid, reduce or mitigate impacts on biodiversity;</li> <li>- accurate estimates of proposed vegetation clearing;</li> <li>- a detailed assessment of potential impacts of the development on any: <ul style="list-style-type: none"> <li>o terrestrial or aquatic threatened species or populations and their habitats, endangered ecological communities and groundwater dependent ecosystems; and</li> <li>o regionally significant remnant vegetation, or vegetation corridors;</li> </ul> </li> <li>- a comprehensive offset strategy to ensure the development maintains</li> </ul> </li> </ul>
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	<p>or improves the terrestrial and aquatic biodiversity values of the region in the medium to long term;</p> <ul style="list-style-type: none"> <li>• <b>Heritage</b> – including: <ul style="list-style-type: none"> <li>- an Aboriginal cultural heritage assessment (including both cultural and archaeological significance) which must: <ul style="list-style-type: none"> <li>o demonstrate effective consultation with Aboriginal communities in determining and assessing impacts, and developing and selecting mitigation options and measures; and</li> <li>o outline any proposed impact mitigation and management measures (including an evaluation of the effectiveness and reliability of the measures); and</li> </ul> </li> <li>- a Historic heritage assessment (including archaeology) which must: <ul style="list-style-type: none"> <li>o include a statement of heritage impact (including significance assessment) for any State significant or locally significant historic heritage items; and</li> <li>o outline any proposed mitigation and management measures (including an evaluation of the effectiveness and reliability of the measures);</li> </ul> </li> </ul> </li> <li>• <b>Noise</b> – including a quantitative assessment of potential: <ul style="list-style-type: none"> <li>- construction, operational and transport noise impacts;</li> <li>- reasonable and feasible mitigation measures, including evidence that there are no such measures available other than those proposed; and</li> <li>- monitoring and management measures, in particular real-time, attended noise monitoring and predictive meteorological forecasting;</li> </ul> </li> <li>• <b>Traffic &amp; Transport</b> – including: <ul style="list-style-type: none"> <li>- accurate predictions of the road and rail traffic generated by the project;</li> <li>- an assessment of the capacity of the rail network to accommodate the transport of ore;</li> <li>- an assessment of potential traffic impacts on the safety and efficiency of the road network; and</li> <li>- 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;</li> </ul> </li> <li>• <b>Visual</b> – including: <ul style="list-style-type: none"> <li>- a detailed assessment of the: <ul style="list-style-type: none"> <li>o changing landforms on the site during the various stages of the project; and</li> <li>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</li> </ul> </li> <li>- a detailed description of the measures that would be implemented to minimise the visual impacts of the project;</li> </ul> </li> <li>• <b>Social &amp; Economic</b> – including an assessment of the: <ul style="list-style-type: none"> <li>- potential direct and indirect economic benefits of the project for local and regional communities and the State;</li> <li>- potential impacts on local and regional communities, including: <ul style="list-style-type: none"> <li>o increased demand for local and regional infrastructure and services (such as housing, childcare, health, education and emergency services); and</li> <li>o impacts on social amenity;</li> </ul> </li> <li>- 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</li> <li>- 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</li> </ul> </li> <li>• <b>Rehabilitation</b> – 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"> <li>- rehabilitation objectives, methodology, monitoring programs, performance standards and proposed completion criteria;</li> <li>- nominated final land use, having regard to any relevant strategic land use planning or resource management plans or policies; and</li> <li>- the potential for integrating this strategy with any other rehabilitation and/or offset strategies in the region.</li> </ul> </li> </ul>
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<b>Plans and Documents</b>	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.
<b>Consultation</b>	<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"> <li>• Commonwealth Department of Sustainability, Environment, Water, Population and Communities;</li> <li>• Office of Environment and Heritage (including the Heritage Branch);</li> <li>• Environment Protection Authority;</li> <li>• Division of Resources and Energy within the Department of Trade and Investment, Regional Infrastructure and Services;</li> <li>• Department of Primary Industries (including the NSW Office of Water, NSW Forestry, Agriculture and Fisheries sections, Catchments and Lands (Crown Lands Division));</li> <li>• Transport for NSW (including the Centre for Transport Planning, and Roads and Maritime Services);</li> <li>• TransGrid;</li> <li>• Central West Catchment Management Authority; and</li> <li>• Dubbo City Council.</li> </ul> <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>
<b>Further consultation after 2 years</b>	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.
<b>References</b>	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	
	Agricultural Impact Assessment Guidelines 2012 (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	
Surface Water	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)
	Managing Urban Stormwater: Source Control (DECC)
	Floodplain Development Manual (DIPNR)
	Floodplain Risk Management Guideline (DECC)
	A Rehabilitation Manual for Australian Streams (LWRRDC and CRCCH)



Groundwater	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)
	Any relevant Water Sharing Plan for groundwater and surface water resources
<b>Air Quality</b>	
	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)
<b>Noise &amp; Blasting</b>	
	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)
<b>Traffic &amp; Transport</b>	
	Guide to Traffic Generating Development (RTA)
	Road Design Guide (RTA)
<b>Heritage</b>	
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)
<b>Greenhouse Gases</b>	
	National Greenhouse Accounts Factors (Australian Department of Climate Change (DCC))
	Guidelines for Energy Savings Action Plans (DEUS)
<b>Waste</b>	
	Waste Classification Guidelines (DECC)
<b>Hazards</b>	
	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. 4 – Risk Criteria for Land Use Safety Planning
	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)

**Major Projects Assessment****Mining & Industry**

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Our Ref: 11/2089-1

Mr Ian Chalmers  
 Australian Zirconia Limited  
 PO Box 4384  
 VICTORIA PARK WA 6979

Dear Mr Chalmers

**State Significant Development – Supplement to Director-General's Requirements  
 Dubbo Zirconia Project (SSD-5251)**

I refer to the Director-General's requirements issued for the Dubbo Zirconia Project on 4 May 2012.

As you are aware, this project has been declared a controlled action under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The Department of Sustainability, Environment, Water, Populations and Communities has accredited the NSW Part 4 State Significant Development assessment process for the Project.

To ensure that sufficient information is provided to enable an appropriate level of assessment of relevant matters of National Environmental Significance, the Director-General has issued supplementary requirements for the Environmental Impact Statement (EIS) under section 78A(8A) of the *Environmental Planning and Assessment Act 1979*. A copy of the supplementary requirements is attached.

You must ensure that the EIS adequately addresses the Director-General's requirements issued on 4 May 2012, as well as the attached supplementary requirements.

To speed up the assessment process, it is recommended that the EIS for the project include separate appendices dealing with State and Commonwealth biodiversity matters. However, the main report should deal with these matters in an integrated manner.

If you have any enquiries about these requirements, please contact Caitlin Elliott on the details above.

Yours sincerely

A handwritten signature in black ink, appearing to read 'D. Kitto', followed by the date '1/3/13'.

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

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## Supplementary Director-General's Requirements

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

The delegate for the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities has determined that the proposed action, to develop an open cut mine to extract ore containing the rare metals Zirconium, Niobium and Yttrium and Rare Earth Elements near the village of Toongi, NSW to be a controlled action under section 75 of the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act).

This action is likely to have a significant impact on listed threatened species and communities (sections 18 and 18A) including the Pink-tailed Worm-Lizard (*Aprasia parapulchella*).

The delegate has also determined that the project be assessed through an accredited assessment of Part 4 of the NSW *Environment Assessment and Planning Act 1979* (EP&A Act) - State Significant Development. In accordance with the accredited assessment process for this project, the assessment of the impacts of the action on the relevant matters of national environmental significance must be integrated into the assessment required for Part 4 of the EP&A Act.

The assessment must include enough information about the controlled action and its relevant impacts to allow the Commonwealth Minister for Sustainability, Environment, Water, Population and Communities, or his delegate, to make an informed decision about whether or not to approve the controlled action under the EPBC Act. To this end, provided below are the assessment requirements under the EPBC Act for input into the Director-General Requirements.

The following matters must be addressed in the assessment of the action:

#### Key assessment requirements

1. Impacts on threatened species and ecological communities listed under Sections 18 and 18A of the Environment Protection and Biodiversity Conservation Act 1999;
2. Any relevant Commonwealth and State Government technical and policy guidelines;
3. Matters outlined in Schedule 4 of the Environment Protection and Biodiversity Conservation Regulation 2000, included in the requirements below; and
4. The requirements outlined below:

#### 1. General information

The background of the action including:

- (a) the title of the action;
- (b) the full name and postal address of the designated proponent;
- (c) a clear outline of the objective of the action;
- (d) the location of the action;
- (e) the background to the development of the action;
- (f) how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action;
- (g) the current status of the action; and
- (h) the consequences of not proceeding with the action.

**2. Description of the action**

A description of the action, including:

- (a) all the components of the action;
- (b) the precise location of the preferred option for any works to be undertaken, structures to be built or elements of the action that may have relevant impacts;
- (c) how the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts;
- (d) to the extent reasonably practicable, a description of any feasible alternatives to the controlled action that have been identified through the assessment, and their likely impact, including:
  - (i) if relevant, the alternative of taking no action;
  - (ii) a comparative description of the impacts of each alternative on the matters protected by the controlling provisions for the action; and
  - (iii) sufficient detail to make clear why any alternative is preferred to another.
- (e) A description of long-term and short-term economic and social considerations regarding the project.

**3. A description of the existing environment and relevant matters of national environmental significance;**

*Listed threatened species and ecological communities*

- (a) a description of the nature, location and extent of all vegetation types occurring on the site, immediately adjacent to the site and in areas likely to be indirectly impacted by the action;
- (b) a description and map of the nature, location and extent of likely suitable habitat, and known records for, threatened species and ecological communities (including breeding, foraging, roosting habitat, habitat critical to the survival of the relevant species and ecological communities, movement corridors and migration paths) within the sites and in surrounding areas that may be impacted by the proposal; and
- (c) adequate surveys for relevant species, including detailed description of the methodology, timing, effort and results of all targeted surveys undertaken for all relevant matters, in accordance with any relevant guidelines and a description of any limitations and constraints of the surveys undertaken.

**4. A description of the relevant impacts of the action;**

An assessment of the relevant impacts of the action, including:

- (a) a detailed description and assessment of the nature and extent of all relevant impacts, including direct, indirect and facilitated impacts that the action will have or is likely to have on listed threatened species and ecological communities listed under sections 18 and 18A of the EPBC Act;
- (b) whether any relevant impacts are likely to be unknown, unpredictable or irreversible;
- (c) any technical data and other information used or needed to make a detailed assessment of the relevant impacts, as they relate to relevant matters of national environmental significance.

**5. Proposed safeguards, mitigation and offset measures**

A description of changes to the action and feasible mitigation measures, that are intended to avoid, minimise or compensate for relevant impacts, including:

- (a) a description of how the action has been designed to avoid impacts to threatened species and ecological communities;



- (b) a consolidated list of mitigation measures proposed to be undertaken to prevent or minimise the relevant impacts of the action, before, during and after construction, during operation, decommissioning and rehabilitation;
- (c) a description, and an assessment of the expected or predicted effectiveness of, the mitigation measures, including a justification of the location and design of mitigation measures to be implemented to ensure their effectiveness. This analysis should be based on best available knowledge and baseline data for the relevant areas;
- (d) a description of the objectives of the mitigation measures, thresholds for corrective actions, and the corrective actions to be implemented should these thresholds be exceeded;
- (e) any statutory or policy basis for the mitigation measures;
- (f) details of environmental management plans that set out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including the person or agency responsible for implementing these programs and provisions for independent environmental auditing;
- (g) the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program;
- (h) in the event that impacts cannot be avoided or mitigated, a description of any offsets to compensate for any predicted or potential residual impacts on threatened species and ecological communities. This should be in accordance with the department's Offsets Policy (<http://www.environment.gov.au/epbc/publications/environmental-offsets-policy.html>) and include:
  - (i) an assessment of how any proposed offset compensates for the residual impacts on threatened species and ecological communities likely to remain following avoidance and mitigation measures to be implemented;
  - (ii) the location of any proposed offset;
  - (iii) the timing of the delivery of any offset; and
  - (iv) how the offset will be secured and managed in perpetuity.

#### **6. Other approvals and conditions**

Any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action. Information must include:

- (a) details of any local or State government planning scheme, or plan or policy under any local or State government planning system that deals with the proposed action, including:
  - (i) what environmental assessment of the proposed action has been, or is being, carried out under the scheme, plan or policy; and
  - (ii) how the scheme provides for the prevention, minimisation and management of any relevant impacts.
- (b) a description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the relevant Act) including any conditions that apply to the action;
- (c) a statement identifying any additional approval that is required; and
- (d) a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

#### **7. Environmental record of person proposing to take the action**

A description of the environmental record of the person proposing to take the action, including:

- (a) Details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

- (i) the person proposing to take the action; and
  - (ii) for an action for which a person has applied for a permit, the person making the application.
- (b) If the person proposing to take the action is a corporation — details of the corporation's environmental policy and planning framework.

#### 8. Information sources

For information given in an environment assessment, the draft must state:

- (a) the source of the information;
- (b) how recent the information is;
- (c) how the reliability of the information was tested; and
- (d) what uncertainties (if any) are in the information.

#### 9. Consultation

A description of any consultation undertaken during the assessment, including:

- (a) Any consultation about the action, including:
  - (i) any consultation that has already taken place;
  - (ii) proposed consultation about relevant impacts of the action; and
  - (iii) if there has been consultation about the proposed action — any documented response to, or result of, the consultation.
- (b) Identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.

#### 10. Economic and Social Matters

The economic and social impacts of the action, both positive and negative, must be analysed. This analysis must include:

- (a) details of any public consultation activities undertaken, and their outcomes;
- (b) projected economic costs and benefits of the project, including the basis for their estimation through cost/benefit analysis or similar studies; and
- (c) employment opportunities expected to be generated by the project (including construction and operational phases).

**Appendix A**

**The Pink-tailed Worm-Lizard (*Aprasia parapulchella*)**

The following information regarding the Pink-tailed Worm-Lizard (PTWL) should be included in the EIS, preferably in the proposed PTWL Management Plan:

- A map depicting the locations of subpopulations of the PTWL on the site in relation to the proposed open cut mine, other infrastructure and proposed offset areas.
- Estimates of the number of individuals in each subpopulation and the area of PTWL habitat which will be lost at each location.
- Analysis of the measures proposed in the referral to reduce potential impacts on the PTWL such as the proposed PTWL monitoring and research program, including analysis of the risks and potential benefits of translocation, the provision of offset areas and additional research and field work.
- The success or failure of PTWL management programs at other sites should be discussed in detail to assist consideration of the management and mitigation measures proposed for the Toongi Zirconia site.