

**Draft terms of reference for the
Bauxite Hills Project
Environmental Impact Statement**
Proposed by Aldoga Minerals Pty Ltd
on behalf of Metro Mining Limited

Prepared by: Statewide Environmental Assessments Unit, Department of Environment and Heritage Protection

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1 Project Proponent

Metro Mining is the ultimate holding company of 100% of the Project. The Bauxite Hills Mining Lease Applications (MLAs) are held by Metro Mining subsidiaries, (which are owned 100% by Metro Mining), with 99% of the tenements held by Aldoga Minerals Pty Ltd (Aldoga), and 1% of the tenements held by Cape Alumina Pty Ltd. The applicant's for the Environmental Authority application under the *Environmental Protection Act 1994*, appointed Aldoga Minerals Pty Ltd as the principal applicant and is therefore the proponent for the project.

Metro Mining's head office is located in Brisbane at the following address:

Metro Mining Limited
Level 8, 300 Adelaide Street
BRISBANE QLD 4001

2 Proposed Bauxite Hills Project Description

Aldoga Minerals Pty Ltd's (Aldoga) proposes to develop the Bauxite Hills Project (the Project) located on the western coastline of Cape York, Queensland, approximately 35 kilometres (km) northeast of Mapoon. The Project, on mining leases (ML) ML20676, ML20689, ML20688, and MLA100051, would include an open cut operation, haul roads, barge loading facility, shipping and would produce and transport up to 5 million tonnes per annum of ore over approximately 12 years. The bauxite from the Project is suitable as a Direct Shipping Ore (DSO) product (i.e. ore is extracted and loaded directly to ships with no washing or tailings dams required). Bauxite would be transported by barge via the Skardon River to the transshipment site, approximately 12 km offshore, and loaded into ocean going vessels (OGVs) and shipped to customers.

The Project is characterised by several shallow open cut pits that will be connected via internal haul roads, which in turn, would be connected to a main north-south haul road that will link with the Mine infrastructure Area (MIA) and barge loading facility located to the north of the pits on the Skardon River. Bauxite would be hauled to the run-of-mine (ROM) stockpile using road train trucks.

The mine will not be operational during the wet season. Vessels of between 60,000 to 80,000 t each will be loaded at the transshipment anchorage site. Vessels will be loaded in approximately four to six days with barges having a capacity of between 3500 - 6500t.

The construction of the mine is due to commence in 2016 and is expected to take seven months to complete. The first shipment of bauxite is planned for Q4 2017. The Project workforce is currently estimated to be 75 employees during construction and approximately 160 employees at the peak of operations. In addition to the permanent workforce, it is expected the Project would result in the employment of additional workers through local and regional businesses servicing the workers camps and the construction and operation of the mine.

Key components of the Project include:

- shallow open cut pits
- internal haul roads and access roads
- barge loading facility on the Skardon River
- MIA including the ROM stockpile, bauxite stockpiles, barge loading conveyor load point, earthmoving equipment hard park, administration offices, workshops and fuelling facilities
- accommodation camp/village
- raw and potable water supply from great artesian basin and shallow alluvial aquifers
- sewage treatment plant
- power requirements sourced from onsite generators located within the MIA and the accommodation camp.

3 Environmental Protection Act 1994 (Queensland)

On 17 August 2015, Aldoga Pty Ltd (on behalf of Metro Mining) applied under the *Environmental Protection Act 1994* (EP Act) for an environmental authority (EA) for bauxite mining. On 2 September 2015 EHP decided that an EIS would be required to properly assess the application. On 21 September 2015, EHP notified Aldoga Pty Ltd that the EA application requires assessment by EIS in the Information Request stage.

4 Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

The proposed project was referred on 11 August 2015 to the Australian Department of the Environment (EPBC 2015/7538). On 18 September 2015, the Department of the Environment determined the proposed project to be a controlled action under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act). The controlling provisions are sections 18 and 18A (listed threatened species and communities), sections 20 and 20A (listed migratory species) and sections 23 and 24A (Commonwealth marine areas). The EIS process will assess potential impacts of the project on the controlling provisions consistent with the bilateral agreement (section 45 of the EPBC Act) between the Australian and Queensland governments for the purposes of the Australian Government's assessment under part 8 of the EPBC Act.

Part A About these terms of reference

1 Statutory basis

This section draws attention to the project assessment information requirements of the EP Act administered by the Department of Environment and Heritage Protection (EHP). While these terms of reference (TOR) aim to seek information corresponding to these requirements, proponents should confirm that the EIS addresses all relevant statutory requirements, and also meets the relevant information requirements of other Commonwealth and state regulatory authorities.

These TOR apply to the assessment of resource projects that require assessment under the environmental impact statement (EIS) process requirements set out in chapter 3, part 1, of the EP Act

The key information requirements of the EP Act that must be addressed in an EIS are:

- the requirements of section 40 of the EP Act, which specifies the purpose of an EIS and of the EIS process
- sections 125 and 126 which set out the general information requirements for applications for an environmental authority (EA)
- schedule 1 of the Environmental Protection Regulation 2008 (EP Regulation)—matters to be addressed by assessment under the bilateral agreement between the Commonwealth and the State of Queensland
- the environmental objectives and performance outcomes specified in schedule 5, part 3, table 1 of the EP Regulation.

Section 139 of the EP Act states that the information stage of the EA application process does not apply if the EIS process under the EP Act is complete (unless there has been a subsequent change to the project). Consequently, if the project is to proceed, it is particularly important that the EIS provide all the information needed to enable the issuing of an EA for the project as set out in these TOR in conjunction with the guidance material at:

<http://www.ehp.qld.gov.au/management/impact-assessment/eis-processes/eis-tor-support-guidelines.html>.

Chapter 4 of the EP Regulation prescribes the regulatory requirements with which the administering authority is required to comply for making environmental management decisions—including the issuing of an EA. To facilitate this, EHP has developed a set of model conditions for resource projects, which should form the basis for proposed draft EA conditions and general environmental protection commitments in the EIS. For the Bauxite Hills Project, the Guideline – Resource activity – mining - Model mining conditions, is relevant. The EIS should describe impact mitigation measures in the context of these model conditions.

2 Accredited process for controlled actions under Commonwealth¹ legislation

The Australian Department of the Environment decided that the project is a 'controlled action' under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) due to likely significant impacts on matters of national environmental significance (MNES). The action will be assessed by an EIS process accredited under the Bilateral Agreement between the Australian and Queensland governments.

The EIS must state the controlling provisions for the project and describe the particular aspects of the environment leading to the controlled action declaration under the EPBC Act. The assessment of the potential impacts, mitigation measures and any offsets for residual impacts must be dealt with in a stand-alone section of the EIS that fully addresses the matters relevant to the controlling provisions. Requirements for matters of national environmental significance (MNES) are set out in Appendix 2 Matters of national environmental significance of the TOR.

The EIS must also address the matters prescribed in section 6 and in Schedule 1 of the EP Regulation.

3 EIS guidelines

The TOR must be read in conjunction with the EHP Guideline – 'The Environmental Impact Statement Process under the EP Act', which explains the following:

- participants in the EIS process
- consultation requirements
- EIS format and copy requirements.

In addition, subject-specific guidelines are referenced throughout the TOR. Refer to Appendix 1 for a list of these policies and guidelines. Additional technical guidelines on how to comply with the TOR and information about the project or the EIS process conducted under the EP Act can be accessed from the EHP website www.ehp.qld.gov.au.

Part B Content of the EIS

1 General approach

- 1.1 For the purposes of the EIS process, 'environment' is defined in section 8 of the EP Act.
- 1.2 The EIS should give priority to the critical matters associated with the project specified in section 7 of the TOR.
- 1.3 The detail in which the EIS deals with matters relevant to the project should be proportional to the scale of the impacts on environmental values. When determining the scale of an impact, consider its intensity, duration, cumulative effect, irreversibility, the risk of environmental harm, management strategies and offsets provisions.

2 Mandatory requirements of an EIS

- 2.1 Describe the project including all aspects subject to this assessment. Provide details of the proponent of the project, including details of any joint venture partners. The project description should include all on and off lease activities relevant to the project including construction, operation and decommissioning activities. If the delivery of the project is to be staged, the nature and timing of the stages should be fully described.

¹ This section applies where the proponent has received confirmation from the Australian Government Environmental Agency that the project is a controlled action under the EPBC Act and that it is to be assessed under an EIS accredited under the bilateral agreement.

- 2.2 For all the relevant matters, the EIS must identify and describe the environmental values² that must be protected. Environmental values are specified in the EP Act, the Environmental Protection Regulation 2008 (EP Regulation), environmental protection policies (EPPs) and relevant guidelines.³
- 2.3 The assessment should cover both the short and long-term scenarios and state whether any relevant impacts are likely to be irreversible.
- 2.4 Provide all available baseline information relevant to the environmental risks of the project. Provide details about the quality of the information provided, in particular: the source of the information; how recent the information is; how the reliability of the information was tested; and any uncertainties in the information.
- 2.5 Demonstrate how the construction, operation and decommissioning (to the extent known) of the project would be consistent with best practice environmental management. In general, the preferred hierarchy for managing likely impacts is: (a) to avoid; (b) to minimise or mitigate; and (c) if necessary, and possible, to offset. Where relevant, mitigation strategies should be described in the context of EHP model conditions.
- 2.6 Provide detailed strategies in regard to all critical matters for the protection, or enhancement as desirable, of all relevant environmental values in terms of outcomes and possible conditions that can be measured and audited.
- 2.7 Impact minimisation measures should include ongoing monitoring and proposals for an adaptive management approach, as relevant, based on monitoring. The proposed measures should give confidence that, based on current technologies, the impacts can be effectively minimised over the long-term.
- 2.8 Present feasible alternatives of the project's configuration (including individual elements) that may improve environmental outcomes. Discuss the consequences of not proceeding with the project.
- 2.9 For unproven elements of a resource extraction or processing process, technology or activity, identify and describe any global leading practice environmental management, where available.

3 Further requirements of an EIS

- 3.1 The assessment and supporting information should be sufficient for the administering authority to decide whether an approval should be granted. Where applicable, sufficient information should be included to enable approval conditions, such as the existing model EA conditions, to be utilised.
- 3.2 To the extent of the information available, the assessment should endeavour to predict the cumulative impact⁴ of the project on environmental values over time and in combination with impacts created by the activities of other adjacent and upstream and downstream developments and landholders—as detected by baseline monitoring. This will inform the decision on the EIS and the setting of conditions. The absence of a comprehensive cumulative impacts analysis need not be fatal to the project. The EIS should also outline ways in which the cumulative impact assessment and management could subsequently be progressed further on a collective basis.
- 3.3 Include a consolidated description of all the proponent's commitments to implement management measures (including monitoring programs). Should the project proceed, these should be able to be carried over into the approval conditions as relevant.
- 3.4 Provide all geographical coordinates throughout the EIS in latitude and longitude against the Geocentric Datum of Australia 1994 (GDA94).
- 3.5 An appropriate public consultation program is essential to the impact assessment process. The proponent should consult with local, Queensland and Australian government authorities, and potentially affected local communities.

² Defined in section 125(l)(i)(A) of the EP Act.

³ For example, the Queensland Water Quality Guidelines and the Australian and New Zealand Guidelines for Fresh and Marine Water Quality (refer to Appendix 1 Policies and guidelines for details).

⁴ Cumulative impact is defined as 'combined impacts from all relevant sources (developments and other activities in the area)'.

- 3.6 The EIS should describe the consultation that has taken place and how the responses from the community and agencies have been incorporated into the design and outcomes of the project. Requirements for the public consultation plan are listed in the document 'Preparing an environmental impact statement: Guideline for proponents'.

4 Executive summary

- 4.1 The executive summary should describe the project and convey the most important and preferred aspects and environmental management options relating to the project in a concise and readable form. It should use plain English, avoid jargon, be written as a stand-alone document and be structured to follow the EIS. It should be easy to reproduce and distribute on request to those who may not wish to read or purchase the whole EIS.

5 Introduction

- 5.1 Clearly explain the function of the EIS, why it has been prepared and what it sets out to achieve. Include an overview of the structure of the document.

Project proponent

- 5.2 Describe the proponent's experience, including:
- the designated proponent's full name, postal address and Australian Business Number, if relevant (including details of any joint venture partners)
 - the nature and extent of business activities
 - environmental record, including a list of any breach of relevant environmental laws during the previous 10 years
 - the proponent's environmental, health, safety and community policies.

The environmental impact assessment process

- 5.3 The EIS should provide an outline of the environmental impact assessment process, including the role of the administering authority in the decision making process for the EIS. The information in this section is required to ensure readers are informed of the process to be followed and are aware of any opportunities for input and participation.
- 5.4 Inform the reader how and when properly made public submissions on the EIS will be addressed and taken into account in the decision-making process.

Project approvals process

Provide an outline of the approvals required to enable the project to be constructed and operated. Explain how the environmental impact assessment process (and the EIS itself) informs the issue of the leases/licences/permits/consents required by the proponent before construction can commence. Provide a flow chart indicating the key approvals and opportunities for public comment. Guidance on typical associated approvals can be accessed from the Coordinator-General's website.⁵

⁵ www.dsdiq.qld.gov.au/coordinator-general

6 Project description

Proposed development

- 6.1 The EIS must describe and illustrate at least the following specific information about the proposed project:
- the project's title
 - the project, its objectives, and expected capital expenditure
 - rationale for the project
 - the nature and scale of activities to be undertaken and whether it is a greenfield or brownfield site
 - the regional and local context of the project's footprint (with maps at suitable scales)
 - relationship to other coordinated projects and other major projects (of which the proponent should reasonably be aware)
 - the workforce numbers to be employed by the project during its various phases, where personnel would be accommodated and, where relevant, the likely recruitment and rostering arrangements to be adopted
 - the proposed construction staging and likely schedule of works.
- 6.2 Describe and show on plans, at an appropriate scale, the proposed methods and facilities to be used for product storage and for transferring product from the processing facility to the storage facilities and/or from the storage facilities to the transport facilities. Descriptions should include all infrastructure elements appropriate to the project proposal, including haul and access roads, causeways, stockpile areas, barge loading facilities and any areas of bed levelling. Include discussion of any environmental design features of these facilities including bunding of storage facilities.

Site description

- 6.3 Provide real property descriptions of the project land and adjacent properties; any easements; any underlying resource tenures; and identification number of any resource activity lease for the project land that is subject to application. Key transport, state-controlled roads, rail, air, port/sea and other infrastructure in the region relevant to the project and to the site should be described and mapped.
- 6.4 Describe and illustrate the topography of the project site and surrounding area, and highlight any significant features shown on the maps. Maps should have contours at suitable increments relevant to the scale, location, potential impacts and type of project, shown with respect to Australian height datum (AHD) and drafted to GDA94.
- 6.5 Where appropriate, describe and map in plan and cross-sections the geology and landforms, including catchments, of the project area. Show geological structures, such as aquifers, faults and economic resources that could have an influence on, or be influenced by, the project's activities.
- 6.6 Where appropriate, describe, map and illustrate soil types and profiles of the project area at a scale relevant to the proposed project. Identify soils that would require particular management due to wetness, erosivity, depth, acidity, salinity or other feature.

Climate

- 6.7 Describe the site's climate patterns that are relevant to the environmental assessment, with particular regard to discharges to water and air and the propagation of noise. Climate information should be presented in a statistical form including long-term averages and extreme values, and any predicted changes associated with climate change, as necessary.
- 6.8 Identify the vulnerability of the area to natural and induced hazards, including floods, bushfires and cyclones. Consider the relative frequency and magnitude of these events together with the risk they pose to the construction, operation and rehabilitation of the project. Measures that would be taken to minimise the risks of these events should be described.

Proposed construction and operations

- 6.9 Describe the following information about the proposal, and provide mapping and concept/layout plans where applicable:
- existing infrastructure (including existing marine / port infrastructure) and easements on the potentially affected land
 - the proposed extractive and processing methods, associated equipment and techniques
 - the sequencing and staging of activities
 - the capacity of high-impact plant and equipment, their chemical and physical processes the chemicals or hazardous materials to be used
 - the locations, design and capacity of new or altered infrastructure necessary for the project at all stages of its development, including on and off lease areas
 - any on or off lease project activity, particularly a prescribed environmentally relevant activity
 - supply of goods and services including likely procurement models for both the construction and operation phases
 - product markets, including shipping details, destinations, transshipment operations, export routes
 - all pre-construction activities (e.g. vegetation clearing, site access, interference with watercourses and floodplain areas, including wetlands)
 - times of the year and hours of operation for proposed construction works
 - the proposed methods and facilities to be used for product storage and for transferring product from the processing facility to the storage facilities and/or from the storage facilities to the transport facilities
 - infrastructure; flood levees; telecommunications; power generation and transmission infrastructure; roads; sewerage)

7 Assessment of critical matters

This section sets out the scope of critical matters that should be given detailed treatment in the EIS.

Critical matters for this project are:

- land, flora and fauna (see section 8.2)
 - water quality (see section 8.4)
 - coastal environment (see section 8.14)
 - identified matters of state environmental significance under the State Planning Policy (July 2014). See section 8.2.12.
- 7.2 The final scope of critical matters will be determined by the administering authority when finalising the TOR. In the course of preparing the EIS, information may become available that warrants a change of scope.

Matters of national environmental significance

- 7.3 The Australian Government Environment Minister has determined that the project impacts on MNES. Refer to 0 for detailed MNES requirements.

8 Assessment of routine matters

8.1 Routine matters

- 8.1.1 The following subsections list the routine matters for resource projects, with (where applicable) a reference to the objectives defined in the EP Regulation. In some cases, not all the matters may be

relevant, while in others the list may not be exhaustive. Where applicable, refer to the objective of the EP Regulation (section 3) to ensure ecologically sustainable development is achieved.

- 8.1.2 For each routine matter identified below, the level of detail should be proportional to the scale of impacts. As a minimum, the proponent should supply sufficient information that confirms the risks/impacts are not significant.

8.2 Land, flora and fauna (critical matter)

Objectives and performance outcomes

The environmental objectives to be met under the EP Act are that the:

- activity is operated in a way that protects the environmental values of land including soils, subsoils, landforms and associated flora and fauna
- choice of the site, at which the activity is to be carried out, minimises serious environmental harm on areas of high conservation value and special significance and sensitive land uses at adjacent places
- location for the activity on a site protects all environmental values relevant to adjacent sensitive use
- design of the facility permits the operation of the site, at which the activity is to be carried out, in accordance with best practice environmental management.

The performance outcomes corresponding to these objectives are in Schedule 5, Tables 1 and 2 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) that show these outcomes can be achieved.

Information requirements—land use

- 8.2.1 Describe potential impacts of the proposed land uses taking into consideration the proposed measures that would be used to avoid or minimise impacts. The impact prediction must address:
- landscape (including visual amenity) and land uses in and around the project area, referring to regional plans and local government planning schemes
 - any existing mining, petroleum, geothermal and greenhouse gas storage tenures overlying or adjacent to the project site, and any to be applied for as part of this project
 - any infrastructure proposed to be located within, or which may have impacts on, the Stock Route Network.
- 8.2.2 Address the requirements of the Cape York Regional Plan, Queensland Government, August 2014.
- 8.2.3 Address the requirements of the Strategic Cropping Land Act 2011 if the project impacts on SCL⁶.
- 8.2.4 For surface mines and projects with activities that disturb the land surface, describe the proposed land use during and after the project. Show how the land form during and post mining will be stable and non-eroding over time (describe how current technologies will be applied).
- 8.2.5 Detail any known or potential sources of contaminated land that could be impacted by the project. Describe how any proposed land use may result in land becoming contaminated.
- 8.2.6 Identify existing or potential native title rights and interests possibly impacted by the project and the potential for managing those impacts by an Indigenous Land Use Agreement or other measure.

Information requirements—rehabilitation

- 8.2.7 The EIS should provide information based on relevant guidelines, current best practice approaches and legislative requirements about the strategies and methods for progressive and final rehabilitation of the environment disturbed by the project and decommissioning.
- 8.2.8 Develop a preferred rehabilitation strategy that would minimise the amount of land disturbed at any one time, and minimise the residual loss of land and water bodies with ecological or productive value. Show

⁶ www.nrm.qld.gov.au/land/planning/strategic-cropping/

he expected final topography of the site with any excavations, waste areas and dam sites on suitably scaled maps. Illustrate the proposed final land uses.

- 8.2.9 Describe and illustrate where final voids and uncompacted overburden and workings at the end of operations would lie in relation to flood levels up to and including the 'probable maximum flood level' based on the Bureau of Meteorology's 'probable maximum precipitation' forecast for the locality.
- 8.2.10 Describe rehabilitation success criteria that would be used to measure progress and completion.
- 8.2.11 Notwithstanding that management techniques may improve over the life of the project, and legislative requirements may change, the EIS needs to give confidence that all potential high-impact elements of the project (e.g. spoil dumps, voids, tailings and water management dams, creek diversions, subsidence areas, etc) are capable of being managed and rehabilitated to achieve acceptable land use capabilities/suitability, to be stable and self-sustaining and to prevent upstream and downstream surface and groundwater contamination.

Information requirements—flora and fauna

8.2.12 Describe the likely direct and indirect impacts on the biodiversity and natural environmental values of affected areas arising from the construction, operation and decommissioning of the project (where known), in accordance with the EHP's EIS information guidelines relevant to terrestrial and aquatic ecology⁷. Take into account any proposed avoidance and/or mitigation measures. The assessment should include, but not be limited to, the following key elements:

- matters of state environmental significance and national environmental significance
- terrestrial and aquatic ecosystems (including groundwater-dependent ecosystems) and their interaction
- biological diversity including listed flora and fauna species and regional ecosystems
- the integrity of ecological processes, including habitats of listed threatened, near threatened or special least-concern species
- the integrity of ecological processes, including habitats of threatened, near-threatened or special least-concern species
- the integrity of landscapes and places, including wilderness and similar natural places
- chronic, low-level exposure to contaminants or the bio-accumulation of contaminants
- impacts on marine, terrestrial and aquatic ecosystems and associated native flora and fauna due to wastes and pollutants at the site, particularly those related to any form of toxicants in:
 - o surface and groundwater
 - o natural water courses
 - o stormwater run-off
 - o surface run-off
 - o run-off from any bunded areas holding chemicals and/or the sewage treatment plant
 - o run-off from surface spoil
- likely impacts of underwater noise pollution on estuarine and marine fauna due to shipping/barge movements and/or piling programs for jetties, wharfs or dolphins.
- likely impacts of light spill on adjacent terrestrial and marine ecosystems and fauna

8.2.13 Describe any actions of the project that require an authority under the *Nature Conservation Act 1992*, and/or would be assessable development for the purposes of the *Vegetation Management Act 1999*⁸, the *Regional Planning Interests Act 2014*, the *Fisheries Act 1994* and/or the *Sustainable Planning Act 2009*.

⁷ <http://www.ehp.qld.gov.au/management/impact-assessment/eis-processes/eis-tor-support-guidelines.html>

⁸ This is notwithstanding that the *Vegetation Management Act 1999* does not apply to mining projects. Refer also to www.nrm.qld.gov.au/vegetation/

- 8.2.14 Propose practical measures for protecting or enhancing natural values, and assess how the nominated quantitative indicators and standards may be achieved for nature conservation management. In particular, address measures to protect or preserve any threatened or near-threatened species.
- 8.2.15 Specifically address any obligations imposed by State or Commonwealth legislation or policy or international treaty obligations, such as the China–Australia Migratory Bird Agreement, Japan–Australia Migratory Bird Agreement, or Republic of Korea–Australia Migratory Bird Agreement.
- 8.2.16 Assess the need for buffer zones and the retention, rehabilitation or planting of movement corridors, and propose measures that would avoid the need for waterway barriers, or propose measures to mitigate the impacts of their construction and operation. The measures proposed for the progressive rehabilitation of disturbed areas should include rehabilitation success criteria in relation to natural values that would be used to measure the progress.
- 8.2.17 Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed. Proposals for the rehabilitation of disturbed areas should incorporate, where appropriate, provision of nest hollows and ground litter.

Offsets

- 8.2.18 Where Queensland legislation or a specific-issue offset policy requires an offset for a significant residual impact on a particular natural environmental value, the offset proposal(s) shall be presented in a form consistent with relevant legislation and policy.
- 8.2.19 The proposed offsets should be consistent with the requirements set out in any applicable legislation or specific-issue offset policies.

8.3 Biosecurity

Objective

The construction, operation and decommissioning of the project should aim to ensure:

- the introduction and spread of weeds, pests (including marine pests) and disease is avoided or minimised
- existing weeds and pests, including marine pests, are controlled and managed

Information requirements

- 8.3.1 Propose detailed measures to control and limit the spread of pests and weeds on the project site and adjacent areas, particularly declared plants under the *Plant Protection Act 1989* and the Land Protection (Pest and Stock Route Management) Regulation 2003 and weeds of national significance.

8.4 Water quality (critical matter)

Objective and performance outcomes

The environmental objectives to be met under the EP Act are that the activity (project) be operated in a way that:

- minimises harm to the environmental values of waters
- protects the environmental values of wetlands
- protects the environmental values of groundwater and any associated surface ecological systems.

The performance outcomes corresponding to this objective are in Schedule 5, Table 1 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) that show these outcomes can be achieved.

Information requirements

- 8.4.1 Detail the chemical and physical characteristics of surface waters and groundwater within the area that may be affected by the project.

- 8.4.2 Identify the quantity, quality and location of all potential discharges of water and waste water by the project, whether as point sources (such as controlled discharges from regulated dams) or diffuse sources (such as seepage from waste rock dumps or irrigation to land of treated sewage effluent). Assess the potential impacts of any discharges on the quality and quantity of receiving waters taking into consideration the assimilative capacity of the receiving environment and the practices and procedures that would be used to avoid or minimise impacts, including buffers.
- 8.4.3 Identify the impacts of barge operations and the offshore transshipment operation on marine water quality, including potential impacts on seagrass, coral and water quality due to increased water turbidity and other contaminants due to the disturbance of substrate, the disposal and/or relocation of material. Provide strategies to avoid and address potential impacts. Refer to section 8.14 (Coastal environment) for further information requirements.
- 8.4.4 Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed.

8.5 Water resources

Objectives

The construction and operation of the project should aim to meet the following objectives:

- equitable, sustainable and efficient use of water resources
- environmental flows, water quality, in-stream habitat diversity, and naturally occurring inputs from riparian zones (including groundwater dependent ecosystems) support the long term maintenance of the ecology of aquatic biotic communities
- the condition and natural functions of water bodies (e.g. lakes, springs, watercourses and wetlands) are maintained—including the stability of beds and banks of watercourses.

Information requirements

- 8.5.1 Provide details of any proposed impoundment, extraction, discharge, injection, use or loss of surface water or groundwater. Identify any approval or allocation that would be needed under the *Water Act 2000*.
- 8.5.2 Detail any significant diversion or interception of overland flow. Include maps of suitable scale showing the location of diversions and other water-related infrastructure in relation to mining infrastructure.
- 8.5.3 Describe the options for supplying water to the project, and assess any potential consequential impacts in relation to the objectives of any water resource plan, resource operations plan and wild river declaration that may apply.
- 8.5.4 Develop hydrological models as necessary to describe the inputs, movements, exchanges and outputs of all significant quantities and resources of surface water and groundwater that may be affected by the project. The models should address the range of climatic conditions that may be experienced at the site, and adequately assess the potential impacts of the project on water resources. The models should include a site water balance. This should enable a description of the project's impacts at the local scale and in a regional context including proposed:
- changes in flow regimes from diversions, water take and discharges
 - alterations to riparian vegetation and bank and channel morphology
 - direct and indirect impacts arising from the development.

8.6 Flooding and regulated dams

Objective

The construction and operation of the project should aim to ensure the risk of, and the adverse impacts from flooding hazards or dam failure are avoided, minimised or mitigated to protect people, property and the environment.

Information requirements

- 8.6.1 Describe current flood risk for a range of a range of annual exceedence probabilities up to the probable maximum flood, for potentially affected waterways, and assess (through flood modelling) how the project may potentially change flooding characteristics. The assessment should consider all infrastructure associated with the project including levees, roads and linear infrastructure and all proposed measures to avoid or minimise impacts.
- 8.6.2 List and describe all dams or levees proposed on the project site and undertake an assessment to determine the hazard category of each dam or levee (low, significant, or high), according to the criteria in the EHP Manual for Assessing Hazard Categories and Hydraulic Performance of Dams. Describe how dams will be managed to minimise impacts on the surrounding environment including during the wet season. Refer also to the requirements under the 8.13 Hazards and safety section of the TOR.

8.7 Air

Objectives and performance outcomes

The environmental objective to be met under the EP Act is that the activity will be operated in a way that protects the environmental values of air.

The performance outcomes corresponding to this objective are in Schedule 5, Table 1 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) that show these outcomes can be achieved.

Information requirements

- 8.7.1 Fully describe the characteristics (through an emissions inventory) of the contaminants or materials released when carrying out the activity (point source and fugitive emissions). Emissions (point source and fugitive) during construction, commissioning, upset conditions, operation and closure should be described.
- 8.7.2 Predict the impacts of the releases from the activity on environmental values of the receiving environment using recognised quality assured methods. The description of impacts should take into consideration the assimilative capacity of the receiving environment and the practices and procedures that would be used to avoid or minimise impacts. The impact prediction must:
- address residual impacts on the environmental values (including appropriate indicators and air quality objectives) of the air receiving environment, with reference to sensitive receptors⁹, using recognised quality assured methods. This should include all relevant values potentially impacted by the activity, under the EP Act, EP Regulation and Environmental Protection (Air) Policy 2008 (EPP (Air)).
 - address the cumulative impact of the release with other known releases of contaminants, materials or wastes associated with existing development and possible future development (as described by approved plans and existing project approvals).
 - quantify the human health risk and amenity impacts associated with emissions from the project for all contaminants whether or not they are covered by the National Environmental Protection (Ambient Air Quality) Measure or the EPP (Air).
- 8.7.3 Describe the proposed mitigation measures and how the proposed activity will be consistent with best practice environmental management. Where a government plan is relevant to the activity or site where the activity is proposed, describe the activity's consistency with that plan.
- 8.7.4 Describe how the achievement of the objectives would be monitored, audited and reported, and how corrective actions would be managed.

⁹ For example, the locations of existing residences, places of work, schools, etc, agricultural or ecologically significant areas/species that could be impacted.

8.8 Noise and vibration

Objective and performance outcomes

The environmental objective to be met under the EP Act is that the activity will be operated in a way that protects the environmental values of the acoustic environment.

The performance outcomes corresponding to these objectives are in Schedule 5, Table 1 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) that show these outcomes can be achieved.

Information requirements

- 8.8.1 Fully describe the characteristics of the noise and vibration sources that would be emitted when carrying out the activity (point source and general emissions). Noise and vibration emissions (including fugitive sources) that may occur during construction, commissioning, upset conditions, operation and closure should be described.
- 8.8.2 Predict the impacts of the noise emissions from the activity on the environmental values of the receiving environment, with reference to sensitive receptors¹⁰, using recognised quality assured methods. Taking into account the practices and procedures that would be used to avoid or minimise impacts, the impact prediction must address the:
- activity's consistency with the objectives
 - cumulative impact of the noise with other emissions of noise associated with existing development and possible future development (as described by approved plans)
 - potential impacts of any low-frequency (<200 Hz) noise emissions.
- 8.8.3 Describe how the proposed activity would be managed to be consistent with best practice environmental management for the activity. Where a government plan is relevant to the activity, or the site where the activity is proposed, describe the activity's consistency with that plan.
- 8.8.4 Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed.

8.9 Waste management

Objective and performance outcomes

The environmental objective to be met under the EP Act is that any waste transported, generated, or received as part of carrying out the activity is managed in a way that protects all environmental values.

The performance outcomes corresponding to these objectives are in Schedule 5, Table 1 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) that show these outcomes can be achieved.

Information requirements

- 8.9.1 Describe all the expected significant waste streams from the proposed project activities (typically these would include waste rock, tailings and coarse rejects from mining and refining projects, water and salt from petroleum and gas projects), during the construction, operational and decommissioning phases of the project.
- 8.9.2 Describe the quantity, form (liquid, solid, gas), hazard, and toxicity of each significant waste, as well as any attributes that may affect its likelihood of dispersal in the environment, as well the associated risk of causing environmental harm.
- 8.9.3 Define and describe the objectives and practical measures for protecting or enhancing environmental values from impacts by wastes.

- 8.9.4 Assess the proposed management measures against the preferred waste management hierarchy, namely: avoid waste generation; cleaner production; recycle; reuse; reprocess and reclaim; waste to energy; treatment; disposal. This includes the generation and storage of waste.
- 8.9.5 Describe how nominated quantitative standards and indicators may be achieved for waste management, and how the achievement of the objectives would be monitored, audited and managed.
- 8.9.6 Detail waste management planning for the proposed project especially how these concepts have been applied to prevent or minimise environmental impacts due to waste at each stage of the project.
- 8.9.7 Describe how the code requirements of the State Planning Policy (July 2014), in particular 'Ship-sourced pollutants reception facilities in marinas' would be complied with in the design of the project and in any subsequent approvals.

8.10 Cultural heritage

Objective

The construction and operation of the project should aim to ensure that the nature and scale of the project does not compromise the cultural heritage significance of a heritage place or heritage area.

Information requirements

- 8.10.1 Unless section 86 of the *Aboriginal Cultural Heritage Act 2003* applies, the proponent must develop a Cultural Heritage Management Plan in accordance with the requirements of Part 7 of the ACH Act.
- 8.10.2 For non-Indigenous historical heritage, undertake a study of, and describe, the known and potential historical cultural and landscape heritage values of the area potentially affected by the project. Provide strategies to mitigate and manage any negative impacts on non-Indigenous cultural heritage values and enhance any positive impacts.

8.11 Social and economic

Objectives

The construction and operation of the project should aim to:

- avoid or mitigate adverse social and economic impacts arising from the project
- capitalise on opportunities potentially available to affected communities.

Information requirements

- 8.11.1 In accordance with the Coordinator-General's social impact assessment guideline, describe the likely social impacts (positive and negative) on affected communities taking into account proposed mitigation measures.
- 8.11.2 Describe the likely impacts (positive and negative) of the project on the economies materially impacted by the project. The analysis should describe both the potential and direct economic impacts including estimated costs, if material, on industry and the community.
- 8.11.3 The assessment should identify opportunities to capture the economic benefits of the project, including:
- strategies for ensuring local suppliers of goods and services receive full, fair and reasonable opportunity to tender for work throughout the life of the project through adopting policies such as the Queensland Resources and Energy Sector Code of Practice for Local Content administered by Queensland Resources Council
 - employment strategies for local residents, and for members of Indigenous communities and people with a disability across Queensland
 - opportunities to support the agricultural and tourism industries
 - any recruitment and training programs to be offered.
- 8.11.4 Identify recreational, commercial or indigenous fisheries potentially impacted and undertake consultation.

8.12 Transport

Objectives

The construction and operation of the project should aim to:

- maintain the safety and efficiency of all affected transport modes for the project workforce and other transport system users
- minimise and mitigate impacts on the condition of transport infrastructure
- ensure any required works are compatible with existing infrastructure and future transport corridors.

Information requirements

- 8.12.1 The EIS should include a clear summary of the total transport task for the project, including workforce, inputs and outputs, during the construction and operational phases. Proponents should make appropriate modal choices to ensure transport efficiency and minimise impacts on the community
- 8.12.2 Present the transport assessment in separate sections for each project affected mode (road, rail, air and sea) as appropriate for each phase of the project. Provide sufficient information to allow an independent assessment of how existing transport infrastructure will be affected by project transport at the local and regional level (e.g. local roads and state-controlled roads).
- 8.12.3 Include details of the adopted assessment methodology:
- for impacts on maritime operations: the Maritime Safety Queensland Guidelines for major development proposals.
- 8.12.4 Discuss and recommend how identified impacts will be mitigated so as to meet the objectives for each transport mode. Mitigation strategies may include works, contributions or management plans and are to be prepared in close consultation with relevant transport authorities (including local government). Strategies should consider those transport authorities' works program and forward planning, and be in accordance with the relevant methodologies, guidelines and design manuals.

8.13 Hazards and safety

Objectives

The construction and operation of the project should aim to ensure:

- the risk of, and the adverse impacts from, natural and man-made hazards are avoided, minimised or mitigated to protect people and property
- the community's resilience to natural hazards is maintained or enhanced
- developments involving the storage and handling of hazardous materials are appropriately located, designed and constructed to minimise health and safety risks to communities and individuals and adverse effects on the environment.

Information requirements

- 8.13.1 Describe the potential risks to people and property that may be associated with the project in the form of a preliminary risk assessment for all components of the project and in accordance with relevant standards. The assessment should include:
- potential hazards, accidents, spillages, fire and abnormal events that may occur during all stages of the project, including estimated probabilities of occurrence
 - identifying all hazardous substances to be used, stored, processed or produced and the rate of usage
 - potential wildlife hazards, natural events (e.g. cyclone, storm tide inundation, flooding, bushfire) and implications related to climate change.
 - how the project may potentially affect hazards away from the project site (e.g. changing flooding characteristics).

- 8.13.2 Provide details on the safeguards that would reduce the likelihood and severity of hazards, consequences and risks to persons, within and adjacent to the project area(s). Identify the residual risk following application of mitigation measures. Present an assessment of the overall acceptability of the impacts of the project in light of the residual uncertainties and risk profile.
- 8.13.3 Provide an outline of the proposed integrated emergency management planning procedures (including evacuation plans, if required) for the range of situations identified in the risk assessment developed in this section, including natural hazard events.
- 8.13.4 Outline any consultation undertaken with the relevant emergency management authorities, including the Local Disaster Management Group.

8.14 Coastal environment (critical matter)

Objectives and performance outcomes

The construction and operation of the project should aim to ensure that all relevant state and Commonwealth legislation and guidelines are considered that relate to the coastal environment.

- the activity is developed and operated in a way that avoids environmental harm including impacts on terrestrial, estuarine, coastal and marine environmental values.
- the activity is developed and operated in a way that avoids and minimises adverse impacts on coastal processes, resources and scenic amenity of important natural coastal landscapes, views and vistas.
- the activity is to be carried out in accordance with best practice environmental management.
- the performance outcomes correspond to the relevant policies, legislation and guidelines and that sufficient evidence is supplied (including through studies and proposed management measures) that show these outcomes can be achieved.

Information requirements

- 8.14.1 Describe the existing coastal environment, potential impacts, mitigation measures and possible offsets related to the project in the context of all state and Commonwealth legislation and guidelines.
- 8.14.2 Provide a description of the coastal processes relevant to coast affected by the project. This should include a description of the physical processes of the terrestrial, estuarine, coastal and marine environment.
- 8.14.3 Provide a description of physical and chemical characteristics of soils and sediments within the terrestrial, estuarine, coastal and marine environment potentially affected by the project. This is to include acid sulphate soils.
- 8.14.4 Provide details of the shipping requirements of the project, any potential impacts on the coastal and marine environments including seagrasses, reefs, mangroves, banks, fauna and fisheries, and how these will be managed and mitigated and offset.
- 8.14.5 Develop and describe suitable indicators for measuring coastal resources and values, and set objectives to protect them in accordance with relevant State Planning Policy July 2014, guidelines and legislation.
- 8.14.6 Identify development outside the mining leases that is assessable development within the coastal zone, requiring approval under the Sustainable Planning Act 1999 or any other relevant legislation. Refer to the Department of Infrastructure, Local Government and Planning for relevant assessment requirements and guidance material.
- 8.14.7 Detail a monitoring program that would audit the success of mitigation measures, measure whether objectives have been met, and describe corrective actions to be used if monitoring shows that objectives are not being met.

9 Appendices to the EIS

- 9.1 Appendices should provide the complete technical evidence used to develop assertions and findings in the main text of the EIS.
- 9.2 No significant issue or matter should be mentioned for the first time in an appendix—it must be addressed in the main text of the EIS.
- 9.3 Include a table listing the section of the EIS where each requirement of the TOR is addressed.
- 9.4 Include a glossary of terms and a list of acronyms and abbreviations.

10 Acronyms and abbreviations

The following acronyms and abbreviations have been used in this document.

Acronym/abbreviation	Definition
ACH Act	<i>Aboriginal Cultural Heritage Act 2003</i>
AHD	Australian height datum
Bilateral Agreement	An agreement between the Commonwealth and the State of Queensland under section 45 of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> relating to environmental assessment
EIS	Environmental Impact Statement
EP Act	<i>Environmental Protection Act 1994</i>
EP Regulation	Environmental Protection Regulation 2008
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cwlth)
EPP	Environmental Protection Policy (under the EP Act)
GDA94	Geocentric Datum of Australia 1994
IESC	Independent Expert Scientific Committee
MNES	Matters of National Environmental Significance (under the EPBC Act)
TOR	Terms Of Reference
VMA	<i>Vegetation Management Act 1999</i>

Appendix 1 Policies and guidelines

Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand 2000, *The Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Australian Water Association (Artarmon) and NZ Water and Wastes Association (Auckland), viewed 18 June 2013, www.environment.gov.au/water/publications/quality/nwqms-guidelines-4-vol1.html

Department of Agriculture, Fisheries and Forestry, 2014, *Waterway Barrier Works Development Approvals*, Queensland Government, Brisbane, <https://www.daff.qld.gov.au/fisheries/habitats/fisheries-development/selfassessable-codes>

Australian Level Crossing Assessment Model (ALCAM), www.tmr.qld.gov.au/Travel-and-transport/Rail/Level-crossings/ALCAM.aspx

Commonwealth of Australia 2013, *Information Guidelines for Proposals Relating to the Development of Coal Seam Gas and Large Coal Mines where there is a Significant Impact on Water Resources*, Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development, Canberra, viewed 18 June 2013, www.environment.gov.au/coal-seam-gas-mining/publications.html

Department of Environment and Heritage Protection, 2014, *Information guideline for an environmental impact statement*, Queensland Government, Brisbane, <http://www.ehp.qld.gov.au/management/impact-assessment/eisprocesses/eis-tor-support-guidelines>

Queensland Government, 2014, *Environmental offsets and Environmental offsets framework*, Queensland Government, Brisbane, <http://www.qld.gov.au/environment/pollution/management/offsets/>

Queensland Government, 2014, *Business and industry portal*, Queensland Government, Brisbane, <https://www.business.qld.gov.au/industry/mining>

Department of Environment and Heritage Protection, 2013, *Assessable coastal development under the Sustainable Planning Act 2009*, EM2066, Version 4, <http://www.ehp.qld.gov.au/coastal/development/pdf/assessable-dev-undercoastal-act-em2066.pdf>

The Coordinator-General, 2013, *Preparing an environmental impact statement: Guideline for proponents*, Department of State Development, Infrastructure and Planning, Brisbane, viewed 18 June 2013, www.dsdip.qld.gov.au/fact-sheets-and-guidelines/coordinated-projects.html

The Coordinator-General, 2013, *Social impact assessment guideline*, Department of State Development, Infrastructure and Planning, Queensland Government, Brisbane. <http://www.dsdip.qld.gov.au/resources/guideline/social-impact-assessment-guideline.pdf>

Department of Environment and Heritage Protection 2012, *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams, February 2012*, Department of Environment and Heritage Protection, Brisbane, viewed 17 June 2013, www.ehp.qld.gov.au/land/mining/pdf/mn-mi-assess-haz-cat-hyd-perf-dams-em635.pdf

Department of Environment and Heritage Protection model conditions: www.ehp.qld.gov.au/land/mining/guidelines.html

Department of Environment and Resource Management 2009, *Queensland Water Quality Guidelines, Version 3*, Queensland Government, Brisbane, www.ehp.qld.gov.au/water/pdf/water-quality-guidelines.pdf

Department of Main Roads, *Guidelines for Assessment of Road Impacts of Development*, Department of Main Roads, Brisbane, 2006, viewed 26 March 2013, www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Guidelines-for-assessment-of-road-impacts-of-development.aspx

Maritime Safety Queensland 2015, *Guidelines for major development proposals*, April 2015, www.msq.qld.gov.au/Waterways/Major-development-proposals.aspx

Department of State Development, Infrastructure and Planning 2014, *State Planning Policy*, www.dsdip.qld.gov.au/about-planning/state-planning-policy.html, Department of State Development, Infrastructure and Planning, Brisbane,

Queensland Resources Council 2013, *Queensland Resources and Energy Sector Code of Practice for Local Content*, Queensland Resources Council, Brisbane, viewed 18 June 2013, https://www.qrc.org.au/01_cms/details.asp?ID=3209

Appendix 2 Matters of national environmental significance

Refer to Schedule 2 of EP Act.

GUIDELINES FOR THE CONTENT OF A DRAFT ENVIRONMENT IMPACT STATEMENT

Bauxite Hills Mine and Barging Project

Environment Protection and Biodiversity Conservation Act 1999

(Reference: EPBC 2015/7538)

GUIDELINES FOR A DRAFT ENVIRONMENT IMPACT STATEMENT FOR

Bauxite Hills Mine Project and Aldoga Minerals Pty Ltd on behalf of Metro Mining Limited

PREAMBLE

The proposal was referred under the *Environment Protection and Biodiversity Conservation Act 1999* (the EPBC Act) to the Minister for the Environment and Heritage on 7 August 2015. The delegate to the Minister determined on 18 September 2015 that approval is required as the action has the potential to have a significant impact on the following matters of national environmental significance (MNES) that are protected under Part 3 of the EPBC Act:

- Listed threatened species and communities (sections 18 and 18A)
- Listed migratory species (sections 20 and 20A)
- The Commonwealth marine area (sections 23 and 24A)

Following the provision of preliminary information, the delegate of the Minister determined, on 6 November 2015, that the proposed activity be assessed by an Environment Impact Statement (EIS).

Information about the action and its relevant impacts, as outlined below, is to be provided in the EIS. This information should be sufficient to allow the Minister to make an informed decision on whether or not to approve, under Part 9 of the EPBC Act, the taking of the action for the purposes of each controlling provision.

GENERAL ADVICE ON GUIDELINES

1 GENERAL CONTENT

The EIS should be a stand-alone document that primarily focuses on the MNES listed above. It should contain sufficient information to avoid the need to search out previous or supplementary reports. The EIS should take into consideration the EPBC Act Significant Impact Guidelines that can be downloaded from the following web site: <http://www.environment.gov.au/epbc/guidelines-policies.html>.

The EIS should enable interested stakeholders and the Minister to understand the environmental consequences of the proposed development. Information provided in the EIS should be objective, clear, and succinct and, where appropriate, be supported by maps, plans, diagrams or other descriptive detail. The body of the EIS is to be written in a clear and concise style that is easily understood by the general reader. Technical jargon should be avoided wherever possible. Cross-referencing should be used to avoid unnecessary duplication of text.

Detailed technical information, studies or investigations necessary to support the main text should be included as appendices to the EIS. It is recommended that any additional supporting documentation and studies, reports or literature not normally available to the public from which information has been extracted be made available at appropriate locations during the period of public display of the EIS.

After receiving the Minister's approval to publish the report, the proponent is required to make the draft EIS available for a period of public comment. Specific instructions regarding publication requirements will be provided as part of the Minister's direction to publish.

If it is necessary to make use of material that is considered to be of a confidential nature, the proponent should consult with the department on the preferred presentation of that material, before submitting it to the Minister for approval for publication.

The level of analysis and detail in the EIS should reflect the level of significance of the expected impacts on the environment. Any and all unknown variables or assumptions made in the assessment must be clearly stated and discussed. The extent to which the limitations, if any, of available information may influence the conclusions of the environmental assessment should be discussed.

The proponent should ensure that the EIS assesses compliance of the action with principles of Ecological Sustainable Development as set out in the EPBC Act, and the objects of the Act at Attachment 1. A copy of Schedule 4 of the EPBC Regulations, - *Matters to be addressed by draft public environment report and environmental impact statement* is at Attachment 2.

2 FORMAT AND STYLE

The EIS should comprise three elements, namely:

- the executive summary
- the main text of the document
- appendices containing detailed technical information and other information that can be made publicly available.

The guidelines have been set out in a manner that may be adopted as the format for the EIS. This format need not be followed where the required information can be more effectively presented in an alternative way. However, each of the elements must be addressed to meet the requirements of the EPBC Act and Regulations.

The EIS should be written so that any conclusions reached can be independently assessed. To this end, all sources must be appropriately referenced using the Harvard standard. The reference list should include the address of any Internet “web” pages used as data sources.

The main text of the EIS should include a list of abbreviations, a glossary of terms and appendices containing:

- a copy of these guidelines
- a list of persons and agencies consulted during the EIS
- contact details for the proponent
- the names of the persons involved in preparing the EIS and work done by each of these persons.

Maps, diagrams and other illustrative material should be included in the EIS. The EIS should be produced on A4 size paper capable of being photocopied, with maps and diagrams on A4 or A3 size and in colour where possible.

The proponent should consider the format and style of the document appropriate for publication on the Internet. The capacity of the website to store data and display the material may have some bearing on how the document is constructed.

SPECIFIC CONTENT

1 GENERAL INFORMATION

This should provide the background and context 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
- (h) the consequences of not proceeding with the action.

2 DESCRIPTION OF THE ACTION

All construction, operational and (if relevant) decommissioning components of the action should be described in detail. This should include the precise location (including coordinates) of all works to be undertaken, structures to be built or elements of the action that may have impacts on matters of National Environmental Significance (MNES).

The description of the action must also include details on how the works are to be undertaken (including stages of development and their timing) and design parameters for those aspects of the structures or elements of the action that may have relevant impacts.

3 FEASIBLE ALTERNATIVES

Any feasible alternatives to the action to the extent reasonably practicable, including:

- (a) if relevant, the alternative of taking no action
- (b) a comparative description of the impacts of each alternative on the triggered MNES protected by controlling provisions of Part 3 of the EPBC Act for the action
- (c) sufficient detail to make clear why any alternative is preferred to another.

Short, medium and long-term advantages and disadvantages of the options should be discussed.

4 DESCRIPTION OF THE ENVIRONMENT INCLUDING MNES

The EIS must include a description of the environment and management practices of the proposal site and the surrounding areas and any other areas that may be affected by the action. It is recommended that this includes the following information:

- (a) Listed threatened and migratory species and ecological communities (including suitable habitat) that are or are likely to be present in the vicinity of the site, including the following details:
- Details of the scope, timing/effort (survey season/s) and methodology for studies or surveys used to provide information on the listed species/community/habitat at the site (and in areas that may be impacted by the project). Include details of:
 - best practice survey guidelines that are applied
 - how they are consistent with (or a justification for divergence from) published Australian Government guidelines and policy statements.
 - Include any relevant plans/agreements.
- (b) Listed migratory species (including suitable habitat) that are or are likely to be present in the vicinity of the site, including the following details:
- Details of the scope, timing/effort (survey season/s) and methodology for studies or surveys used to provide information on the listed species/habitat at the site (and in areas that may be impacted by the project). Include details of:
 - best practice survey guidelines that are applied
 - how these are consistent with (or a justification for divergence from) published Australian Government guidelines and policy statements.
 - Include any relevant plans/agreements, refer to:
 - Draft – Significant impact guidelines for 36 migratory shorebird species—Migratory species: EPBC Act policy statement 3.21(2009)
 - EPBC Act Policy Statement 1.1 Significant Impact Guidelines—Matters of National Environmental Significance (2013).
- (c) A description of the environment relevant for part of the Commonwealth Marine (for actions outside the Commonwealth marine area that may impact the environment in the Commonwealth marine area).
- Note: whole of the marine environment must be considered—refer to the EPBC Act Policy Statement 1.1 Significant Impact Guidelines—Matters of National Environmental Significance (2013).

5 RELEVANT IMPACTS

The EIS must include a description of all of the relevant impacts of the action on MNES. Relevant impacts are impacts that the action will have or is likely to have on a matter protected by a controlling provision (as listed in the preamble of this document). Impacts during both the construction, operational and (if relevant) the decommissioning phases of the project must be addressed, and the following information provided:

- a description of the relevant direct, indirect and consequential impacts of the action
- a detailed assessment of the nature and extent of the likely direct, indirect and consequential impacts relevant to MNES, including likely short-term and long-term impacts
- a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible
- analysis of the significance of the relevant impacts
- any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

The EIS should identify and address cumulative impacts, where potential project impacts are in addition to existing impacts of other activities (including known potential future expansions or developments by the proponent and other proponents in the region and vicinity).

The EIS should also address the potential cumulative impact of the proposal on ecosystem resilience. The cumulative effects of climate change impacts on the environment must also be considered in the assessment of ecosystem resilience. Where relevant to the potential impact, a risk assessment should be conducted and documented.

The EIS should also provide a detailed assessment of any likely impact that this proposed action may facilitate on the relevant MNES at the local, regional, state, national and international scale. Reference should be made to the EPBC Act Policy Statement 1.1 Significant Impact Guidelines—Matters of National Environmental Significance (2013).

6 ENVIRONMENTAL OUTCOMES

The EIS should provide information on the outcomes that the proponent will achieve for MNES. Outcomes need to be specific, measurable and achievable, and should be based on robust baseline data. Outcomes should be developed in consideration of the draft Outcomes-based Conditions Policy 2015 and draft Outcomes-based Conditions Guidance 2015, with suitable justification for considerations identified in the policy and guidance.

To allow application of outcomes-based conditions, the EIS should include:

- (a) The specific environmental outcomes to be achieved, and reasoning for these in reference to relevant recovery plans, conservation advices, threat abatement plans and Marine Bioregional Plans.
- (b) For each proposed outcome, include:
 - the risks associated with achieving the outcome
 - the measurability of the outcome, including all suitable performance measures

- appropriate baseline data upon which the outcome has been defined and justified
- the likely impacts that the proposed outcome will address
- demonstrated willingness and capability of achieving the outcome;
- the level of knowledge about the protected matter or its surrogate, upon which outcomes were based
- commitments to independent and periodic audits of performance towards achieving outcomes
- assessment of the likely level of control that the proponent will have over achieving the outcome;
- discussion of the appropriateness of any surrogates for protected matter outcomes
- details of proposed management to achieve the outcome, including, but not limited to performance indicators, periodic milestones, proposed monitoring and adaptive management, and record keeping, publication and reporting processes.

7 Residual impacts/offsets

The EIS must provide details of:

- (a) the residual significant impacts on MNES that are likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account:
 - include the reasons why avoidance or mitigation of impacts is not reasonably achieved
 - identify the residual significant impacts on MNES.

If relevant, the EIS must include details of an offset package proposed to be implemented to compensate for the residual significant impact of the project, as well as an analysis about how the offset meets the requirements in the department's EPBC Act Environmental Offsets Policy October 2012 (EPBC Act Offset Policy).

The offset package can comprise a combination of direct offsets and other compensatory measures, so long as it meets the requirements of the EPBC Act Offset Policy. Offsets should align with conservation priorities for the impacted protected matter and be tailored specifically to the attribute of the protected matter that is impacted in order to deliver a conservation gain.

Offsets should compensate for an impact for the full duration of the impact.

Offsets must directly contribute to the ongoing viability of the MNES impacted by the project and deliver an overall conservation outcome that improves or maintains the viability of the MNES as compared to what is likely to have occurred under the status quo, that is if neither the action nor the offset had taken place.

Note offsets do not make an unacceptable impact acceptable and do not reduce the likely impacts of a proposed action. Instead, offsets compensate for any residual significant impact.

Offsets required by the State/Territory can be applied if the offsets meet the department's EPBC Act Offset Policy.

The EIS must provide:

- (a) details of the offset package to compensate for residual significant impacts on MNES
- (b) an analysis of how the offset package meets the requirements of the EPBC Act Offsets Policy, including a discussion on the feasibility and the working outlined in the Offsets Assessment Guide.

8 PROPOSED SAFEGUARDS AND MITIGATION MEASURES

The EIS must provide information on proposed safeguards and mitigation measures to deal with the relevant impacts of the action on MNES.

The EIS also must take into account relevant agreements and plans that cover impacts on MNES including but not limited to:

- (a) approved conservation advice for relevant listed threatened species and communities
- (b) any Marine Bioregional Plans relevant to the proposed action—with reference to the Marine Bioregional Plan for the North Marine Region.

The EIS must discuss how the proposed action is not inconsistent with:

- (a) any relevant threat abatement plan for listed threatened species and communities
- (b) any relevant recovery plan for listed threatened species and communities
- (c) relevant conventions and agreements of which a migratory species is listed, including the Bonn Convention, CAMBA, JAMBA and agreements relevant to the conservation of the species.

Specific and detailed descriptions of proposed avoidance and mitigation measures must be provided and substantiated based on best available practices and must include the following elements:

- (a) A consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impacts of the action on MNES, including:
 - a description of proposed avoidance and mitigation measures to deal with relevant impacts of the action, including mitigation measures proposed to be taken by State/Territory governments, local governments or the proponent
 - assessment of the expected or predicted effectiveness of the mitigation measures, including the scale and intensity of impacts of the proposed action and the on-ground benefits to be gained through each of these measures

- a description of the outcomes that the avoidance and mitigation measures will achieve
 - any statutory or policy basis for the mitigation measures
 - the cost of the mitigation measures.
- (b) A detailed outline of an Environmental Management Plan (EMP) that sets out the framework for management, mitigation and monitoring of relevant MNES impacts of the action, including a description of the outcomes that will be achieved and any provisions for independent environmental auditing.

The EMP needs to address the project phases (construction, operation, decommission) separately. It must state the environmental objectives, performance criteria, monitoring, reporting, corrective action, responsibility and timing for each environmental issue.

The EMP should also describe contingencies for events such as failure of sewerage systems, heavy or prolonged rainfall, or saltwater intrusion into ground water.

- (c) The name of the agency responsible for endorsing or approving each mitigation measure or monitoring program.

9 OTHER APPROVALS AND CONDITIONS

The EIS must include information on any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action. This 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:
- what environmental assessment of the proposed action has been, or is being, carried out under the scheme, plan or policy
 - 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 Act), including any conditions that apply to the action
- (c) a statement identifying any additional approval that is required
- (d) a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

10 CONSULTATION

Any consultation about the action, including:

- (a) details of any public consultation activities undertaken
- (b) details of any consultation with Indigenous stakeholders

- (c) proposed consultation about relevant impacts of the action
- (d) if there has been consultation about the proposed action, any documented response to, or result of, the consultation
- (e) identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.

11 ENVIRONMENTAL RECORD OF PERSON(S) PROPOSING TO TAKE THE ACTION

The information provided must include 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:

- (a) the person proposing to take the action
- (b) for an action for which a person has applied for a permit, the person making the application.

If the person proposing to take the action is a corporation, details of the corporation's environmental policy and planning framework must also be included.

12 ECONOMIC AND SOCIAL MATTERS

The economic and social impacts of the action, both positive and negative, must be analysed. Matters of interest may include:

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

Economic and social impacts should be considered at the local, regional and national levels. Details of the relevant cost and benefits of alternative options to the proposed action should also be included.

13 INFORMATION SOURCES PROVIDED IN THE EIS

For information given in a draft Environmental Impact Statement, 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
- (d) what uncertainties (if any) are in the information
- (e) what guidelines, plans and/or policies did you consider.

14 CONCLUSION

An overall conclusion as to the acceptability of impacts of the proposal on each MNES, including:

- (a) A discussion on the consideration with the requirements of the EPBC Act, including the objects of the EPBC Act, the principles of ecologically sustainable development and the precautionary principle.
- (b) Reasons justifying undertaking the proposal in the manner proposed, including the acceptability of the avoidance and mitigation measures.
- (c) If relevant, a discussion of residual significant impacts and any offsets and compensatory measures proposed or required for residual significant impacts on MNES, and the relative degree of compensation and acceptability.

ATTACHMENT 1

THE OBJECTS AND PRINCIPLES OF THE ENVIRONMENT PROTECTION AND BIODIVERSITY CONSERVATION ACT 1999 SECTIONS 3 AND 3A

3 Objects of the Act

- (a) to provide for the protection of the environment, especially those aspects of the environment that are matters of national environmental significance;
- (b) to promote ecologically sustainable development through the conservation and ecologically sustainable use of natural resources;
- (c) to promote the conservation of biodiversity;
- (d) to promote a co-operative approach to the protection and management of the environment involving governments, the community, land-holders and indigenous peoples;
- (e) to assist in the co-operative implementation of Australia's international environmental responsibilities;
- (f) to recognise the role of indigenous people in the conservation and ecologically sustainable use of Australia's biodiversity; and
- (g) to promote the use of indigenous peoples' knowledge of biodiversity with the involvement of, and in co-operation with, the owners of the knowledge.

3A Principles of Ecologically Sustainable Development

The following principles are principles of ecologically sustainable development.

- (a) Decision-making processes should effectively integrate both long-term and short-term economic, environmental, social and equitable considerations.
- (b) If there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.
- (c) The principle of inter-generational equity – that the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations.
- (d) The conservation of biological diversity and ecological integrity should be a fundamental consideration in decision-making.
- (e) Improved valuation, pricing and incentive mechanisms should be promoted.

ATTACHMENT 2

MATTERS THAT MUST BE ADDRESSED IN A PER AND EIS (SCHEDULE 4 OF THE EPBC REGULATIONS 2000)

1 General information

1.01 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

2.01 A description of the action, including:

- (a) all the components of the action;
- (b) the precise location of 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) relevant impacts of the action;
- (e) proposed safeguards and mitigation measures to deal with relevant impacts of the action;
- (f) any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action;
- (g) to the extent reasonably practicable, any feasible alternatives to the action, 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;

- (h) 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; and
- (i) identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.

3 Relevant impacts

3.01 Information given under paragraph 2.01(d) must include

- (a) a description of the relevant impacts of the action;
- (b) a detailed assessment of the nature and extent of the likely short term and long term relevant impacts;
- (c) a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible;
- (d) analysis of the significance of the relevant impacts; and
- (e) any technical data and other information used or needed to make a detailed assessment of the relevant impacts.

4 Proposed safeguards and mitigation measures

4.01 Information given under paragraph 2.01(e) must include:

- (a) a description, and an assessment of the expected or predicted effectiveness of, the mitigation measures;
- (b) any statutory or policy basis for the mitigation measures;
- (c) the cost of the mitigation measures;
- (d) an outline of an environmental management plan that sets out the framework for continuing management, mitigation and monitoring programs for the relevant impacts of the action, including any provisions for independent environmental auditing;
- (e) the name of the agency responsible for endorsing or approving each mitigation measure or monitoring program; and
- (f) a consolidated list of mitigation measures proposed to be undertaken to prevent, minimise or compensate for the relevant impacts of the action, including mitigation measures proposed to be taken by State governments, local governments or the proponent.

5 Other Approvals and Conditions

5.01 Information given under paragraph 2.01(f) 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 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.

6 Environmental record of person proposing to take the action

6.01 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:

- (a) the person proposing to take the action; and
- (b) for an action for which a person has applied for a permit, the person making the application.

6.02 If the person proposing to take the action is a corporation — details of the corporation's environmental policy and planning framework.

7 Information sources

7.01 For information given the PER/EIS must state:

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

<p>The Department of Environment and Heritage Protection GPO Box 2454, Brisbane Qld 4001 tel 13 QGOV (13 74 68) fax +61 7 3330 5875 EIS@ehp.qld.gov.au</p>
