

Terms of reference for the Bauxite Hills Project Environmental Impact Statement

Proposed by Aldoga Minerals Pty Ltd

February 2016

Prepared by: Impact Assessment Operational Support Unit, Department of Environment and Heritage Protection

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Project Proponent

Metro Mining is the ultimate holding company for 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 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

Proposed Bauxite Hills Project Description

Aldoga Minerals Pty Ltd's (Aldoga) proposes to develop the Bauxite Hills Project (the Project) located on the western side of Cape York, Queensland, approximately 35 kilometres (km) northeast of Mapoon. The Project, on mining leases (ML) ML20676, ML20689, ML20688, MLA100051, MLA100047 and MLA100048 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
- mine infrastructure area (MIA) including the run of mine (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.

Statutory basis

Environmental Protection Act 1994 (Queensland)

On 17 August 2015, Aldoga Pty Ltd applied under the *Environmental Protection Act 1994* (EP Act) for an environmental authority (EA) for bauxite mining. On 21 September 2015, EHP notified Aldoga Pty Ltd that the EA application requires assessment by EIS.

Environment Protection and Biodiversity Conservation Act 1999

The proposed project was referred on 11 August 2015 to the Australian Department of the Environment (DOE) (EPBC 2015/7538). On 18 September 2015, DOE determined the proposed project to be a controlled action under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) due to likely significant impacts on matters of national environmental significance (MNES).

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 potential impacts of the project/action on the controlling provisions will be assessed by Queensland's EIS process accredited under the Bilateral Agreement between the Australian and Queensland governments (section 45 of the EPBC Act).

The EIS must state the controlling provisions for the proposed project and describe the particular aspects of the environment leading to the controlled action declaration under the EPBC Act. The EIS must address relevant impacts on the 'controlling provisions' and all matters relating to them. The EIS must provide enough information about the proposed project and its impacts to allow the Australian Government Minister for the Environment to make an informed decision on whether to approve the proposed project under the EPBC Act. Requirements for MNES are set out in Appendix 2.

The EIS must also address the matters prescribed in section 6 and in Schedule 1 of the Environmental Protection Regulation 2008 (EP Regulation).

Part A About these terms of reference

This section outlines 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) seek information corresponding to these requirements, proponents should confirm that the EIS addresses all relevant statutory requirements and also meets the information requirements of other local, state and Commonwealth regulatory authorities.

These TOR outline the information requirements for the resource project being assessed under the EIS process in chapter 3, part 1, of the EP Act.

The key information requirements of the EP Act that must be addressed in the 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 EA
- schedule 1 of the 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.

1 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.
- 2.2 For all the relevant matters, the EIS must identify and describe the environmental values¹ that must be protected. Environmental values are specified in the EP Act, the EP Regulation, environmental protection policies (EPPs) and relevant guidelines.²
- 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.

¹ Defined in section 125(l)(i)(A) of the EP Act.

² 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).

- 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 impact³ 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.
- 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, Office of the Coordinator General 2014.

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.

³ Cumulative impact is defined as 'combined impacts from all relevant sources (developments and other activities in the area)'.

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.

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, chemical storage areas, camp, sewage treatment plant, waste storage facilities, 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 Describe and illustrate the precise location of the proposed project in relation to any protected areas, waterbodies, proposed buffers surrounding the working areas, and lands identified for conservation, either through retention in their current natural state or to be rehabilitated.
- 6.6 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.
- 6.7 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 treatment and disposal areas; waste disposal locations; and water supplies and distribution systems.

7 Critical matters

This section sets out the scope of critical matters that should be given detailed treatment in the EIS. A critical matter is an aspect of the proposal that has one or more of the following characteristics:

- a high or medium probability of causing serious or material environmental harm or a high probability of causing an environmental nuisance
- considered important by the administering authority and/or there is a public perception that an activity has the potential to cause serious or material environmental harm or an environmental nuisance, or, the activity has been the subject of extensive media coverage
- identified (in a referral decision) as a specific controlling provision under the EPBC Act.

7.1 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 (MSES) under the State Planning Policy (July 2014). See section 8.2.12.
- matters of national environmental significance (MNES) (see Appendix 2).

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.

8 Assessment of critical and routine matters

The following subsections list the critical and 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 and achievements of the EP Act (section 3) to ensure ecologically sustainable development is achieved and the environmental objectives and performance outcomes as defined in schedule 5, part 3, tables 1 and 2 of the EP Regulation.

The EIS should give detailed treatment to matters that have been identified as critical. For each routine matter identified below, the level of detail should be proportional to the probable scale of impacts. As a minimum, the proponent should supply sufficient information that confirms the risks and 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
- avoids significant residual impacts to matters of national and state environmental significance; mitigates impacts where they cannot be avoided and offsets any residual impacts.

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
 - existing agricultural land uses and land classifications with reference to the requirements of the State Planning Policy 2014
 - 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 Regional Planning Interests Act 2014 (RPI Act), including in relation to any impacts on Strategic Cropping Areas ⁴
- 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 and propose management and mitigation measures to avoid contamination
- 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.

⁴ <http://www.dilgp.qld.gov.au/infrastructure-and-planning/regional-planning-interests-act.html>

- 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 the 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 the rehabilitation completion criteria that would be used to measure progress and completion. Refer to Rehabilitation requirements for mining resource activities guideline (EHP, 2014).
- 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 ecology⁵. 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, movement corridors and fish passage
 - 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 watercourses
 - 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 (noise, strikes, habitat disturbance) on estuarine and marine fauna due to shipping/barge movements and/or piling programs for jetties/ wharfs etc.
 - likely impacts of light spill on adjacent terrestrial and marine ecosystems and fauna
 - a description of alternative options for the location and construction on haul roads and barge landing that reduce impacts to marine plants and fisheries resources.

⁵ <http://www.ehp.qld.gov.au/management/impact-assessment/eis-processes/eis-tor-support-guidelines.html>

- 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*⁶, the *Regional Planning Interests Act 2014*, the *Fisheries Act 1994* and/or the *Sustainable Planning Act 2009*.
- 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.
- 8.3.2 Assess the potential risk of marine pests and vector-borne disease and identify appropriate management strategies that will prevent them being introduced.

⁶ This is notwithstanding that the *Vegetation Management Act 1999* does not apply to mining projects. Refer also to www.nrm.qld.gov.au/vegetation/

8.4 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:

- protects the environmental values of waters, including freshwater, estuarine and marine
- 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, biological and physical characteristics of surface waters and groundwater within the area that may be affected by the project and suitable reference locations.
- 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 Define the relevant water quality objectives and describe how the objectives would be achieved (eg the use of erosion and sediment control practices, the separation of clean storm water run-off from impacted surface water run-off), monitored, assessed (using measurable criteria) and audited, and how corrective actions would be managed, in compliance with the management hierarchy of the EPP (Water).

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, and any recycling of water. 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, including potable water, and assess any potential consequential impacts in relation to the objectives of any water resource plan, resource operations plan and water resource management strategy⁷ 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 structures

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 annual exceedance 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 Categories and Hydraulic Performance of Structures 2013.
- 8.6.3 List hazards and safety risks associated with flooding, including safety risks to persons, and impacts of flooding on dams, levees and/or associated infrastructure located within or outside the project area.

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), including detail on the power general units proposed. Emissions (point source and fugitive) during construction, commissioning, upset conditions, operation and closure should be described.

⁷ Strategy for Delivering Water Resource Management in Cape York applies to Cape York and can be found at : <https://www.dnrm.qld.gov.au/water/catchments-planning/strategy-cape-york>.

- 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 receptors⁸, 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.

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. Refer to EIS information guideline – Noise and Vibration in Appendix 1.
- 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 receptors⁹, 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 For example, the locations of existing residences, places of work, schools, etc, agricultural or ecologically significant areas/species, camp accommodation that could be impacted in and out of water.

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

- 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 (for example waste rock, construction materials, wastes resulting from camp accommodation)), 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 and the proposed mitigation measures to be implemented.
- 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 social and 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 and regional residents, including Indigenous communities, women and people with a disability across Queensland
 - opportunities to support the agricultural and tourism industries
 - recruitment, training and development programs or initiatives to be implemented.
- 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 (e.g. mosquitos, crocodiles), 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 and availability of health services) 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 and health support agencies.

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 (eg from propeller wash) including seagrasses, reefs, mangroves, banks, fauna and fisheries, and how these will be managed and mitigated and offset.
- 8.14.5 Describe alternative options for the haul road and barge landing facility that reduces impacts to wetlands and coastal resources
- 8.14.6 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.
- 8.14.7 Identify development outside the mining leases that is assessable development within the coastal zone, requiring approval under the Sustainable Planning Act 2009 or any other relevant legislation. Refer to the Department of Infrastructure, Local Government and Planning for relevant assessment requirements and guidance material.
- 8.14.8 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>

Disclaimer

While this document has been prepared with care, it contains general information and does not profess to offer legal, professional or commercial advice. The Queensland Government accepts no liability for any external decisions or actions taken on the basis of this document. Persons external to the department should satisfy themselves independently and by consulting their own professional advisors before embarking on any proposed course of action.

Approved by

Chris Loveday

19 February 2016

Signature

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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, [Environmental offsets | Environment, land and water | Queensland Government](http://www.qld.gov.au/environment/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 2013, *Manual for Assessing Hazard Categories and Hydraulic Performance of Structures, November 2013*, 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 Infrastructure, Local Government and Planning, 2014, *State Planning Policy*, <http://www.dilgp.qld.gov.au/resources/policy/state-planning/state-planning-policy-jul-2014.pdf>

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

The advice on 'Quarry material' under the Forestry Act which is accessed under 'EIS Specific content' at: [Information guideline for an EIS \(DEHP\)](#)

The DAFF Environmental Impact Assessment Companion Guide found at: [EIS companion guide](#)

Appendix 2 Matters of national environmental significance

Refer to Schedule 2 of *Environmental Protection Act 1994*.

The proposed project was referred on 7 August 2015 to the Commonwealth Department of the Environment (EPBC 2015/7538). On 18 September 2015, the Minister for 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:

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

The project will be assessed under the bilateral agreement between the Commonwealth and the State of Queensland using the EIS prepared under the *Environmental Protection Act 1994* (EP Act).

Terms of Reference for Environment Protection and Biodiversity Conservation Act 1999 Requirements*

*content provided by the Commonwealth Department of the Environment (refer to Chapter 2 of EP Reg).

1 Background and description of the action

The Assessment Documentation must provide background to the action and describe in detail all components of the action for example (but not limited to), the construction, operational and (if relevant) decommissioning components of the action. This must include the precise location of all works to be undertaken (including associated offsite works and infrastructure), 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 impacts on MNES.

The Assessment Documentation must include 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.

The Assessment Documentation must also provide details on the current status of the action as well as the consequences of not proceeding with the action.

2 The environment including MNES

The Assessment Documentation must include a description of the environment and management practices of the proposal site and the surrounding areas and other areas that may be affected by the action. Include the relevant MNES protected by controlling provisions of Part 3 of the EPBC Act.

- (a) Listed threatened species and 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 are applied
 - how they are consistent with (or a justification for divergence from) published Australian Government guidelines and policy statements.

- Include reference to 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 are applied
 - how these are consistent with (or a justification for divergence from) published Australian Government guidelines and policy statements.
 - Include reference to any relevant plans/agreements, refer to Draft – Significant impact guidelines for 36 migratory shorebird species—Migratory species: EPBC Act policy statement 3.21 (2009) and 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 and 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).

3 Impacts

- (a) The Assessment Documentation must include a description of all of the relevant impacts of the action on MNES (identified in Section 2). Impacts during 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 analysis 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
 - any technical data and other information used or needed to make a detailed assessment of the relevant impacts.
- (b) The Assessment Documentation 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).
- (c) The Assessment Documentation 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 and national scale. Reference should be made to the EPBC Act Policy Statement 1.1 Significant Impact Guidelines—Matters of National Environmental Significance (2013).

4 Avoidance and mitigation measures/alternatives

4.1 Avoidance and mitigation measures

The Assessment Documentation must provide information on proposed avoidance and mitigation measures to manage the relevant direct, indirect and consequential impacts of the action on MNES.

The Assessment Documentation 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) Marine Bioregional Plans relevant to the proposed action—with reference to the Marine Bioregional Plan for the North Marine Region.

The Assessment Documentation 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.

The Assessment Documentation must include, and substantiate, specific and detailed descriptions of the proposed avoidance and mitigation measures, based on best available practices and must include the following elements:

- (a) A consolidated list of avoidance and mitigation measures proposed to be undertaken to prevent or minimise 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
- (b) A detailed outline of a plan for the continuing 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.
- (c) Where appropriate, each project phase (construction, operation, decommission) must be addressed separately. It must state the environmental outcomes, performance criteria, monitoring, reporting, corrective action, contingencies, responsibility and timing for each environmental issue.
- (d) The name of the agency responsible for endorsing or approving each mitigation measure or monitoring program.

4.2 *Alternatives*

The Assessment Documentation must include 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 must be discussed.

5 ***Residual impacts/offsets***

5.1 *Residual impacts*

The Assessment Documentation 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.

5.2 *Offset package (if relevant)*

The Assessment Documentation 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 Assessment Documentation 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.

6 *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.

7 *Economic and social matters*

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

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

Economic and social impacts should be considered at the local and regional levels. Details of the relevant cost and benefits of alternative options to the proposed action, as identified in Section 4 above, should also be included.

Identification of affected parties is required, including a statement mentioning any communities that may be affected and describing their views.

8 *Information sources provided in the assessment documentation*

For information given in the Assessment Documentation, 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.

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; and
- (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.

9 References

- *Environment Protect and Biodiversity Conservation Act 1999*—section 51-55, section 96A(3)(a)(b), 101A(3)(a)(b), section 136, section 527E
- Environment Protect and Biodiversity Conservation Regulations 2000—Division 3.2, 3.02(a)(b)(ii)(iii), Division 5.2, Schedule 4
- Bilateral Agreements—Item 18.1, Item 18.5, Schedule 1
- *Environment Protect and Biodiversity Conservation Act 1999* Environmental Offsets Policy October 2012
- EPBC Act Policy Statement 1.1 Significant Impact Guidelines—Matters of National Environmental Significance (2013)
- EPBC Act policy statement 3.21 (2009) and EPBC Act Policy Statement 1.1 Significant Impact Guidelines—Matters of National Environmental Significance (2013)
- Draft—Significant impact guidelines for 36 migratory shorebird species—Migratory species: EPBC Act policy statement 3.21 (2009)
- Marine Bioregional Plan for the North-west Marine Region (Commonwealth of Australia 2012)