

**Final Terms of Reference for the Gladstone
New Fuels Development Project Stage 2A
Environmental Impact Statement (EIS)**
Proposed by Queensland Energy Resources Pty Ltd
December 2014



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

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Part A About these terms of reference

1 Statutory basis

Queensland Energy Resources (Aussun) Pty Limited; Queensland Energy Resources (No. 1) (Stuart) Pty Ltd; Queensland Energy Resources (No. 2) (Stuart) Pty Ltd ('QER'; 'proponents') jointly hold an environmental authority (EPML00658213) within a granted mining lease (ML80003) and under Petroleum Facility Licence PFL8. The environmental authority is an amalgamated environmental authority covering mining, petroleum activities and site-specific prescribed environmentally relevant activities (ERAs). The proponents operate an existing oil shale mine and processing facilities at the site, which are authorised in the ML and PFL as a demonstration processing plant.

The proponents wish to apply to amend conditions of environmental authority (EA) EPML00658213 granted under the *Environmental Protection Act 1994* (EP Act), to provide for a commercial scale processing facility, next to the existing plant, within the existing mining lease. In addition, the amendment application will propose to extend the area of disturbance beyond the existing approved footprint, subject to offsets, within the area of the existing mining lease. A brief description of the proposed amended project is provided in the accompanying document Gladstone New Fuels Development Project Stage 2A (GNF2A) project description.

The required environmental authority (EA) amendments required for the GNF2A project to proceed are anticipated to include:

- amendment of the project footprint boundary to reflect extension of the disturbed area (within the existing mining lease)
- incorporation of stack locations and other air emission points for the new plant and amendment of air release limits to provide for the proposed new facilities
- identification of several new surface water release points associated with the extension of the disturbed area
- amendment of rehabilitation requirements to incorporate the extended disturbed area
- provision for in pit placement of processed shale moistened with treated water
- identification of new monitoring requirements associated with the proposed plant and extended disturbed area.

These amendments and any others necessary to provide for the proposed additional facilities and extended disturbance area would need to be detailed in the environmental impact statement (EIS).

On 5 September 2014, the proponents were granted approval to prepare a voluntary EIS under section 72 of the EP Act.

The EIS would be completed under the process requirements set out in chapter 3 of the EP Act.

On 8 July 2014, the proposal was determined to be a 'controlled action' by the Australian Government's Department of the Environment under the *Environment Protection and Biodiversity Conservation Act 1999* (Commonwealth). Any significant impacts on matters of national environmental significance would be assessed as part of the voluntary EIS process.

The 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
- the environmental objectives and performance outcomes specified in schedule 5, part 3, table 1 of the Environmental Protection Regulation 2008 (EP Regulation).

The EIS is required to provide the information that would enable the issuing of the relevant amendments to the existing environmental authority for the project. Adequate information should also be provided to determine whether the Commonwealth approval required for the project could be issued. A description of other State approval requirements for the project should also be provided.

This section draws attention to the project assessment information requirements of the EP Act administered by EHP. QER should confirm that the EIS addresses all statutory requirements, and also meets the relevant information requirements of other Australian and state regulatory authorities.

EHP has developed a set of model conditions for resource projects, which should form the basis for draft EA conditions and general environmental protection commitments in an EIS. The EIS should discuss impact avoidance and mitigation measures in the context of these model conditions. They are:

- Guideline—Mining—Model mining conditions
- Guideline—Resource activity – mining—Model water conditions for coal mines in the Fitzroy basin.

2 Accredited process for controlled actions under Commonwealth¹ legislation

The project is a 'controlled action' under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), which requires assessment by an EIS process accredited under the Bilateral Agreement (section 45 of the EPBC Act). As such, the EIS must address the 'controlling provisions' and all matters relating to them. The controlling provisions for the project, with regard to its potential impacts on matters of national environmental significance (MNES) are:

- sections 12 and 15A of the EPBC Act (World Heritage properties)
- sections 15B and 15C of the EPBC Act (National Heritage places)
- sections 18 and 18A of the EPBC Act (listed threatened species and communities)
- sections 20 and 20A of the EPBC Act (listed migratory species)
- sections 24B and 24C of the EPBC Act (Great Barrier Reef Marine Park).

The EIS would be prepared pursuant to the bilateral agreement between the Australian and Queensland governments for the purposes of the Australian Government's assessment under part 8 of 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 MNES are set out in Appendix 2.

The standalone MNES section of the EIS must also address the matters prescribed in section 6 of this TOR 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:

- 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 are available on the EHP website www.ehp.qld.gov.au.

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.

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 values² that must be protected. Environmental values are specified in the EP Act, the 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.

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).

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 on approved and existing projects, 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 any conditions. 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.
- 3.7 Include, as an appendix, a public consultation report. The report should detail how the public consultation plan was implemented including the results.

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

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.

5.1 Project proponent

- 5.1.1 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.

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

5.2 The environmental impact assessment process

- 5.2.1 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.
- 5.2.2 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.

5.3 Project approvals process

- 5.3.1 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.
- 5.3.2 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

6 Project description

6.1 Proposed development

- 6.1.1 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
 - impacts on existing electricity infrastructure networks by mapping existing infrastructure and describing how the project avoids encroachment or mitigates impacts
 - power supply arrangements for GNF2A
 - the proposed methodology of construction and transportation of construction materials to site.

6.2 Site description

- 6.2.1 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.
- 6.2.2 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.

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

- 6.2.3 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.
- 6.2.4 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.

6.3 Climate

- 6.3.1 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, as necessary.

6.4 Proposed construction and operations

- 6.4.1 Describe the following information about the proposal:
- existing 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, and chemicals or hazardous materials to be used
 - the known locations of new or altered works and structures and infrastructure necessary for the project at all stages of its development, whether on or off the project lease(s) or rights of way
 - any activity that is a prescribed environmentally relevant activity if it were not undertaken on a mining/petroleum lease
 - any new or expanded quarry and screening operations (e.g. from off-site locations) required to service the project.

7 Assessment of critical matters

7.1 Critical matters

- 7.1.1 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 nuisance⁶
 - 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.

7.2 Matters of national environmental significance

- 7.2.1 The Australian Government Environment Minister has determined that the project impacts on MNES. The controlling provisions for the project, with regard to its potential impacts on MNES are:
- sections 12 and 15A of the EPBC Act (World Heritage properties)
 - sections 15B and 15C of the EPBC Act (National Heritage places)
 - sections 18 and 18A of the EPBC Act (listed threatened species and communities)

⁶ 'Material environmental harm', 'serious environmental harm' and 'environmental nuisance' are defined in Part 3, sections 15, 16 and 17 of the *Environmental Protection Act 1994*.

- sections 20 and 20A of the EPBC Act (listed migratory species)
- sections 24B and 24C of the EPBC Act (Great Barrier Reef Marine Park).

Refer to Appendix 2 for detailed MNES requirements.

7.3 Flora and fauna

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 associated flora and fauna including marine ecosystems
- 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
- 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.

The EP Act allows for a condition to be placed on an approval to require offsets for impacts on matters of state environmental significance (MSES). Therefore the project should seek to:

- Avoid and minimise and mitigate impacts on MSES
- Offset any significant residual impacts in accordance with the *Environmental Offsets Act 2014*.

Information requirements—rehabilitation

- 7.3.1 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.
- 7.3.2 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.
- 7.3.3 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.
- 7.3.4 Describe rehabilitation success criteria that would be used to measure progress and completion.
- 7.3.5 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

- 7.3.6 Describe the likely impacts on the biodiversity values of affected areas arising from the construction, operation and eventual decommissioning of the project. Take into account any avoidance and/or mitigation measures and potential offsets. The assessment should include, but not be limited to, the following key elements:

- matters of state environmental significance and national environmental significance (if applicable)
 - terrestrial and aquatic ecosystems (including groundwater-dependent ecosystems, and marine ecology) and their connectivity and interaction
 - biological diversity including listed flora and fauna species and regional ecosystems
 - the integrity of ecological processes, including habitats of threatened, and special least-concern species
 - the integrity of landscapes and places, including wilderness and similar natural places
 - impact of waterway barriers on fish passage in all waterways mapped on the 'Queensland waterways for waterway barrier works' spatial data layer
 - chronic, low-level exposure to contaminants or the bio-accumulation of contaminants; and
 - impacts on native fauna due to wastes at the site, particularly those related to any form of toxicants in supernatant water of any tailings storage facility.
- 7.3.7 Describe any actions of the project that require an authority under the *Nature Conservation Act 1992*, *Forestry Act 1959* and/or would be assessable development for the purposes of the *Vegetation Management Act 1999*⁷ (VMA) and/or the *Fisheries Act 1994* and/or the *Sustainable Planning Act 2009*.
- 7.3.8 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 MNES and matters of state environmental significance (MSES).
- 7.3.9 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.
- 7.3.10 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.
- 7.3.11 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.

Coastal Environment

- 7.3.12 Provide details of the proposed development's potential indirect impacts on MSES in the coastal and marine environment including but not limited to:
- location, volume, and the chemical and physical characteristics of any contaminants (including sediment) that may be released from the site (and diverted watercourses) in normal and extreme storm event and their potential to impact on MSES coastal and marine environments, including seagrass beds and coastal and marine dependant fauna and reefs
 - review of the historical behaviour of the river channels draining from the site into the coastal and marine environment and predict the behaviour of streams affected by proposed watercourse diversions
 - a description of the impact of works on other river users or adjacent communities (if any)
 - prediction of potential impacts on marine environments, including direct and indirect impacts such as from physical disturbance and sediment plumes during construction and ongoing impacts during operations

⁷ Refer to Schedule 24 of the Sustainable Planning Regulation 2009 in order to determine whether or not the development is assessable development under the Vegetation Management Act 1999. Refer also to www.dnrm.qld.gov.au/land/vegetation-management

- prediction of potential impacts on bank stability, including direct and indirect impacts such as from physical disturbance during construction and ongoing impacts during operations and/or natural hazards (floods and storms)
- management of associated impacts on sensitive environments, habitat for special least concern fauna species, coastal wetlands, seagrasses and coral reefs.

Offsets

- 7.3.13 Where Commonwealth and Queensland legislation and relevant offset policies allows for or requires an offset for a significant residual impact on MNES or MSES, the offset proposal(s) shall be presented in a form consistent with relevant legislation and policy (including Queensland Environmental Offsets Framework 2014).

7.4 Water quality

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

- 7.4.1 Detail the chemical and physical characteristics of surface waters and groundwater within the area that may be affected by the project.
- 7.4.2 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.
- 7.4.3 Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed.

7.5 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

- 7.5.1 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* and/or the *Forestry Act 1959*.
- 7.5.2 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.
- 7.5.3 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.
- 7.5.4 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.

7.6 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

- 7.6.1 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.
- 7.6.2 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 For example, the locations of existing residences, places of work, schools, etc., agricultural or ecologically significant areas/species that could be impacted.

- 7.6.3 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.
- 7.6.4 Describe how the achievement of the objectives would be monitored, audited and reported, and how corrective actions would be managed.

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

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 and landforms
- 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 and existing road use
 - acid sulphate soils.
- 8.2.2 Address the requirements of the *Regional Planning Interests Act 2014*.⁹

⁹ www.dsdp.qld.gov.au/infrastructure-and-planning/regional-planning-interests-act.html

- 8.2.3 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).
- 8.2.4 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.
- 8.2.5 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.

8.3 Biosecurity

Objective

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

- the introduction and spread of weeds and pest animals is minimised
- existing weeds and pests are controlled.

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 and animals under the *Plant Protection Act 1989* and the *Land Protection (Pest and Stock Route Management) Act 2002* and weeds of national significance.
- 8.3.2 Include details as to how such measures address the requirements of the Pest Management Plan for the area as prepared by the Gladstone Regional Council.

8.4 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

- 8.4.1 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.
- 8.4.2 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. Refer also to the requirements under the hazards and safety section of the TOR.

8.5 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

- 8.5.1 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.
- 8.5.2 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.
- 8.5.3 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.
- 8.5.4 Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed.

8.6 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

- 8.6.1 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.
- 8.6.2 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.
- 8.6.3 Define and describe the objectives and practical measures for protecting or enhancing environmental values from impacts by wastes.
- 8.6.4 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.
- 8.6.5 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.
- 8.6.6 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.

- 8.6.7 Provide details on natural resource use efficiency (such as energy and water), integrated processing design, and any co-generation of power and by-product reuse as shown in a material/energy flow analysis.

8.7 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

- 8.7.1 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 *Aboriginal Cultural Heritage Act 2003*.
- 8.7.2 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. Any such study should be conducted by an appropriately qualified cultural heritage practitioner. Provide strategies to mitigate and manage any negative impacts on non-Indigenous cultural heritage values and enhance any positive impacts (refer to the Queensland Heritage Register).

8.8 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

- 8.8.1 In accordance with the Coordinator-General's Social impact assessment guideline, describe the likely social impacts of the project (positive and negative) on affected communities taking into account proposed mitigation and management measures to be implemented by the proponent.
- 8.8.2 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 on land overlaying or adjacent to the project area.
- 8.8.3 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 development and training strategies for local residents, including Indigenous communities, people with a disability and women
 - opportunities to support the agricultural and tourism industries
 - any recruitment and training programs to be offered.

8.9 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

- 8.9.1 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.
- 8.9.2 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).
- 8.9.3 Include details of the adopted assessment methodology:
- for impacts on roads: the road impact assessment report in accordance with the Guidelines for Assessment of Road Impacts of Development
 - for impacts on rail level crossings: the Australian Level Crossing Assessment Model
 - for impacts on maritime operations: the Maritime Safety Queensland Guidelines for major development proposals
 - when assessing impacts on local roads (roads under the control of the local government) the pavement impact assessment report for local roads is to be undertaken in accord with the guidelines of the Pavement Impact Assessment Model adopted by Gladstone Regional Council.
- 8.9.4 Discuss and recommend how identified impacts will be mitigated so as to meet the above 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.

8.10 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

- 8.10.1 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).
- 8.10.2 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.
- 8.10.3 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.
- 8.10.4 Outline any consultation undertaken with the relevant emergency management authorities, including the Local Disaster Management Group.

9 Appendixes to the EIS

- 9.1 Appendixes 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.

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
MNES	matters of national environmental significance (under the EPBC Act)
MSES	matters of State environmental significance (under the <i>Environmental Offsets Act 2014</i>)
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

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

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* (draft), Department of State Development, Infrastructure and Planning, Brisbane.

Department of Agriculture, Fisheries and Forestry, *Code for self-assessable development: Minor waterway barrier works, WWBW01*

Department of Agriculture, Fisheries and Forestry, *Code for self-assessable development: Temporary waterway barrier works, WWBW02*.

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 mining conditions:
www.ehp.qld.gov.au/land/mining/guidelines.html

Department of Environment and Resource Management 2009, *Queensland Water Quality Guidelines, Version 3*, Department of Environment and Resource Management, Brisbane, viewed 18 June 2013, 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 2013, *Guidelines for major development proposals*, May 2013, 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, viewed 17 June 2013,

Department of State Development, Infrastructure and Planning 2013, *Social impact assessment guideline*, Department of State Development Infrastructure and Planning, Brisbane, viewed 4 March 2014, <http://www.dsdip.qld.gov.au/resources/guideline/social-impact-assessment-guideline.pdf>

EHP (2014) *Flora Survey Guidelines - Protected Plants, Nature Conservation Act 1992*. Department of Environment and Heritage Protection, Queensland Government, Brisbane.

Eyre, T.J., Kelly, A.L., Neldner, V.J., Wilson, B.A., Ferguson, D.J., Laidlaw, M.J. and Franks, A.J. (2011a) *BioCondition: A Condition Assessment Framework for Terrestrial Biodiversity in Queensland. Assessment Manual. Version 2.1*. Department of Environment and Resource Management (DERM), Biodiversity and Ecosystem Sciences, Queensland Government, Brisbane.
<https://www.qld.gov.au/environment/plants-animals/biodiversity/biocondition/>

Eyre T.J., Ferguson D.J., Hourigan C.L., Smith G.C., Mathieson M.T., Kelly, A.L., Venz M.F. and Hogan, L.D. (2012). *Terrestrial Vertebrate Fauna Survey Assessment Guidelines for Queensland, August 2013*. Department of Science, Information Technology, Innovation and the Arts, Queensland Government, Brisbane.
<https://www.qld.gov.au/environment/plants-animals/biodiversity/vertebrate-survey/>

Methodology for Survey and Mapping of Regional Ecosystems and Vegetation Communities in Queensland (Neldner *et al.* 2012); available from

<https://www.qld.gov.au/environment/assets/documents/plants-animals/herbarium/herbarium-mapping-methodology.pdf> ; http://www.ehp.qld.gov.au/ecosystems/biodiversity/regional-ecosystems/regional_ecosystem_framework.html

Queensland environmental offsets framework. <http://www.ehp.qld.gov.au/management/planning-guidelines/policies/environmental-offsets/>

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

State Development Assessment Provisions (SDAP) *Module 5.2 Constructing or raising waterway barrier works in fish habitats state code.*

Appendix 2 Matters of national environmental significance

The proposed project was referred on 11 June 2014 to the Commonwealth Department of the Environment (EPBC 2014/7241). On 8 July 2014, the Minister for the Environment determined the proposed project to be a 'controlled action' under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act). The controlling provisions are sections 12 and 15A (World Heritage properties), sections 15B and 15C (National heritage places), sections 18 and 18A (listed threatened species and communities), 20 and 20A (listed migratory species) and 24B and 24C (Great Barrier Reef Marine Park). The project will be assessed under the bilateral agreement between the Commonwealth and the State of Queensland using the EIS prepared under the EP Act.

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

*Content provided by the Commonwealth Department of the Environment (refer to Schedule 2 of EP Act).

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 relevant impacts.

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) World Heritage properties – where impacts may arise although the site for the proposed action is outside the identified boundary of a World Heritage property, including:
 - i. A description of the Outstanding Universal Value and Integrity of the Great Barrier Reef World Heritage Area (with reference to the *EPBC Act referral guidelines for the Outstanding Universal Value of the Great Barrier Reef World Heritage Area*) and any other relevant plans (noting there is no management plan for the Great Barrier Reef World Heritage Area);
 - ii. Consideration of the strategic assessment report for Part 10 of the EPBC Act relevant to the Great Barrier Reef World Heritage Area (Refer to the Great Barrier Reef Region Strategic Assessment: Strategic Assessment Report);
 - iii. If appropriate, provide details of any expert advice (including Department of Environment, Great Barrier Reef Marine Park Authority (GBRMPA) etc.) received in relation to the assessment of impacts and include:
 - a. an analysis of the information provided
 - b. details of how the advice was taken into account in the Assessment Report. Note: can refer to another section in the Assessment Report.

- (b) National Heritage places – where impacts may arise although the site for the proposed action is outside the identified boundary of a National Heritage Place, including:
- i. a description of the National Heritage values of the Great Barrier Reef National Heritage place (the similarity between the National heritage values of the Great Barrier Reef and the Outstanding Universal Value of the Great Barrier Reef World Heritage Area is noted and this section may make reference the discussion relating to the Outstanding Universal Value of the Great Barrier Reef World Heritage Area).
 - ii. consideration of the strategic assessment report for Part 10 of the EPBC Act relevant to the Great Barrier Reef National Heritage place (Refer to the Great Barrier Reef Region Strategic Assessment: Strategic Assessment Report).
 - iii. if appropriate, provide details of any expert advice (including Department of Environment, GBRMPA etc) received in relation to the assessment of impacts and include:
 - a. an analysis of the information provided
 - b. details of how the advice was taken into account in the Assessment Report. Note: can refer to another section in the Assessment Report.
- (c) Great Barrier Reef Marine Park – where impacts may arise although the site for the proposed action is outside the identified boundary of the Great Barrier Reef Marine Park:
- i. A description of the values of the Great Barrier Reef Marine Park relevant to the action, including a description of:
 - a. the biodiversity values (this section may cross reference the biodiversity values discussed under the values of the National Heritage place and in the Outstanding Universal Value of the Great Barrier Reef World Heritage Area);
 - b. natural and physical resources including geomorphologic features (this section may cross reference the natural values discussed relating to the Outstanding Universal Value of the Great Barrier Reef World Heritage Area);
 - c. cultural heritage values, including Indigenous and historic values (such as shipwrecks); and
 - d. community benefits, including social and economic values.
 - ii. Include consideration of any relevant plans/agreements. Also refer to EPBC Act Policy Statement 1.1 Significant Impact Guidelines – Matters of National Environmental Significance (2013).
 - iii. Consideration of the strategic assessment report for Part 10 of the EPBC Act relevant to the Great Barrier Reef Marine Park (Refer to the Great Barrier Reef Region Strategic Assessment: Strategic Assessment Report).
 - iv. If appropriate, provide details of any expert advice (including Department of Environment, GBRMPA etc) received in relation to the assessment of impacts and include:
 - a. an analysis of the information provided
 - b. details of how the advice was taken into account in the Assessment Report. Note: can refer to another section in the Assessment Report.

- (d) 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:
 - i. 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:
 - a. best practice survey guidelines are applied; and
 - b. how they are consistent with (or a justification for divergence from) published Australian Government guidelines and policy statements.
 - ii. Include any relevant plans/agreements. Also refer to EPBC Act Policy Statement 1.1 Significant Impact Guidelines – Matters of National Environmental Significance (2013).
- (e) Listed migratory species (including suitable habitat) that are or are likely to be present on or in the vicinity of the site, including the following details:
 - iii. 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:
 - a. best practice survey guidelines are applied;
 - b. how these are consistent with (or a justification for divergence from) published Australian Government guidelines and policy statements.
 - ii. Include consideration of any relevant plans/agreements. Also 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).
 - iii. Include details of any additional information referenced to support the likely presence or absence of listed migratory birds on or in the vicinity of the site.

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:
 - i. a description of the relevant direct, indirect and consequential impacts of the action;
 - ii. 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;
 - iii. a statement whether any relevant impacts are likely to be unknown, unpredictable or irreversible; and
 - iv. 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, including on the Outstanding Universal Value of the Great Barrier Reef World Heritage Area and the values of the Great Barrier Reef National Heritage place.
- (d) Where the proposal is likely to significant impact on a protected matter that has Indigenous heritage values, the Assessment Documentation must include a discussion on how Indigenous stakeholder views have been sought and considered.

Reference should be made to relevant guidelines and policy, including the *EPBC Act Policy Statement 1.1 Significant Impact Guidelines – Matters of National Environmental Significance* (2013) and *EPBC*

Act referral guidelines for the Outstanding Universal Value of the Great Barrier Reef World Heritage Area.

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 and indirect impacts of the action on MNES.

The Assessment Documentation must discuss how the proposed mitigation measures take into account measures contained in relevant agreements and plans for MNES including but not limited to:

- approved conservation advice for relevant listed threatened species and communities;
- the Marine Bioregional Plan for the North Marine Region;

The Assessment Documentation must discuss how the proposed mitigation measures are not inconsistent with measures contained in:

- relevant threat abatement plan for listed threatened species and communities;
- relevant recovery plan for listed threatened species and communities; and
- conventions and agreements relevant to the conservation of the species of which a migratory species is listed.

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:
 - i. 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;
 - ii. 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;
 - iii. a description, including the likely timing, of the outcomes that the avoidance and mitigation measures will achieve;
 - iv. any statutory or policy basis for the mitigation measures; and
 - v. the cost of the mitigation measures.
- (a) 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.
- (b) 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.
- (b) 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; and

- (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.
- i. Include the reasons why avoidance or mitigation of impacts is not reasonably achieved; and
 - ii. 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; and
- (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; and
- (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, regional and national 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; and
- (e) what guidelines, plans and/or policies did you consider.

9 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.

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; and
- *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)
- EPBC Act referral guidelines for the Outstanding Universal Value of the Great Barrier Reef World Heritage Area

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