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Glossary

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

Acronym/abbreviation	Definition
AADT	average annual daily traffic
AEP	annual exceedence probability
AHD	Australian height datum
ARI	average reoccurrence interval
ARMIS	a road management information system
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
CSG	coal seam gas
EA	environmental authority
EHP	Department of Environment and Heritage Protection
EIS	environmental impact statement
EP Act	Environmental Protection Act 1994
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Cwlth)
EPP	environmental protection policy (under the EP Act)
EP Regulation	Environmental Protection Regulation 2008
ERA	environmentally relevant activity
FIFO	fly-in-fly-out
GDA94	Geocentric Datum of Australia 1994
IESC	Independent Expert Scientific Committee
MNES	matters of national environmental significance
MSES	matters of state environmental significance
RMP	road-use management plan
TOR	terms of reference
WONS	weeds of national significance

1 Information about the proposed Styx Coal Project

1.1 Project proponent

The Project will be developed and operated by Fairway Coal and Styx Coal. Both companies are private companies and are subsidiaries of Mineralogy Pty Ltd.

Fairway Coal is a privately owned Australian coal exploration and coal development company that holds extensive mining concessions within the rich mineral basins of Laura, Bowen, Surat, Moreton, Nymboida and the Northern Territory, in addition to the Styx Basin.

Fairway Coal's head office is located in Brisbane at the following address:

Fairway Coal

380 Queen Street

BRISBANE QLD 4001

1.2 Project description

Styx Coal Proprietary Limited (Styx Coal) and Fairway Coal Proprietary Limited (Fairway Coal) (the joint Proponents), both wholly owned subsidiaries of Mineralogy Proprietary Limited propose to develop the Styx Coal Project (the Project) located 130km northwest of Rockhampton in the Styx Basin in Central Queensland (see Figure 1 1). The Project will be located within Mining Lease Application (MLA) 80178, which is adjacent to Mineral Development Licence (MDL) 468 and Exploration Permit for Coal (EPC) 1029.

The Project will initially involve the mining of an approximately 2 million tonnes per annum (Mtpa) with options of increasing to 5 or 10Mtpa of high grade thermal coal (HGTC) and/or semi-soft coking coal (SSCC). Development of the Project is expected to commence in 2018 and extend for approximately 20 – 25 years until the current reserve is depleted.

The Project consists of two open cut pit operations that will be mined using a truck and shovel methodology. The run-of-mine (ROM) coal will commence at 2Mtpa with options to ramp up to approximately 5Mtpa during Stage 1 (Year 1-2), where coal will be crushed and screened to HGTC with an estimated 95% yield. Stage 2 of the Project (Year 2-20) will include further processing of the coal within a coal handling and preparation plant (CHPP) which will be located in the Mine Industrial Area (MIA) to produce SSCC, with an estimated 80% yield. During Stage 2 of operation, production could potentially increase to a combined 10Mtpa of HGTC and SSCC.

A new train loadout facility (TLF) will be developed to connect into the existing North Coast Rail Line. The TLF will require all new infrastructure and connect to the existing north coast rail network which will allow transport of the product coal to the established coal loading infrastructure at the Dalrymple Bay Coal Terminal (DBCT). There also exists the option to utilise southern coal terminals in Gladstone. Since the preparation of the Project's Initial Advice Statement and the Referral of the Project to the Federal Department of the Environment and Energy, Fairway Coal has advanced its assessment of proposed TLF. Based on the outcomes of the assessments to date, Fairway Coal has taken the decision to exclude TLF Options 4 and 5 from further assessment. As such only TLF Options 1,2 and 3 will be assessed as part of the environmental impact assessment.

The Project is located within the Livingstone Shire Regional Council area and is located on gently undulating plains and slopes. The nearest major regional centre is Rockhampton, located approximately 130km to the south of the Project.

The Project will require the hiring of 200 employees during construction and 250 employees during operations with an option to increase to 500 employees should operations increase to maximum throughput tonnages. The Project labour resources will be sourced from within the general local area (Marlborough, St Lawrence, Sarina, Mackay and Rockhampton) as a drive-in drive-out workforce. A small portion of the workforce is anticipated to come from outside the broader central Queensland coalfields area on a fly-in fly-out basis.

The current mine plan is based on commencing construction in Q1 2018 with first production in Q2 2018, following a construction period of approximately six months.

Key components of the Project include:

- two open cut pits with a maximum production rate of 10Mtpa (combined HGTC and SSCC)
- CHPP

- waste rock dumps, mine water dams and associated infrastructure
- · internal haul roads and access roads
- MIA including the run of mine and product coal stockpiles, administration offices, workshops and fuelling facilities
- raw and potable water supply from local aquifers and surface water
- power requirements sourced from onsite generators located within the MIA
- offsite haul road and TLF Options 1, 2 and 3.

1.3 Environmental Protection Act 1994 (Queensland)

On 16 December 2016 Fairway Coal submitted an application to the Department of Environment and Heritage Protection (EHP) for approval to prepare a voluntary environmental impact statement for the proposed Styx Coal Project. On 27 January 2017, EHP issued a Notice of decision regarding preparation of a voluntary environmental impact statement granting approval of the preparation of a voluntary environmental impact statement (EIS) for the proposed Styx Coal Project.

1.4 Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)

The proposed project was referred on 21 January 2016 to the Australian Government Department of the Environment and Energy (EPBC 2016/7851). On 3 February 2017, the Department of the Environment and Energy determined the proposed project to be a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The controlling provisions are:

- sections 12 and 15A (world heritage values of a declared World Heritage property)
- sections 15B and 15C (the heritage values of a National Heritage place)
- sections 18 and 18A (Listed threatened species and communities)
- sections 20 and 20A (Listed migratory species)
- sections 24B and 24C (Great Barrier Reef Marine Park)
- section 24D and 24E (a water resource, in relation to coal seam gas development and large coal mining development).

The project will be assessed under the bilateral agreement between the Commonwealth and the State of Queensland (section 45 of the EPBC Act) using the EIS prepared under the *Environmental Protection Act 1994* (EP Act).

1.5 Objectives and outcomes for the project

The project must achieve several objectives for environmental management. Many of the objectives are derived from Schedule 5 of the Environmental Protection Regulation 2008, while the rest derive from current best practice environmental management.

Performance outcomes corresponding to environmental objectives are also stated in Schedule 5 of the EP Regulation. The proponent should supply sufficient evidence in the EIS (through studies and proposed management measures) to show that the outcomes can be achieved for the project.

The objectives that the EIS must address with regard to the design of the project and its outcomes are as follows:

Land

The activity is operated in a way that protects the environmental values of land including soils, subsoils, landforms and associated flora and fauna.

The choice of the site, at which the activity is to be carried out, avoids or minimises serious environmental harm on areas of high conservation value and special significance and sensitive land uses at adjacent places.

The location for the activity on a site protects all environmental values relevant to adjacent sensitive use.

The 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.

Water

The activity will be operated in a way that protects environmental values of waters.

The activity will be operated in a way that protects the environmental values of groundwater and any associated surface ecological systems.

The activity will be managed in a way that prevents or minimises adverse effects on wetlands

Water resources

With regard to water resources, the project shall meet the following objectives:

- equitable, sustainable and efficient use of water resources
- maintenance of environmental flows and water quality to support the long term condition and viability of terrestrial, riverine, wetland, lacustrine, estuarine, coastal and marine ecosystems
- maintenance of the stability of beds and banks of watercourses, and the shores of waterbodies, estuaries and the coast
- maintenance of supply to existing users of surface and groundwater resources, including consideration of cumulative increased water demand from ancillary users during construction and operational phases of the project.

Flooding

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

Regulated structures

The 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 potential consequences of the failure of a regulated structure on human life and the environment require that the highest standards are used for their design, construction, operation, modification and decommissioning. The industry, government and the Australian National Committee on Large Dams Inc. (ANCOLD) have published several guidelines, which should be used to further develop objectives and outcomes for individual projects and the regulated structures they involve.

Flora and fauna

The activity will be operated in a way that protects the environmental values of land including soils, subsoils, landforms and associated flora and fauna.

There will be no potential or actual adverse effect on a wetland as part of carrying out the activity.

The project minimises serious environmental harm on areas of high conservation value and special significance and sensitive land uses at adjacent places.

The location for the activity on a site protects all environmental values relevant to adjacent sensitive use.

The project manages the impacts on the environment by seeking to achieve ecological sustainability, including, but not limited to, protected wildlife and habitat.

Critical habitat receives special management considerations and protection through a management plan for the project.

The project avoids significant residual impacts to matters of national environmental significance (MNES) and matters of state environmental significance (MSES), mitigates impacts where they cannot be avoided, and offsets any residual impacts.

The project provides for the conservation of the marine environment.

The construction, operation and decommissioning of the project must be consistent with all statutory and regulatory requirements of the Commonwealth, state and local government and be consistent with their relevant plans, strategies, policies and guidelines that relate to the terrestrial and aquatic ecological environment.

Coastal environment

The project's objective for the coastal environment is that its activities are operated in a way that avoids or minimises adverse impacts on coastal environmental values, processes, and resources.

The construction, operation and decommissioning of the project must be consistent with all statutory and regulatory requirements of the Commonwealth, state and local government and be consistent with their relevant plans, strategies, policies and guidelines that relate to the coastal environment. The coastal environment is taken to include estuarine, littoral and marine environmental values, and the amenity of important natural coastal landscapes, views and vistas.

Biosecurity

The construction, operation and decommissioning of the project shall ensure:

- the introduction and spread of weeds, pests (including marine pests) and disease, pathogens and contaminants are avoided or minimised
- existing weeds and pests, including marine pests, are controlled, including biosecurity threats and their management
- the performance outcomes correspond to the relevant policies, legislation and guidelines, and that sufficient
 evidence is supplied (through studies and proposed management measures) to show these outcomes are
 achieved.

Air

The activity will be operated in a way that protects the environmental values of air.

Noise

The activity will be operated in a way that protects the environmental values of the acoustic environment.

Waste

Any waste generated, transported, or received as part of carrying out the activity is managed in a way that protects all environmental values.

Hazards and safety

The construction and operation of the project should 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.
- the project prevents or minimises the production of hazardous contaminants and waste
- if the production of hazardous contaminants and waste is unavoidable, the project treats and/or contains hazardous contaminants until their disposal at an approved facility.

Cultural heritage

The construction and operation of the project should achieve the purposes of the *Aboriginal Cultural Heritage Act* 2003 with respect to the project site, and ensure that the nature and scale of the project does not compromise the cultural heritage significance of a heritage place or heritage area.

Social and economic matters

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 for capable local industries and communities where this does not have a significant negative impact on the project or reduce net economic benefits to the state.

Transport

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
- avoid and mitigate impacts including those on the condition of transport infrastructure
- ensure any required works are compatible with existing infrastructure and future transport corridors.

2 Content requirements for the EIS

This section outlines the content requirements for the EIS for the proposed Styx Coal Project.

2.1 Executive summary

Describe the project and convey the most important and preferred aspects and environmental management commitments relating to the project in a concise and readable form.

2.2 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.

2.2.1 Project proponent

Provide information about the proponent(s) and their business, including:

- the proponent's full name, street and postal address, and Australian Business Number, including details of any joint venture partners
- the nature and extent of the proponent's business activities
- proponent's 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.

2.2.2 The environmental impact statement process

Outline the steps of the environmental impact statement process, note which steps have been completed, and provide an estimated completion date for each remaining step. Highlight the steps in which the public will have the opportunity for input The information in this section is required to ensure readers are informed of the process and are aware of their opportunities for input and participation.

Inform the reader how and when properly made public submissions on the EIS can be made, and outline how the submissions are taken into account in the decision-making process.

2.2.3 Project approvals process

Describe the approvals that are required to enable the project to be constructed and operated, and note the legislation under which the approvals are assessed and issued. Explain how the EIS fits into the assessment and approval processes for the environmental authority, leases, licences, and permits required by the proponent before construction and operations can start¹.

Describe the approvals process under the EPBC Act if this project is to be assessed under the bilateral agreement between the Queensland and the Australian Governments.

2.2.4 Statutory information requirements

The EIS should provide sufficient information to meet the requirements of sections 125 and 126A as relevant to the specific project.

2.2.5 Project description

Describe all aspects of the project that are covered by the EIS's assessment. If there are any aspects of the project that would be assessed separately, describe what they are, and how they would be assessed and approved.

¹ Guidance on typical associated approvals can be accessed from https://www.business.qld.gov.au/industry

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.

2.2.5.1 Proposed development

Describe and illustrate the following specific information about the proposed project, including but not limited to:

- · project's title
- project objectives
- expected capital expenditure
- rationale for the project
- project description, including the nature and scale of all project components and activities
- whether it is a greenfield or brownfield site
- regional and local context of the project's footprint with maps at suitable scales
- proposed timing of the development, including construction staging and likely schedule of works
- relationship to other major projects or developments of which the proponent should reasonably be aware
- the workforce numbers for all project phases
- where personnel would be accommodated and the likely recruitment and rostering arrangements to be adopted
- proposed travel arrangements of the workforce to and from work, including use of a fly-in-fly-out (FIFO) workforce.

2.2.5.2 Site description

Provide real property descriptions of the project land and adjacent properties, any easements, any existing underlying resource tenures, and identification number of any resource activity lease for the project land that is subject to application.

Describe and illustrate with scaled maps the key infrastructure in and around the site, including state-controlled and local roads, rail lines and loading yards, airfields, ports or jetties, electricity transmission infrastructure, pipelines, and any other infrastructure in the region relevant to the project.

Describe and illustrate the topography of the project site and surrounding area, and highlight any significant features shown on the maps. Map the location and boundaries of the project's footprint including all infrastructure elements and development necessary for the project. Show all key aspects including excavations, stockpiles, areas of fill, services infrastructure, plant locations, water or tailings storages, buildings, bridges and culvert, haul and access roads, causeways, stockpile areas, barge loading facilities and any areas of bed levelling. Include discussion of any environmental design features of these facilities including bunding of storage facilities.

Describe and map in plan and cross-sections the geology and terrestrial and/or coastal landforms of the project area. Indicate the boundaries of water catchments that are significant for the drainage of the site. Show geological structures, such as aquifers, faults and economic resources that could have an influence on, or be influenced by, the project's activities.

Describe and illustrate the precise location of the proposed project in relation to any designated and protected areas and waterbodies. This is to include the location of any proposed buffers surrounding the working areas; and lands identified for conservation, either through retention in their current natural state or to be rehabilitated.

Describe, map and illustrate soil types and profiles of the project area at a scale relevant to the site. Identify soils that would require particular management due to wetness, erosivity, depth, acidity, salinity or other feature, including acid sulfate soils.

2.2.5.3 Proposed construction and operations

Describe the following information about the proposal, and provide maps and concept/layout plans:

- existing land uses and any previous land use that might have affected or contaminated the land
- existing buildings, infrastructure and easements on the potentially affected land

- all pre-construction activities (including vegetation clearing, site access, interference with watercourses, wetlands and floodplain areas)
- the proposed construction methods, associated equipment and techniques
- road and rail infrastructure, and stock routes, including new constructions, closures and/or realignments
- location, design and capacity of all other required infrastructure, including water supply and storage, sewerage, electricity from the grid, generators and fuels (whether gas, liquid and/or solid), and telecommunications
- changes to watercourses and overland flow on or off the site, including stream diversions and flood levees
- any infrastructure alternatives, justified in terms of ecologically sustainable development (including energy and water conservation)
- hours of construction and operation
- the proposed extractive and processing methods, associated equipment and techniques
- the sequencing and staging of activities
- the proposed methods and facilities to be used for the storage, processing, transfer, and loading of product
- the capacity of high-impact plant and equipment, their chemical and physical processes, and chemicals or hazardous materials to be used
- any activity that would otherwise be a prescribed environmentally relevant activity if it were not undertaken on a mining or petroleum lease
- any new borrow pits, stream bed excavations, or expanded quarry and screening operations that may be required to service construction or operation of the project.

2.2.5.4 Feasible alternatives

Present feasible alternatives of the project's configuration (including conceptual, technological and locality alternatives to the project and individual elements) that may improve environmental outcomes. Summarise the comparative environmental, social and economic impacts of each alternative, with particular regard to the principles of ecologically sustainable development.

Discuss alternatives in sufficient detail to enable an understanding of the reasons for preferring certain options and courses of action while rejecting others.

Discuss the consequences of not proceeding with the project.

2.2.5.5 Consultation process

Provide information on the development and implementation of a consultation plan for the people and organisations identified as affected or interested persons, or stakeholders for the project. Describe issues of potential concern to any and all stakeholders at various stages of the project from project planning to commencement, project operations and decommissioning. The description should at least include the following matters:

- the objectives of the consultation process
- timing of consultation
- the number and interests of the people and organisations involved in the consultation (particularly the affected and interested persons defined in sections 38 and 41 of the EP Act)
- methods of consultation and communication
- reporting and feedback methods of the consultation process
- an assessment explaining how the consultation objectives have been met
- an analysis of the issues raised and their completed or planned resolution, including any alterations to the proposed project as a result of the received feedback.

2.3 Climate

Describe the project area'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 data should be provided in a statistical form including long-term averages and extreme values. It should also be illustrated by bar charts, wind rose diagrams, etc.

Assess 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.

Assess the project's vulnerabilities to climate change (e.g. changing patterns of rainfall, hydrology, temperature and extreme weather events). Describe possible adaptation strategies (preferred and alternative) based on climate change projections for the region.

2.4 Land

Conduct the impact assessment in accordance with the EHP's *EIS information guideline—Land*, and, if any quarry material is needed for construction, use EHP's *EIS information guideline—Quarry material*.

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 the following matters:

- Any changes to the landscape and its associated visual amenity in and around the project area.
- Any existing or proposed mining tenement under the Mineral Resources Act 1989, petroleum authority under the Petroleum and Gas (Production and Safety) Act 2004, petroleum tenure under the Petroleum Act 1923, geothermal tenure under the Geothermal Energy Act 2010 and greenhouse gas tenure under the Greenhouse Gas Storage Act 2009 overlying or adjacent to the project site.
- Temporary and permanent changes to land uses of the project site and adjacent areas, considering actual and potential agricultural uses, regional plans and local government planning schemes, and any key resource areas that were identified as containing important extractive resources of state or regional significance which the state considers worthy of protection²³.
- Identify any existing or proposed incompatible land uses within and adjacent to the site, including the impacts on economic resources and the future availability and viability of the resource including extraction, processing and transport location to markets.
- Identify any infrastructure proposed to be located within, or which may have impacts on, the Stock Route Network⁴⁵ and the Stock Route Management Act 2002.
- Propose suitable measures to avoid or minimise impacts related to land use.

Assess the project against the requirements of the *Regional Planning Interests Act 2014*⁶, including any relevant Regional Plan. Further advice is provided in the '*DILGP Companion guide – A guide for state agencies and proponents on the requirements of the Regional Planning Interests Act 2014 in the planning and development process* (Department of Infrastructure, Local Government and Planning, July 2016⁷) and the *DAFF Environmental Impact Assessment Companion Guide*' (Department of Agriculture, Fisheries and Forestry, August 2014⁸).

² https://www.business.qld.gov.au/industry/mining/quarries/key-resource-areas

³ http://www.statedevelopment.qld.gov.au/resources/guideline/spp/spp-guideline-mining-extractive-resources.pdf

⁴ https://www.qld.gov.au/environment/land/stock-routes/about/

https://www.dnrm.qld.gov.au/__data/assets/pdf_file/0010/99622/stock-route-management-strategy.pdf

 $^{^{6}\} http://www.dilgp.qld.gov.au/planning/regional-planning/regional-planning-interests-act.html$

http://www.dilgp.qld.gov.au/planning/regional-planning/rpi-act-forms-guidelines-and-fact-sheets.html

⁸ https://publications.qld.gov.au/dataset/daff-environmental-impact-assessment-companion-guide/resource/7b1825c4-5e42-4cf8-aa2d-7fa55c2f5e4c

Describe how the project will avoid or minimise impacts on any land identified as Strategic Cropping Land on the Trigger Map for Strategic Cropping Land⁹.

Show how the land form during and after disturbance will be stable over time and will meet any requirements of project or property plans under the *Soil Conservation Act 1986*.

For underground mines and any other projects likely to cause land subsidence, assess and provide comprehensive surface subsidence predictions using tools or techniques that enable the location, extent and scale of subsidence, and its effect over time on surface landforms and hydrology to be understood¹⁰. Propose detailed mitigation measures for any significant impacts that would result from subsidence.

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.

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 in accordance with the *Native Title (Queensland) Act 1993* and consistent with the Queensland Government *Native Title Work Procedures*¹¹.

2.4.1 Rehabilitation

Conduct impact assessment in accordance with the EHP's EIS information guideline—Rehabilitation.

The EIS should provide information based on relevant guidelines (including the departmental 'Guideline: Rehabilitation requirements for mining resource activities (EM1122)), current best practice approaches and legislative requirements about the strategies and methods for progressive and final rehabilitation of the environment disturbed by construction, operation, and decommissioning of the project.

The EIS should propose completion criteria and a rehabilitation strategy based on the following considerations:

- a) develop rehabilitation criteria for disturbed areas and post mining land uses across the mine as outlined in EHP Guideline: Rehabilitation requirements for mining projects (EM1122)
- b) specify spoil characteristics, soil analysis, soil separation for use on rehabilitation
- c) explain planned native vegetation rehabilitation areas and corridors
- d) explain development and rehabilitation of improved pastures and grazing landforms
- e) detail rehabilitation methods applied to disturbed areas, including map(s) to identify proposed rehabilitation types and methods in different areas
- f) contain landform design criteria including end of mine design
- g) where suitable remnant vegetation sites are available, identify an appropriate number for the development of rehabilitation success criteria and comparison with progressive rehabilitation at the mine
- h) identify success criteria for rehabilitation areas and itemise revegetation criteria
- i) detail how landform design will be consistent with the surrounding topography
- j) include detailed flood modelling for 2 year Average Recurrence Interval (ARI), 50 year ARI (i.e. 1 in 50), 100 year ARI (i.e. 1 in 100), and 1,000 year ARI
- k) detail how surrounding environmental values will be protected
- I) describe rehabilitation indicators, projected progressive rehabilitation, and the monitoring program to be used
- m) develop a contingency plan for rehabilitation maintenance or design.

2.5 Water quality

The assessment of water quality is considered a critical matter given the proximity of the Great Barrier Reef World Heritage Area and usage of water resources for grazing purposes in the area.

Conduct impact assessment in accordance with the EHP's EIS information guideline—Water.

⁹ https://www.dnrm.qld.gov.au/land/accessing-using-land/strategic-cropping-land

¹⁰ http://www.environment.gov.au/system/files/resources/e9b69ac4-647c-4bbc-84db-83642227ab0d/files/background-review-subsidence_0.pdf

¹¹ https://www.dnrm.qld.gov.au/land/indigenous-land/queensland-government-native-title-work-procedures

With reference to the Environmental Protection (Water) Policy 2009 and section 9 the EP Act, identify the environmental values of surface waters within the project area, downstream and upstream that may be affected by the project, including any human uses of the water and any cultural values.

Define the relevant water quality objectives applicable to the environmental values, and demonstrate how these will be met by the project during construction, operation and following completion.

Detail the chemical, physical and biological characteristics of surface waters and groundwater within the area that may be affected by the project and at suitable reference locations using sufficient data to define natural variation.

Describe the quantity, quality, location, duration and timing¹² of all potential and/or proposed releases of contaminants addressing applicable standards from any relevant regional water quality management plans, strategies, or guidelines relating to water quality. Releases may include controlled water discharges to surface water streams, uncontrolled discharges when the design capacity of storages is exceeded, spills of products during loading or transportation, contaminated run-off from operational areas of the site (including seepage from waste rock dumps), or run-off from disturbed acid sulphate soils.

Assess the likely impacts of any releases from point or diffuse sources on all relevant environmental values of the receiving environment. The assessment should consider the quality and hydrology of receiving waters and the assimilative capacity of the receiving environment.

Describe how impacts on water quality objectives and environmental would be avoided or minimised through the implementation of management strategies that comply with the management hierarchy and management intent of the Environmental Protection (Water) Policy 2009. Appropriate management strategies may include the use of erosion and sediment control practices, and the separation of clean storm water run-off from the run-off from disturbed and operational areas of the site.

Describe how monitoring would be used to demonstrate that objectives were being assessed, audited and met. For example, provide measureable criteria, standards and/or indicators that will be used to assess the condition of the ecological values and health of surface water environments. Propose corrective actions to be used if objectives are being met.

2.6 Water resources

The assessment of surface water and groundwater resources is considered a critical matter given the usage of water resources for grazing purposes in the area.

Conduct impact assessment in accordance with the EHP's EIS information guidelines—Water.

Describe present and potential users and uses of water in areas potentially affected by the project, including municipal, agricultural 13, industrial, recreational and environmental uses of water.

Provide details of any proposed changes to, or use of, surface water or groundwater. Identify any approval or allocation that would be needed under the *Water Act 2000*.

Describe all aquifers that would be impacted by the project, including the following information:

- Nature of the aquifer/s;
- Geology/stratigraphy such as alluvium, volcanic, metamorphic;
- Aguifer type such as confined, unconfined:
- Depth to and thickness of the aguifers;
- · Groundwater quality and volume;
- Current use of groundwater in the area;
- Survey of existing groundwater supply facilities (e.g. bores, wells, or excavations);
- Information to be gathered for analysis to include:
 - o Location:
 - Pumping parameters;

¹² Duration and timing are important aspects of the risk characteristics that affect the impacts of mine and CSG water releases; e.g. for how long will water be released in total and when will it occur with respect to existing 'natural' flows

¹³ https://publications.qld.gov.au/dataset/daff-environmental-impact-assessment-companion-guide/resource/7b1825c4-5e42-4cf8-aa2d-7fa55c2f5e4c

- Drawdown and recharge at normal pumping rates: and
- Seasonal variations (if records exist) of groundwater levels.
- Proposal to develop network of groundwater monitoring bores before and after the commencement of the project.

Include maps of suitable scale showing the location of diversions and other water-related infrastructure in relation to mining/gas infrastructure. Detail any significant diversion or interception of overland flow, including the effects of subsidence.

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 and resource operations plan that may apply.

Describe how 'make good' provisions would apply to any water users that may be adversely affected by the project.

Describe the proposed supply of potable water for the project, including temporary demands during the construction period. Also describe on-site storage and treatment requirements for waste water from accommodation and/or offices and workshops.

Describe the practices and procedures that would be used to avoid or minimise impacts on water resources.

2.6.1 The Independent Expert Scientific Committee

The EIS must include a specific section responding to the information requirements contained in the IESC's 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 (Commonwealth of Australia, 2015¹⁴).

2.7 Flooding

The assessment of surface water and groundwater resources is considered a critical matter given the use of the area for cattle grazing and the need to protect the environmental values of water resources.

Describe current flood risk for a range of annual exceedance probabilities up to the 1,000 year flood for the project site. Use flood modelling to assess how the project may potentially change flooding and run-off characteristics onsite and upstream and downstream of the site. 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.

Evidence should be provided that the securing of storage containers of hazardous contaminants during flood events meets the requirements of schedule 5, table 2 of the EP Regulation.

Describe and illustrate where any residual voids and waste rock dumps would lie in relation to the extent of the 1,000 year flood.

Assess the project's vulnerabilities to climate change (e.g. changing patterns of rainfall, hydrology, temperature and extreme weather events). Describe possible adaptation strategies (preferred and alternative) based on climate change projections for the project.

2.8 Regulated structures

Conduct impact assessments on regulated structures in accordance with the EHP's EIS information guideline— Regulated structures, EHP's Guideline on structures which are dams of levees constructed as part of environmentally relevant activities¹⁵, and EHP's Manual for assessing hazard categories and hydraulic performance of structures¹⁶.

Describe the purpose of all dams or levees proposed on the project site. Show their locations on appropriately scaled maps, and provide plans and cross-sections, illustrating such features as embankment heights, spillways,

¹⁴ http://www.iesc.environment.gov.au/publications

¹⁵ http://www.ehp.qld.gov.au/assets/documents/regulation/era-gl-structures-dams-levees-eras.pdf

¹⁶ https://www.ehp.qld.gov.au/assets/documents/regulation/era-mn-assessing-consequence-hydraulic-performance.pdf

discharge points, design storage allowances, and maximum volumes. Describe how storage structures and other infrastructure would be sited to avoid or minimise risks from flooding.

Where project infrastructure comprises dams or other structures for storing potentially hazardous materials, undertake a consequence category assessment for each dam or levee, according to the criteria outlined in EHP's *Manual for assessing consequence categories and hydraulic performance of structures*. The assessment must be undertaken for the three different failure event scenarios described in EHP's manual, i.e. for seepage, overtopping and dam break. Regulated structures must comply with the *Manual for assessing consequence categories and hydraulic performance of structures* in accordance with schedule 5, table 2 of the EP Regulation.

Following the consequence category assessment, determine the consequence category ('low, significant, or high') according to table 1 of EHP's *Manual for assessing hazard categories and hydraulic performance of structures* and provide certified copies of these the consequence category determination for each of the proposed dams or levees.

Describe how risks associated with dam or storage failure, seepage through the floor, embankments of the dams, and/or with overtopping of the structures will be avoided, minimised or mitigated to protect people, property and the environment.

2.9 Flora and fauna

Describe the potential direct and indirect impacts on the biodiversity and natural environmental values of affected areas arising from the construction, operation and decommissioning of the project. Take into account any proposed avoidance and/or mitigation measures. The EIS should provide information based on relevant guidelines, including but not limited to EHP's EIS information guidelines that cover flora and fauna, aquatic ecology, coastal issues, ground-dependent ecosystems, water, matters of national environmental significance, and biosecurity. The assessment should include the following key elements:

- identification of all significant ecological species and communities, including MSES and MNES, listed flora and fauna species, and regional ecosystems, on the project's site and in its vicinity
- terrestrial and aquatic ecosystems (including groundwater-dependent ecosystems) and their interactions
- biological diversity
- the integrity of ecological processes, including habitats of listed threatened, near threatened or special least-concern species
- · connectivity of habitats and ecosystems
- 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 (direct or indirect) on terrestrial and aquatic species and ecosystems whether due to: vegetation clearing; hydrological changes; discharges of contaminants to water, air or land; noise; etc.
- impacts of waterway barriers on fish passage in all waterways mapped on the Queensland Waterways for Waterway Barrier Works spatial data layer

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*, the *Regional Planning Interests Act 2014*, the *Fisheries Act 1994* and the *Sustainable Planning Act 2009*¹⁷. Features to consider include regional ecosystems, environmentally sensitive areas, wetlands, nature refuges, protected areas and strategic environmental areas.

Propose practical measures to avoid, minimise, mitigate and/or offset direct or indirect impacts on ecological environmental values. Assess how the nominated quantitative indicators and standards may be achieved for nature conservation management. In particular, address measures to protect or preserve any listed threatened, near-threatened or special least concern species.

¹⁷ This is notwithstanding that the Vegetation Management Act 1999 does not apply to mining projects. Refer also to https://www.qld.gov.au/environment/land/vegetation/clearing/

Propose measures that would avoid the need for waterway barriers, or propose measures to mitigate the impacts of their construction and operation.

Assess the need for buffer zones and the retention, rehabilitation or planting of movement corridors. The assessment should take account of the role of buffer zones in maintaining and enhancing riparian vegetation to enhance water quality and habitat connectivity.

Propose rehabilitation success criteria, in relation to natural values, that would be used to measure the progressive rehabilitation of disturbed areas. 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, in suitable habitat, provision of nest hollows and ground litter.

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.

2.9.1 Offsets

For any significant residual impact, propose offsets that are consistent with the following requirements as set out in applicable State and Commonwealth legislation or policies:

- Where a significant residual impact will occur on a prescribed environmental matter as outlined in the Environmental Offsets Regulation 2014, the offset proposal(s) must be consistent with the requirements of Queensland's *Environmental Offsets Act 2014* and the latest version of the Queensland Environmental Offsets Policy¹⁸.
- Where Commonwealth offset policy requires an offset for significant residual impacts on a MNES, the
 offset proposal(s) must be consistent with the requirements of the EPBC Act Environmental Offsets Policy
 (October 2012), the Offsets Assessment Guide and relevant guidelines¹⁹ (refer to also section xxx of this
 TOR).

2.10 Biosecurity

Conduct impact assessment in accordance with the EHP's EIS information guideline—Biosecurity.

Propose detailed measures to remove, control and limit the spread of pests, weeds disease, pathogens and contaminants on the project site and any areas under the proponent's control, particularly declared plants and animals under Queensland's *Biosecurity Act 2014*, the Commonwealth *Biosecurity Act 2015* and weeds of national significance (WONS).

Weed and pest animal management measures should be aligned with local government pest management priorities.

Detail a monitoring program that would audit the success of measures, whether objectives have been met, and describe corrective actions to be used if monitoring shows that objectives are not being met.

2.11 Air

Describe the existing air environment at the project site and the surrounding region.

Provide an emissions inventory and description of the characteristics of contaminants or materials that would be released from point and diffuse sources and fugitive emissions when carrying out the activity (point source and fugitive emissions). The description should address the construction, commissioning, operation, upset conditions, and closure of the project.

Predict the impacts of the releases from the activity on environmental values of the receiving environment using established and accepted methods and in accordance with the EP Regulation, Environmental Protection (Air) Policy 2008 (EPP (Air), and EHP's EIS information guideline—Air. The description of impacts should take into

¹⁸ https://www.qld.gov.au/environment/pollution/management/offsets/

¹⁹ http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy

consideration the sensitivity and 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 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). It should also 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).

Describe the proposed mitigation measures and how the proposed activity will be consistent with best practice environmental management. The EIS must address the compatibility of the project's air emissions with existing or potential land uses in surrounding areas. Potential land uses might be gauged from the zonings of local planning schemes, or State Development Areas, etc.

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

Proponents are responsible for determining if they have obligations under the Commonwealth *National Greenhouse and Energy Reporting Act 2007* (NGER Act) and ensuring that information provided in their NGER report meets the requirements of this Act and its subordinate legislation²⁰.

Provide an inventory of projected annual emissions for each relevant greenhouse gas, with total emissions expressed in 'CO2 equivalent' terms. Estimate emissions from upstream activities associated with the proposed project, including the fossil fuel based electricity to be used. Briefly describe the methods used to make the estimates. NGER guidelines can be used as a reference source for emission estimates and supplemented by other sources where practicable and appropriate. Coal mining projects must include estimates of coal seam methane to be released as well as emissions resulting from such activities as transportation of products and consumables, and energy use at the project site.

Assess the potential impacts of operations within the project area on the state and national greenhouse gas inventories and propose greenhouse gas abatement measures, including:

- a description of the proposed measures (alternatives and preferred) to avoid and/or minimise greenhouse
 gas emissions directly resulting from activities of the project, including such activities as transportation of
 products and consumables, and energy use by the project
- an assessment of how the preferred measures minimise emissions and achieve energy efficiency
- a comparison of the preferred measures for emission controls and energy consumption with best practice environmental management in the relevant sector of industry
- a description of any opportunities for further offsetting greenhouse gas emissions through indirect means.

2.12 Noise and vibration

Describe and illustrate the locations of any sensitive receptors that are listed in Schedule 1 of the Environmental Protection (Noise) Policy 2008. Also describe any other environmental values that could be impacted by emissions from the proposed project.

Fully describe the sources and characteristics of noise and vibration that would be emitted during the construction, commissioning, operation, upset conditions, and closure of the project. Conduct noise and vibration impact assessment in accordance with the EHP's EIS *information guideline—Noise and vibration*. The assessment must address low-frequency (<200 Hz) noise emissions and potential cumulative impact of the project with other emissions of noise from any existing developments and known possible future development in the area.

Describe how the proposed activity would be managed to be consistent with best practice environmental management. The EIS must address the compatibility of the project's noise emissions with existing or potential land uses in surrounding areas. Potential land uses might be gauged from the zonings of local planning schemes, or State Development Areas, etc.

²⁰ http://www.cleanenergyregulator.gov.au/NGER

Describe how the achievement of the environmental management objectives would be monitored, audited and reported, and how corrective actions would be managed.

2.13 Waste management

Conduct impact assessment in accordance with the EHP's EIS information guidelines—Waste management.

Describe all the expected waste streams from the proposed project activities during the construction, operational, rehabilitation and decommissioning phases of the project. Waste streams for resource projects would typically include: waste rock, tailings and coarse rejects from mining and mineral processing; salt from petroleum and gas projects; and brackish, saline or mine affected water from all types of resource projects.

Describe the quantity, and physical and chemical characteristics of each significant waste, any attributes that may affect its dispersal in the environment, and its associated risk of causing environmental harm.

Define and describe the objectives and practical measures for protecting or enhancing environmental values from impacts by wastes.

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.

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.

Detail waste management planning for the proposed project especially how measures have been applied to prevent or minimise environmental impacts due to waste at each stage of the project.

Use a material/energy flow analysis to provide details of natural resource use efficiency (such as energy and water), integrated processing design, and any co-generation of power and by-product reuse.

Identify the quantity, quality and location of all potential discharges of water and contaminants (including treated wastewater/sewage) by the project. Describe whether the discharges would be from point sources (whether uncontrolled and controlled discharges) or diffuse sources (such as irrigation to land of treated wastewater/sewage effluent), and describe the receiving environment (such as land or surface waters).

Provide a risk assessment of the potential impacts on surface waters (in the near-field or far-field) due to any controlled or uncontrolled discharges from the site. The EIS should address the following matters with regard to every potential discharge of contaminated water:

- Describe the circumstances in which controlled and uncontrolled discharges might occur.
- Provide stream flow data and information on discharge water quality (including any potential variation in
 discharge water quality) that will be used in combination with proposed discharge rates to estimate instream dilution and water quality. Chemical and physical properties of any waste water (including
 concentrations of constituents) at the point of entering natural surface waters should be discussed along
 with toxicity of effluent constituents to human health, flora and fauna.
- Provide an assessment of the available assimilative capacity of the receiving waters given existing
 background levels and other potential point source discharges in the catchment. Options for controlled
 discharge at times of natural stream flow should be investigated to ensure that adequate flushing of waste
 water is achieved.
- Provide water quality limits that are appropriate to maintain background water quality and protect water uses.
- Describe the necessary streamflow conditions in receiving waters under which controlled discharges will be allowed.

Provide relevant information on existing and proposed sewage infrastructure (related to environmentally relevant activity (ERA) 63) by referring to relevant EHP policies and guidelines²¹, depending on the proposed collection

²¹ E.g. https://www.ehp.qld.gov.au/licences-permits/guidelines.html

(sewer infrastructure), treatment of sewage, and proposed reuse/disposal of treated wastewater and sewage wastes generated.

Identify beneficial use options under the *Waste Reduction and Recycling Act 2011* as per the relevant guidelines for irrigation, drilling mud, and associated water. The uses might include aquaculture, coal washing, dust suppression, construction, landscaping and revegetation, industrial and manufacturing operations, research and development and domestic, stock, stock intensive and incidental land management.

2.14 Hazards and safety

Describe the potential risks to people and property that may be associated with the project in the form of a risk assessment for all components of the project and in accordance with relevant standards. The assessment should address the following matters:

- potential hazards, accidents, spillages, fire and abnormal events that may occur during all stages of the project, including estimated probabilities of occurrence
- hazard analysis and risk assessment in accordance with AS/NZS ISO 31000:2009 Risk management principles and guidelines and with HB203:2006 Environmental risk management principles and processes
- demonstrate that any major hazard facility involving dangerous and hazardous materials is appropriately located in accordance with Sustainable Planning Act 2009, State Development Assessment Provisions, Module 13
- identify all hazardous substances and any explosives to be used, transported, stored, processed or produced and the rate of usage; evaluate the risks associated with the secure storage, use and transportation of explosives to ensure the risks are within an acceptable standard in accordance with *Australian Standard AS2187.1*²²
- potential wildlife hazards, including a development of a mosquito management plan in accordance with Queensland Health guidelines²³, natural events (e.g. cyclone, storm tide inundation, flooding, bushfire) and implications related to climate change and adaptation
- describe natural hazards that may affect the site with at least a 1% annual exceedance probability (AEP) or 100 year average reoccurrence interval (ARI) level, including mapping of the potential hazard areas at the site
- how siting, layout and operation of the development will avoid or mitigate the risks, particularly with regard to the release of hazardous materials during natural hazard events
- how natural processes and the protective function of landforms and vegetation will be maintained in sea erosion and storm tide inundation areas.

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.

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.

Outline any consultation undertaken with the relevant emergency management authorities, including the Local Disaster Management Group.

²² Australian Standard AS 2187, Explosives-storage transport and use

²³ E.g. Queensland Health – Guidelines to minimise mosquito and biting midge problems in new developments, available from http://www.health.qld.gov.au/ph/documents/cdb/14804.pdf

2.15 Cultural heritage

Conduct impact assessment in accordance with the EHP's EIS information guideline—Indigenous cultural heritage and non-Indigenous cultural heritage.

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*.

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.

2.16 Social and economic

In accordance with the Coordinator-General's *Social impact assessment guideline*²⁴, assess the potential adverse and beneficial social impacts on affected communities, and the proposed mitigation measures for adverse impacts. The EIS should at least address community and stakeholder engagement, workforce management, housing and accommodation, local business and industry content, health, and community well-being.

Also assess the potential adverse and beneficial economic impacts of the project. Separately address the major stages of the project (e.g. construction, operation, etc.). Quantify economic impacts where suitable data and methodology can be applied; otherwise, qualitatively assess the impacts. The EIS should at least address: labour demand, including the ability for labour to be drawn from the existing local workforce, and the potential effects this may have on local businesses; and relevant prices, which might include wages, input costs and/or household goods and services.

Describe the strategies for accommodating the workforce over the life of the project.

The assessment should identify opportunities to capture the social and economic benefits of the project, including:

- strategies and implementation plans enabling local suppliers of goods and services to 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 and implementation plans for local and regional residents, including Indigenous people, women and people with a disability across Queensland
- opportunities to support strategic development priorities within the agricultural²⁵ and tourism sectors
- regional workforce development plans, including recruitment, training development programs and initiatives to be offered
- strategies that promote the location of workers and their families in regional centres²⁶
- a description of estimated proportions, use and characteristics of FIFO workers during the construction and operational phases of the project.

Identify recreational, commercial or indigenous fisheries potentially impacted and undertake consultation.

²⁴ http://www.statedevelopment.qld.gov.au/resources/guideline/social-impact-assessment-guideline.pdf

²⁵ https://publications.qld.gov.au/dataset/daff-environmental-impact-assessment-companion-guide/resource/7b1825c4-5e42-4cf8-aa2d-7fa55c2f5e4c

²⁶ Refer to the Coordinator-General's Workforce Management Principles:

[•] anyone must be able to apply for a job, regardless of where they live:

[•] provided they can meet the requirements of the job, people must have choice where they live and be able to apply for jobs related to the project

 $[\]bullet$ the percentage of FIFO workers must be less than 100%

2.17 Transport

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 choices for modes of transport to ensure efficiency and minimise impacts on the community.

Undertake the impact assessment in accordance with the EHP's *EIS information guideline—Transport*. The methods used should include the following matters:

- for impacts on roads: a Road impact assessment (RIA) report in accordance with the Guidelines for assessment of road impacts of development (Department of Main Roads, 2006²⁷), with traffic data in DTMR-suitable formats
- for impacts on rail level crossings: the Australian Level Crossing Assessment Model (ALCAM)²⁸
- for impacts on maritime operations: the Maritime Safety Queensland guidelines for major development proposals (Department of Transport and Main Roads, April 2015²⁹).

Present the transport assessment 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).

Discuss how identified impacts will be mitigated for each transport mode. Mitigation strategies may include works, contributions or other strategies that can be documented in a *Road-use Management Plan* (RMP)³⁰. The strategies should be prepared in close consultation with relevant transport authorities (including local government). Strategies should consider the transport authorities' works programs and forward planning, and be in accordance with the relevant methodologies, guidelines and design manuals.

3 Content of the EIS for matters of national environmental significance

The proposed project was referred on 21 January 2016 to the Australian Government Department of the Environment and Energy (EPBC 2016/7851). On 3 February 2017, the Department of the Environment and Energy determined the proposed project to be a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The controlling provisions are:

- sections 12 and 15A (world heritage values of a declared World Heritage property)
- sections 15B and 15C (the heritage values of a National Heritage place)
- sections 18 and 18A (Listed threatened species and communities)
- sections 20 and 20A (Listed migratory species)
- sections 24B and 24C (Great Barrier Reef Marine Park)
- section 24D and 24E (a water resource, in relation to coal seam gas development and large coal mining development).

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

²⁷ http://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Guidelines-for-assessment-of-road-impacts-of-development.aspx

²⁸ http://alcam.com.au/

²⁹ http://www.msq.qld.gov.au/Waterways/Major-development-proposals.aspx

³⁰ Contact the Department of Transport and Main Road on MDP@tmr.qld.gov.au

The assessment of the potential impacts, mitigation measures and any offsets for residual significant 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 (Matters of national environmental significance of the TOR). The information provided on these matters must be consistent with the relevant aspects of other sections in the EIS, for example Section 8.2 Flora and fauna.

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

4 Appendices to the EIS

Appendices to the EIS should provide the complete technical data collected, and evidence used, to develop assertions and findings in the main text of the EIS.

No significant issue or matter including statements of uncertainty associated with assertions and findings should be mentioned for the first time in an appendix—it must be addressed in the main text of the EIS.

Include a table listing the section of the EIS, including sub-sections where each requirement of the TOR is addressed.

The Department of Environment and Heritage Protection

GPO Box 2454, Brisbane Qld 4001

Tel: 13 QGOV (13 74 68) Fax: +61 7 3330 5875 Email: EIS@ehp.qld.gov.au

Appendix 1 Policies, guidelines and references

- ANZECC and ARMCANZ, 2000, Australian and New Zealand guidelines for fresh and marine water quality, Volume 1, The guidelines, Australian and New Zealand Environment and Conservation Council, Agriculture and Resource Management Council of Australia and New Zealand, www.environment.gov.au/water/publications/quality/nwgms-guidelines-4-vol1.htm
- Australian Level Crossing Assessment Model (ALCAM), www.tmr.qld.gov.au/Travel-and-transport/Rail/Level-crossings/ALCAM.aspx
- Business and Industry Portal, 2014, *Key resource areas in Queensland*, Queensland Government, Brisbane, https://www.business.qld.gov.au/industry/mining/quarries/key-resource-areas
- Business and industry portal, 2015, *Mining and resources*, Queensland Government, Brisbane, https://www.business.qld.gov.au/industry/mining
- Commonwealth of Australia, 2008, *National framework and guidance for describing the ecological character of Australian Ramsar wetlands*, Australian Government, Canberra, http://www.environment.gov.au/system/files/resources/6d7408dc-2519-4294-9820-f7b2284816dd/files/module-2-framework.pdf
- 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, www.environment.gov.au/coal-seam-gas-mining/publications.html
- Commonwealth of Australia, 2013, *Matters of National Environmental Significance Significant impact guidelines* 1.1 Environment Protection and Biodiversity Conservation Act 1999, Canberra, http://www.environment.gov.au/system/files/resources/42f84df4-720b-4dcf-b262-48679a3aba58/files/nesquidelines 1.pdf
- Department of Agriculture, Fisheries and Forestry, 2014, *DAFF Environmental Impact Assessment Companion Guide*, Queensland Government, Brisbane, https://www.daf.qld.gov.au/environment/environmental-impact-assessment-companion-guide
- 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/self-assessable-codes
- Department of Environment and Heritage Protection, 2013, Assessable coastal development under the Sustainable Planning Act 2009, EM2066, Version 4, Queensland Government, Brisbane, http://www.ehp.qld.gov.au/coastal/development/pdf/assessable-dev-under-coastal-act-em2066.pdf
- Department of Environment and Heritage Protection 2013, *Manual for Assessing Consequence Categories and Hydraulic Performance of Structures*, November 2013, Queensland Government, Brisbane, https://www.ehp.qld.gov.au/land/mining/pdf/mn-mi-assess-haz-cat-hyd-perf-dams-em635.pdf
- Department of Environment and Heritage Protection 2013, *Guideline Assessable coastal development under the Sustainable Planning Act 2009*, December 2013, Queensland Government, Brisbane http://www.ehp.qld.gov.au/coastal/development/pdf/assessable-dev-under-coastal-act-em2066.pdf
- Department of Environment and Heritage Protection, 2014, Information guideline for an environmental impact statement information guideline for an environmental impact statement, Queensland Government, Brisbane, http://www.ehp.qld.gov.au/management/impact-assessment/eis-processes/eis-tor-support-guidelines.html
- Department of Environment and Heritage Protection, 2014, *Links to a range of guidelines and manuals in regards to mining and the EIS process*, Queensland Government, Brisbane, e.g.:
 - http://www.ehp.gld.gov.au/land/mining/guidelines.html;
 - http://www.ehp.qld.gov.au/licences-permits/guidelines.html
 - http://www.ehp.qld.gov.au/management/impactassessment/environmental_impact_assessment_guidelines.html
- Department of Environment and Heritage Protection, 2014, *Model mining conditions*, Queensland Government, Brisbane, www.ehp.qld.gov.au/land/mining/guidelines.html

- Department of Environment and Heritage Protection, 2014, *Information to be provided to support an environmental authority application* (e.g. air, noise, land, waste, water), Queensland Government, Brisbane, https://www.ehp.qld.gov.au/licences-permits/guidelines.html
- Department of Environment and Heritage Protection, 2014, *Guideline Structures which are dams or levees constructed as part of environmentally relevant activities (EM 634)*, Queensland Government, Brisbane, http://www.ehp.qld.gov.au/assets/documents/regulation/era-gl-structures-dams-levees-eras.pdf
- 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 Infrastructure, Local Government and Planning, 2015, *The Regional Planning Interests Act and statutory regional plans*, Queensland Government, Brisbane
 - http://www.dilgp.qld.gov.au/planning/regional-planning/regional-planning-interests-act.html
 - http://www.dilgp.qld.gov.au/planning/regional-planning/rpi-act-forms-guidelines-and-fact-sheets.html
 - http://www.dilgp.qld.gov.au/planning/regional-planning.html
- Department of Infrastructure, Local Government and Planning, July 2016, DILGP Companion guide, Regional Planning Interests Act 2014. A guide for state agencies and proponents on the requirements of the Regional Planning Interests Act 2014 in the planning and development process, Queensland Government, Brisbane, http://www.dilgp.qld.gov.au/planning/regional-planning/rpi-act-forms-guidelines-and-fact-sheets.html
- Department of Infrastructure, Local Government and Planning, 2015, State Planning Policy Interactive Mapping System, Queensland Government, Brisbane, http://www.statedevelopment.qld.gov.au/about-planning/spp-mapping-online-system.htm
- Department of National Parks, Recreation, Sport and Racing, 2014, Code of Practice for Native Forest Timber Production on the QPWS Forest Estate, Operational Support, Queensland Parks and Wildlife Service, Queensland Government, Brisbane http://www.nprsr.qld.gov.au/managing/pdf/timber-production-qpws-estate.pdf
- Department of Natural Resources and Mines, 2014, *Queensland stock route network management strategy, 2014–19*, Queensland Government, Brisbane, https://www.dnrm.qld.gov.au/__data/assets/pdf_file/0010/99622/stock-route-management-strategy.pdf
- Department of Natural Resources and Mines, 2015, Office of Groundwater Impact Assessment (OGIA), Queensland Government, Brisbane, https://www.dnrm.qld.gov.au/ogia/role
- Department of Natural Resources and Mines, 2015, *Queensland Government native title work procedures*, Queensland Government, Brisbane, https://www.dnrm.qld.gov.au/land/indigenous-land/queensland-government-native-title-work-procedures
- Department of Main Roads, 2006, *Guidelines for Assessment of Road Impacts of Development, Department of Transport and Main Roads*, Queensland Government, Brisbane, www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Guidelines-for-assessment-of-road-impacts-of-development.aspx
- Department of State Development, Infrastructure and Planning, July 2014, *State Planning Policy*, Queensland Government, Brisbane, www.dsdip.qld.gov.au/about-planning/state-planning-policy.html
- Department of State Development and Planning, 2014, *State Development Assessment Provisions (SDAP)*, Queensland Government, Brisbane, www.dsdip.qld.gov.au/development-applications/sdap.html
- Department of State Development, Infrastructure and Planning, January 2015, *State Planning Policy—state interest guideline, Mining and extractive resources*, Queensland Government, Brisbane, http://www.statedevelopment.qld.gov.au/resources/guideline/spp/spp-guideline-mining-extractive-resources.pdf
- Department of Planning, Transport and Infrastructure, November 2012, *Underwater Piling Noise Guidelines*, Government of South Australia, http://www.dpti.sa.gov.au/__data/assets/pdf_file/0004/88591/DOCS_AND_FILES-7139711-v2-Environment_-_Noise_-_DPTI_Final_word_editing_version_Underwater_Piling_Noise_Guide.pdf
- Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC), January 2015, 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, Commonwealth of Australia, http://www.iesc.environment.gov.au/publications

- Department of Sustainability, Environment, Water, Populations and Communities, October 2012, *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy*, Australian Government, Canberra, http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy
- Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development (IESC), June 2014, Subsidence from coal seam gas extraction in Australia, Australian Government, Canberra, http://www.environment.gov.au/system/files/resources/e9b69ac4-647c-4bbc-84db-83642227ab0d/files/background-review-subsidence_0.pdf
- Queensland Government, 2015, *Environmental offsets and Environmental offsets framework*, Queensland Government, Brisbane, http://www.qld.gov.au/environment/pollution/management/offsets/
- Queensland Government, 2015, *Obtaining approval to clear native vegetation*, Queensland Government, Brisbane, https://www.qld.gov.au/environment/land/vegetation/clearing/
- Queensland Health, March 2002, Guidelines to minimise mosquito and biting midge problems in new development areas, Diseases Control, Services, Communicable Diseases Unit, Queensland Health, Queensland Government, Brisbane, https://www.health.qld.gov.au/ph/documents/cdb/14804.pdf
- Queensland Resources Council, 2013, *Queensland Resources and Energy Sector Code of Practice for Local Content*, Queensland Resources Council, Brisbane, https://www.qrc.org.au/01_cms/details.asp?ID=3209
- The Coordinator-General, 2013, *Preparing an environmental impact statement: Guideline for proponents*, Department of State Development, Infrastructure and Planning, Queensland Government, Brisbane, www.dsdip.qld.gov.au/fact-sheets-and-guidelines/coordinated-projects.html
- The Coordinator-General, July 2013, *Social impact assessment guideline*, Department of State Development, Infrastructure and Planning, Queensland Government, Brisbane, http://www.dsdip.ald.gov.au/resources/guideline/social-impact-assessment-guideline.pdf

Appendix 2 Matters of national environmental significance (critical matter)

Terms of reference for *Environment Protection and Biodiversity Conservation Act* 1999 requirements³¹

The proposed project was referred on 21 January 2016 to the Australian Government Department of the Environment and Energy (EPBC 2016/7851). On 3 February 2017, the Department of the Environment and Energy determined the proposed project to be a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The controlling provisions are:

- sections 12 and 15A (world heritage values of a declared World Heritage property)
- sections 15B and 15C (the heritage values of a National Heritage place)
- sections 18 and 18A (Listed threatened species and communities)
- sections 20 and 20A (Listed migratory species)
- sections 24B and 24C (Great Barrier Reef Marine Park)
- section 24D and 24E (a water resource, in relation to coal seam gas development and large coal mining development).

The project will be assessed under the bilateral agreement between the Commonwealth and the State of Queensland (section 45 of the EPBC Act) using the EIS prepared under the *Environmental Protection Act 1994* (EP Act).

General content

The following Terms of Reference (TOR) should be addressed by the proponent in a stand-alone section that primarily focuses on the matters of national environmental significance (MNES) listed above. This section (henceforth called the 'MNES section') should contain sufficient information to be read alone with reference to technical data or supplementary reports where appropriate. Any detailed technical information to support the text in the MNES section should be included as appendices to the draft Environmental Impact Statement (EIS).

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

The MNES section should take into consideration the EPBC Act Significant Impact Guidelines that can be downloaded from the following web site: https://www.environment.gov.au/epbc/policy-statements.

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

Style

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

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

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

³¹ provided by the Commonwealth Department of the Environment and Energy

Background and description of the action

The MNES section must include background to the action and describe in detail all components of the action for example (but not limited to), the construction, operation 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 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 MNES section 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. A map showing relevant regional projects must be provided.

The MNES section must provide details on the current status of the action as well as any feasible alternatives to the action to the extent reasonably practicable, including:

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

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

Should the proponent wish to conduct development and associated offsets in stages, the EIS must include a description of stages, using maps where appropriate, and discuss any risks and or benefits of staging the action.

Description of the environment including MNES

The MNES section must provide a description of the environment of the proposal site and the surrounding areas that may be affected by the action. It is recommended that this include the following information:

- Listed threatened and migratory species and ecological communities (including suitable habitat) that are
 likely to be present in the vicinity of the site, including details of the scope, timing (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:
 - o how best practice survey guidelines are applied; and
 - how the surveys are consistent with (or a justification of divergence from) published Australian Government guidelines and policy statements

Relevant impacts

The MNES section must include a description of all of the relevant impacts of the action. Relevant impacts are impacts that the action will have or is likely to have on MNES. Impacts during both the construction, operational and (if relevant) the decommissioning phases of the project should be addressed, and the following information provided:

- a description of the relevant impacts (direct, indirect and consequential) of the action on MNES taking
 account of any relevant approved Conservation Advices for listed threated species and communities as
 well as any agreements or plans that cover impacts on MNES including (but not limited to): threat
 abatement plans for processes that threaten species; wildlife conservation plans, management plans for
 Ramsar wetlands, strategic assessments, etc.);
- 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 refer to the Significant Impact
 Guidelines 1.1 Matters of National Environmental Significance for guidance on the various types of
 impact that need to be considered;
- 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;
- an explanation of how Indigenous stakeholders' views of the action's impacts to biodiversity and cultural
 heritage have been sought and considered in the assessment, including where relevant, how guidelines
 published by the Commonwealth in relation to consulting with Indigenous peoples for proposed actions
 that are under assessment have been considered and applied; and

- where the proposal is a coal seam gas development or large coal mining development and likely to significantly impact on a water resource refer to the :
 - Independent Expert Scientific Committee's (IESC) 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.
 - Significant Impact guidelines 1.3: Coal seam gas and large coal mining developments impacts on water resources.

The MNES section should also provide a detailed assessment of any likely impact that this proposed action may facilitate on the following (at the local, regional, state, national and international scale):

- sections 12 and 15A (world heritage values of a declared World Heritage property)
- sections 15B and 15C (the heritage values of a National Heritage place)
- sections 18 and 18A (Listed threatened species and communities)
- sections 20 and 20A (Listed migratory species)
- sections 24B and 24C (Great Barrier Reef Marine Park)
- section 24D and 24E (a water resource, in relation to coal seam gas development and large coal mining development).

The MNES section should identify and address cumulative impacts, where potential project impacts are in addition to existing impacts of other activities (including known potential future expansions or developments by the proponent and other proponents in the region and vicinity). The MNES section should also address the potential cumulative impact of the proposal on ecosystem resilience. The cumulative effects of climate change impacts on the environment must also be considered in the assessment of ecosystem resilience.

Proposed avoidance and mitigation measures

Avoidance and Mitigation Measures

The MNES section must provide information on proposed avoidance and mitigation measures to manage the relevant impacts of the action on MNES.

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

- any relevant threat abatement plan for listed threatened species and communities;
- any relevant recovery plan for listed threatened species and communities; and
- 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 MNES section 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 consolidated list of avoidance and mitigation measures proposed to be undertaken to prevent or minimise 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;
 - o a description of the outcomes that the avoidance and mitigation measures will achieve; and
 - any statutory or policy basis for the mitigation measures.
- A detailed outline of a Construction Environmental Management Plan (CEMP) for the continuing management, mitigation and monitoring of relevant impacts of the action on MNES. The CEMP must be consistent with the Department's Environmental Management Plan Guidelines (2014), and must include:
 - objectives;
 - risk assessment;
 - o environmental management activities and mitigation measures;
 - o the timing of actions;
 - o a monitoring program, which must include:

- performance indicators (clear and concise criteria against which achievement of outcomes are to the measured), which are capable of accurate and reliable measurement:
- outcomes (time bound outcomes as measured by performance indicators), which might include milestones (interim outcomes);
- monitoring requirements (timing and frequency of monitoring to detect changes in the performance indicators, to determine if outcomes are being achieved, and to inform adaptive management); and
- trigger values for corrective actions.
- Potential corrective actions to be implemented if trigger values are reached, and how environmental incidents and emergencies will be managed.
- Roles and responsibilities (clearly stating who is responsible for activities); and
- Auditing and review mechanisms.

Residual impacts/offsets

The MNES section must provide details of:

- residual significant impacts on MNES that are likely to occur after the proposed activities to avoid and mitigate all impacts are taken into account;
- where residual significant impacts are likely to occur, the reasons why the avoidance or mitigation of these significant impacts is not expected to be achieved.

The MNES section 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(s) meets the requirements in the Department's Environment Protect and Biodiversity Conservation Act 1999 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 (i.e. should impacts be in perpetuity the offsets should also be in perpetuity).

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 not the offset had taken place.

Offsets required by the State can be applied if the offsets meet the Department's EPBC Act Offset Policy. The outcomes of the offset strategy need to be specific, measurable and achievable, and should be based on robust baseline data.

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.

The MNES section must include an offset strategy to compensate for significant residual impacts on MNES. The offsets strategy must include:

- objectives;
- · quantity of impacts which are being offset;
- the type of offsets proposed (direct/indirect);
- the location (including a geo-referenced map) and suitability of proposed direct offsets;
- current land tenure of any proposed offset and the method of securing enduring protection of the offset site and managing the offset for the life of the impact;
- how any proposed staging of the overall development will impact the delivery of offsets;
- specific environmental outcomes to be achieved, and reasoning for these in reference to relevant statutory recovery plans, conservation advices and threat abatement plans;
- a completed 'offsets guide'. All figures used to determine the suitability of offsets including habitat quality scores at the project site must be derived using a suitably robust and repeatable framework. Details about each framework must also be provided;

- risk assessment:
- environmental management activities and mitigation measures or customize, by referring to specific measures as follows, including the timing of actions;
- a monitoring program, which must include:
 - o performance indicators (clear and concise criteria against which achievement of outcomes are to the measured), which are capable of accurate and reliable measurement;
 - o outcomes (time bound outcomes as measured by performance indicators), which might include milestones (interim outcomes);
 - monitoring requirements (timing and frequency of monitoring to detect changes in the performance indicators, to determine if outcomes are being achieved, and to inform adaptive management); and
 - trigger values for corrective actions;
- potential corrective actions to be implemented if trigger values are reached, and how environmental incidents and emergencies will be managed;
- roles and responsibilities (clearly stating who is responsible for activities);
- · auditing and review mechanisms; and
- an analysis of how the offset package meets the requirements of the EPBC Act Offsets Policy.

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:

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

Economic and social matters

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

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

Economic and social impacts should be considered at the local, regional and national levels. Details of the relevant cost and benefits of alternative options to the proposed action should also be included. Identification of affected parties is required, including a statement mentioning any communities that may be affected and describing their views.

Documentation must be provided substantiating how estimated benefit/cost figures have been derived.

Information sources

For information given in the MNES section, the proponent must state:

- the source of the information;
- how recent the information is;
- how the reliability of the information was tested:
- what uncertainties (if any) are in the information; and
- what guidelines, plans and/or policies were considered.

Conclusion

An overall conclusion as to the environmental acceptability of the proposal on each MNES should be provided, including:

- a discussion on compliance with the requirements of the EPBC Act, including the objects of the EPBC Act, the principles of ecologically sustainable development and the precautionary principle;
- reasons justifying undertaking the proposal in the manner proposed, including the acceptability of the avoidance and mitigation measures; and
- if relevant, a discussion of residual impacts and any offsets and compensatory measures proposed or required for significant residual impacts on MNES, and the relative degree of compensation and acceptability.

Attachment 1

The objects and principles of the EPBC Act; sections 3 and 3A

3 Objects of the Act

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

3A Principles of ecologically sustainable development

The following principles are principles of ecologically sustainable development.

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

Attachment 2

Matters that must be addressed in a per and EIS (Schedule 4 of the EPBC Regulations 2000)

1 General information

The background of the action including:

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

2 Description

A description of the action, including:

- (a) all the components of the action;
- (b) the precise location of any works to be undertaken, structures to be built or elements of the action that may have relevant impacts;
- (c) how the works are to be undertaken and design parameters for those aspects of the structures or elements of the action that may have relevant impacts;
- (d) relevant impacts of the action;
- (e) proposed safeguards and mitigation measures to deal with relevant impacts of the action;
- (f) any other requirements for approval or conditions that apply, or that the proponent reasonably believes are likely to apply, to the proposed action;
- (g) to the extent reasonably practicable, any feasible alternatives to the action, including:
 - i. if relevant, the alternative of taking no action;
 - ii. a comparative description of the impacts of each alternative on the matters protected by the controlling provisions for the action; and
 - iii. sufficient detail to make clear why any alternative is preferred to another;
- (h) any consultation about the action, including:
 - i. any consultation that has already taken place;
 - ii. proposed consultation about relevant impacts of the action; and
 - iii. if there has been consultation about the proposed action—any documented response to, or result of, the consultation; and
- (i) identification of affected parties, including a statement mentioning any communities that may be affected and describing their views.

3 Relevant impacts

Information given under paragraph 2.01(d) must include

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

4 Proposed safeguards and mitigation measures

Information given under paragraph 2.01(e) must include:

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

5 Other Approvals and Conditions

Information given under paragraph 2.01(f) must include:

- (a) details of any local or State government planning scheme, or plan or policy under any local or State government planning system that deals with the proposed action, including:
 - i. what environmental assessment of the proposed action has been, or is being carried out under the scheme, plan or policy; and

- ii. how the scheme provides for the prevention, minimisation and management of any relevant impacts;
- (b) a description of any approval that has been obtained from a State, Territory or Commonwealth agency or authority (other than an approval under the Act), including any conditions that apply to the action;
- (c) a statement identifying any additional approval that is required; and
- (d) a description of the monitoring, enforcement and review procedures that apply, or are proposed to apply, to the action.

6 Environmental record of person proposing to take the action

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.

7 Information sources

For information given the PER/EIS must state:

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