Draft terms of reference for an environmental impact statement:

South Burnett Coal Project

October 2016

Queensland Government

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D16/180630

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Part A. About these terms of reference

1. Statutory basis

The Coordinator-General has declared the South Burnett Coal Project to be a 'coordinated project for which an environmental impact statement (EIS) is required' under section 26(1)(a) of the *State Development and Public Works Organisation Act 1971* (SDPWO Act). This declaration initiates the statutory environmental impact assessment procedure of Part 4 of the Act, which requires a proponent to prepare an EIS for the project.

These terms of reference (TOR) set out the matters the proponent must address in an EIS for the project and are approved by the Coordinator-General under section 30 of the SDPWO Act.

2. Accredited process for controlled actions under Commonwealth legislation

The EIS process has been accredited under the Bilateral Agreement for the assessment of the project under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act, Ref 2016/7702), hence the EIS must state the controlling provisions for the project and describe the particular aspects of the environment that led to the controlled action decision.

The assessment of the controlling provisions, mitigation measures and any offsets for residual impacts must be described and illustrated in a stand-alone report in the EIS that fully addresses the matters relevant to the controlling provisions. Requirements for matters of national environmental significance (MNES) are set out on pages 8–15 of this TOR.

3. EIS guidelines

This TOR must be read in conjunction with *Preparing an environmental impact statement: Guideline for proponents*, which explains the following:

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

In addition, subject-specific guidelines are referenced throughout this TOR; refer to Appendix 1 for a list of these policies and guidelines.

4. More information

For information about the project or the EIS process conducted under the SDPWO Act, visit **www.statedevelopment.qld.gov.au/cg**

Part B. Content of the EIS

5. General approach

5.1 The objective of the EIS is to ensure that all relevant environmental, social and economic impacts of the project are identified and assessed, and to recommend

mitigation measures to avoid and minimise adverse impacts. The EIS should demonstrate that the project is based on sound environmental principles and practices.

5.2 For the purposes of the EIS process, 'environment' is defined in Schedule 2 of the SDPWO Act and includes social and economic matters.

5.3 The detail at which the EIS deals with matters relevant to the project should be proportional to the scale of the impacts on environmental values. When determining the scale of an impact, consider its intensity, duration, cumulative effect, irreversibility, the risk of environmental harm, management strategies and offsets provisions.

6. Mandatory requirements of an EIS

6.1 For all the relevant matters, the EIS must identify and describe the environmental values[1] that must be protected. Environmental values are specified in the *Environmental Protection Act 1994* (EP Act), the Environmental Protection Regulation 2008 (EP Regulation), environmental protection policies (EPPs) and relevant guidelines.[2]

6.2 The assessment should cover both the short and long terms and state whether any relevant impacts are likely to be irreversible. Also discuss the likelihood for unknown, unpredictable impacts, and how management practices would account for unexpected outcomes.

6.3 Provide all available baseline information relevant to the environmental risks of the project. Provide details about the quality of the information provided, in particular: the source of the information; how recent the information is; how the reliability of the information was tested; and any uncertainties in the information.

6.4 Provide detailed strategies in regard to all matters for the protection, or enhancement as desirable, of all relevant environmental values in terms of outcomes and possible conditions that can be measured and audited. In general, the preferred hierarchy for managing likely impacts is: (a) to avoid; (b) to minimise/mitigate; and (c) if necessary, and possible, to offset. Where relevant, strategies should be described in the context of EHP 'model conditions'.

6.5 Impact minimisation measures should include ongoing monitoring and proposals for an adaptive management approach, as relevant, based on monitoring. The proposed measures should give confidence that, based on current technologies, the impacts can be effectively minimised over the long-term.

6.6 Each matter assessed in the EIS (as described in section 11 of this TOR) should include a concise summary of the potential impacts of the project and the measures proposed by the proponent to avoid, minimise, mitigate and/or offset those impacts.

6.7 Present feasible alternatives of the project's configuration (including individual elements) that may improve environmental outcomes. Discuss the consequences of not proceeding with the project.

[1] Defined in section 125(l)(i)(A) of the EP Act.
[2] For example, the *Queensland Water Quality Guidelines* and the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality* (refer to Appendix 1 for details).

6.8 For unproven elements of a resource extraction or processing process, technology or activity, identify and describe any global leading practice environmental management, where available.

6.9 Demonstrate how the construction, operation and decommissioning (to the extent known) of the project would meet all statutory and regulatory requirements of the State and that the intended outcomes are consistent with current state policies and guidelines.

7. Further requirements of an EIS

7.1 The assessment and supporting information should be sufficient for the administering authority to decide whether an approval should be granted. Where applicable, sufficient information should be included to enable approval conditions for the mine and off-lease components, such as the existing model EA conditions, to be utilised and for conditions to be prepared for latter approvals under the *Sustainable Planning Act 2009* (SPA), the *Planning Act 2016*, the *Water Act 2000,* the *Nature Conservation Act 1994* (NCA)*, Vegetation Management Act 1999* (VMA)*, Fisheries Act 1994, Land Act 1994, Forestry Act 1959, Stock Route Management Act 2002, Environmental Offsets Act 2014, Transport Infrastructure Act 1994*, the *Mineral Resources Act 1989* (MRA), the EP Act, the *Regional Planning Interests Act 2014* (RPI Act) and the EPBC Act.

7.2 The proponent must identify the scope of approvals sought through the EIS process.

7.3 To the extent of the information available, the assessment should endeavour to predict the cumulative impact[3] of the project on environmental values over time and in combination with impacts created by the activities of other adjacent and upstream and downstream developments and landholders—as detected by baseline monitoring. This will inform the decision on the final EIS and the setting of conditions. The EIS should also outline ways in which the cumulative impact assessment and management could subsequently be progressed further on a collective basis.

7.4 Include a consolidated description of all the proponent's commitments to implement management measures (including monitoring programs), with the commitments cross-referenced to their relevant EIS chapters. Should the project proceed, these should be able to be carried over into the approval conditions as relevant.

7.5 Provide all geographical coordinates throughout the EIS in latitude and longitude against the Geocentric Datum of Australia 1994 (GDA94).

7.6 An EIS should also describe the expected benefits and opportunities associated with the project.

7.7 An appropriate public consultation program is essential to the impact assessment process. The proponent should consult with Local, State and Commonwealth government agencies, and with potentially affected local communities.

7.8 The EIS should describe the consultation that has taken place and how the responses from the community and agencies have been incorporated into the design and outcomes of the project.

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

7.9 Include, as an appendix, a public consultation report detailing how the public consultation plan was implemented, and the results.

8. Executive summary

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

9. Introduction

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

Project proponent

9.2 Describe the proponent's experience, including:

(a) the designated proponent's full name, postal address and Australian Business Number (including details of any joint venture partners)

(b) registered suitable operator number

(c) the nature and extent of business activities

(d) experience

(e) environmental record, including a list of any breach of relevant environmental laws during the previous ten years

(f) the proponent's environmental, health, safety and community policies.

The environmental impact assessment process

9.3 Provide an outline of the environmental impact assessment process, including the role of the EIS in the Coordinator-General's decision-making process. The information in this section is required to ensure readers are informed of the process to be followed and are aware of any opportunities for input and participation.

9.4 Inform the reader how and when properly made public submissions on the EIS will be addressed and taken into account in the decision-making process.

Project approvals process

9.5 Provide an outline of the approvals required to enable the project to be constructed and operated. Explain how the environmental impact assessment process (and the EIS itself) informs the issue of the leases/licences/permits/consents required by the proponent before construction can commence. Provide a flow chart indicating the key approvals and opportunities for public comment.

9.6 Inform the reader of how the SDPWO Act, MR Act, EP Act and the SPA interact, with reference to the project. Inform the reader how a properly made submission on the EIS relates to the development application processes under SPA and the EP Act respectively.

9.7 The State Development Assessment Provisions (SDAP) prescribed in the Sustainable Planning Regulation 2009 sets out the matters of interest to the state for development assessment where the chief executive of SPA is the assessment manager for development applications. If the proponent intends to satisfy the information requirements of future development assessment decisions under SDAP for any component of the project during this coordinated project EIS process, the material provided in accordance with sections 10–12 of this TOR should be sufficient to permit those assessments to be completed for that project component. Further information on SDAP requirements can be assessed from **www.dilgp.qld.gov.au/planning/development-assessment/state-development-assessment-provisions.html**

9.8 Similarly, the EIS will provide the information required under section 125 of the EP Act in support of the project's EA application.

10. Project description

Proposed development

10.1 The EIS must describe and illustrate at least the following specific information about the proposed project:

(a) the project's title

(b) the project, its objectives, and expected capital expenditure

(c) rationale for the project

(d) the nature and scale of activities to be undertaken and whether it is a greenfield or brownfield site/s

(e) the regional and local context of the project's footprint (with clear maps at suitable scales)

(f) relationship to other coordinated projects and other major projects (of which the proponent should reasonably be aware)

(g) the workforce numbers to be employed by the project during its various phases (include peak, direct workforce numbers in the estimations); where personnel would be accommodated and discuss the likely recruitment and rostering arrangements to be adopted

(h) the proposed construction staging and likely schedule of works.

Site description

10.2 Provide real property descriptions of the project land and adjacent properties; any easements; any underlying resource tenures (including exploration permits and identification number of any resource activity lease for the project land that is subject to application), applications for mining leases and approved mining leases; restricted and reserve land; conservation tenures; overlying resource tenure such as forests; native title interests; native title claims; Indigenous land use agreements; land and infrastructure held by government owned corporations; and agricultural land uses identified in the *Queensland Agricultural Land Audit*.

10.3 The distance of the project from residential areas and premises including dwellings, caravan parks, residential allotments.

10.4 Describe whether the project sites are in or adjoining declared water storage catchments.

10.5 All local government and state-controlled roads, private and government owned corporation energy, rail, air, and other infrastructure in the region and impacted by the project should be described and mapped.

10.6 Describe and illustrate the topography of the project site and surrounding areas, and highlight any significant features shown on the maps. Maps should have contours at suitable increments relevant to the scale, location, potential impacts and type of project, shown with respect to Australian Height Datum (AHD) and drafted to GDA94.

10.7 Where appropriate, describe and map in plan and cross-sections the geology and landforms, including catchments of the project area. Show geological structures such as faults, aquifers, and economic resources that could have an influence on, or be influenced by, the project's activities. Describe exploration history at the site, the targeted seams and JORC resources and reserves (as appropriate).

10.8 Describe the planning schemes, regional plans, state policies, government priorities for the project area.

10.9 Describe the findings of the agricultural land audit and any land identified as strategic cropping land or priority agricultural area for the project area.

10.10 Identify tourist destinations and sites used for recreation in and adjoining the product delivery routes.

Climate

10.11 Describe the site's climate patterns that are relevant to the environmental assessment, with particular regard to discharges to water and air and the propagation of noise. Climate information should be presented in a statistical form including long-term averages and extreme values, as necessary.

Proposed construction and operations

10.12 Provide the following information for the construction and operation stages of the project:

(a) proposed infrastructure

(b) proposed vegetation clearing, top- and sub-soil removal and stockpiling

(c) project site access arrangements where access to the site is on tenure not held by the proponent

(d) dimensions of earth and rock works and excavations

(e) the proposed mining and processing methods, associated equipment and techniques

(f) the construction timetable, sequencing and staging plans (provide detailed plans, drawings and maps to illustrate these matters where relevant)

(g) proposed upgrades, realignments, relocation, deviation or restricted access to roads and other infrastructure including water, power and telecommunications

(h) all environmentally relevant activities on and off the mining lease, and all notifiable activities

(i) waste rock management

(j) the type and capacity of high-impact plant and equipment utilised to construct and operate the project, their chemical and physical processes

(k) type, volume and rate of chemicals and hazardous materials to be used

(l) water storage requirements and volumes required during construction

(m) site drainage, erosion and stormwater management, flood protection and waste water management

(n) the known locations of new or altered works and structures and infrastructure necessary for the project at all stages of its development, whether on or off the project sites or right of way

(o) the method and timing of restoration of areas used during construction

(p) environmental management measures included as part of the project design

(q) disturbance areas

(r) progressive rehabilitation, decommissioning and closure plans

(s) the source, type and amount of construction materials required for the project.

10.13 Identify the type, quantity, origin, routes, delivery modes, storage and laydown requirements for materials required during the pre-construction, construction and operation of the project for works:

(a) at the mine site

(b) for the product delivery route.

Infrastructure requirements

Objectives

The project should provide necessary infrastructure to service the development that:

(a) maintains or enhances services to existing users

(b) ensures any required works are compatible with existing infrastructure.

10.14 Describe with concept and layout plans all infrastructure required to be constructed, upgraded, relocated and decommissioned for the construction and operation of the project, such as resource extraction areas, access roads including connections to public roads and proposed road/rail interfaces, bridges, conveyors, energy supply infrastructure, sewerage and water supply infrastructure, telecommunications, stormwater, waste disposal and locations of any infrastructure easements. Describe the timing of requirements for this infrastructure.

10.15 Concept and layout plans should also include existing infrastructure relevant to the project.

11. Assessment of project specific matters

11.1 This section sets out the scope of project specific matters that should be addressed in the EIS.

11.2 The final scope of project specific matters will be determined by the Coordinator-General when finalising the TOR. In the course of preparing the EIS, information may become available that warrants a change of scope.

Matters of national environmental significance

Background and context

11.3 This section should provide a stand-alone description and detailed assessment of the impacts of the project on the controlling provisions for the project under the EPBC Act inclusive of any avoidance, mitigation and offset measures.

11.4 The then Commonwealth Minister for the Environment determined the project will impact upon the following controlling provisions under the EPBC Act:

- listed threatened species and communities (sections 18 and 18A)
- listed migratory species (sections 20 and 20A)
- a water resource in relation to coal seam gas development and large coal mining development (sections 24D and 24E).

11.5 The EIS must be prepared pursuant to the bilateral agreement between the Commonwealth of Australia and the State of Queensland. This will enable the EIS to meet the impact assessment requirements under both Commonwealth and Queensland legislation. The project will require approval from the responsible Commonwealth Minister under Part 9 of the EPBC Act before it can proceed.

11.6 Once the EIS has been prepared to the satisfaction of the Coordinator-General and MNES addressed to the satisfaction of the Australian Government Department of the Environment and Energy (DEE), the EIS will be made available for public comment.

11.7 The proponent may be required by the Coordinator-General or DEE to provide additional material to address matters raised in submissions on the EIS.

11.8 At the conclusion of the environmental assessment process, the Coordinator-General will provide a copy of the report to the Commonwealth Minister for the Environment and Energy, in accordance with Part 13, section 36(2) of the State Development and Public Works Organisation Regulation 2010 (Qld).

11.9 After receiving the evaluation report and sufficient information about the relevant impacts of the action, the Commonwealth Minister for the Environment and Energy has 30 business days to consider whether the impacts of the proposal are acceptable, or not, and to decide whether or not to approve each controlling provision.

11.10 The Minister's decision is separate to the assessment and approval decisions made by Queensland state agencies and other agencies with jurisdiction on state matters.

11.11 Consideration should be given to any relevant policy statements and guidelines available from **www.environment.gov.au**, including but not limited to:

- *Matters of National Environmental Significance: Significant impact guidelines 1.1*
- *Significant impact guidelines 1.3: Coal seam gas and large coal mining developments—impacts on water resources*
- *Information Guidelines for Independent Expert Scientific Committee advice on coal seam gas and large coal mining development proposals*
- *Environment Protection and Biodiversity Conservation Act 1999 Environmental Offsets Policy 2012*
- approved conservation advice, recovery plans and threat abatement plans.

11.12 In accordance with Section 3.1 of Schedule 1 of the bilateral agreement, the EIS must:

- assess all the relevant impacts that the action has, will or is likely to have
- provide enough information about the action and its relevant impacts to allow the Commonwealth Minister for the Environment to make an informed decision whether or not to approve the action
- address the matters set out in Schedule 4 of the Environment Protection and Biodiversity Conservation Regulations 2000 (Cwlth) (EPBC Regulations).

11.13 The MNES section of the EIS should bring together assessments of impacts from other chapters and produce a stand-alone assessment in a format suited for assessment under the EPBC Act.

11.14 The project should initially be assessed in its own right followed by an assessment of the cumulative impacts related to all known proposed developments in the region with respect to each controlling provision and all identified consequential actions. Cumulative impacts not solely related to the project development should also be assessed.

11.15 Predictions of the extent of threat (risk), impact and the benefits of any mitigation measures proposed, should be based on sound science and quantified where possible. Reference all sources of information relied upon and provide an estimate of the reliability of predictions. Also identify and evaluate any positive impacts.

11.16 The extent of any new field work, modelling or testing should be commensurate with risk and should be such that when used in conjunction with existing information, provides sufficient confidence in predictions that well-informed decisions can be made.

11.17 Project alternatives must be discussed in accordance with Schedule 4, section 2.01(g) of the EPBC Regulations, including:

(a) if relevant, the alternative of taking no action;

(b) a comparative description of the impacts of each alternative on the triggered MNES protected by controlling provisions of Part 3 of the EPBC Act for the action; and

(c) sufficient detail to make clear why any alternative or option is preferred to another.

Short, medium and long-term advantages and disadvantages of the alternatives or options must be discussed.

11.18 The following content requirements are based on these matters and considerations, with the addition of directions specific to the proposed action and the receiving environment.

11.19 The information provided must include details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:

(a) the person proposing to take the action; and

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

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

11.20 For the purposes of the Commonwealth's consideration of the project, the economic and social impacts of the action, both positive and negative, must be analysed. Further information requirements on economic and social impacts as required for the State's considerations, are included from section 11.79 of this document.

Matters of interest may include:

(a) details of any public consultation activities undertaken, and their outcomes;

(b) details of any consultation with Indigenous stakeholders;

(c) projected economic costs and benefits of the project, including the basis for their estimation through cost/benefit analysis or similar studies; and

(d) employment and other opportunities expected to be generated by the project (including construction and operational phases).

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

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

Background

11.23 The EIS must provide background to the action and describe in detail all components of the action for example (but not limited to), the construction, operational and (if relevant) decommissioning components of the action. This must include the precise location of all works to be undertaken (including associated off-site works and infrastructure), structures to be built or elements of the action that may have impacts on MNES.

11.24 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 EIS must also provide details on the current state of the groundwater and surface water in the region as well as any use of these resources.

11.25 The EIS must include how the action relates to any other actions (of which the proponent should reasonably be aware) that have been, or are being, taken or that have been approved in the region affected by the action. The EIS must also provide details on the current status of the action as well as the consequences of not proceeding with the action.

Listed threatened species and communities

11.26 Describe the listed threatened species and ecological communities identified below at 11.33 &11.34 (including EPBC Act status, distribution, life history and habitat).

11.27 Provide details of the scope, timing/effort (survey season/s) and methodology for studies or surveys used to provide information on the listed species/community/habitat at the site (and in areas which may be impacted by the proposed development). Include details of:

(a) the application of best practice survey guidelines

(b) how studies or surveys are consistent with (or a justification for divergence from) published Australian Government guidelines and policy statements.

11.28 Consider and assess the impacts to the listed threatened species and ecological communities identified below at 11.33 &11.34 and any others that are found to be or may potentially be present in areas that may be impacted by the project. Identify which component of the project is of relevance to each listed threatened species or ecological community or if the threat of impact relates to consequential actions, resulting from:

(a) a decrease in the size of a population or a long-term adverse effect on an ecological community

(b) reduction in the area of occupancy of the species or extent of occurrence of the ecological community

(c) fragmentation of an existing population or ecological community

(d) disturbance or destruction of habitat critical to the survival of the species or ecological community

(e) disruption of the breeding cycle of a population

(f) modification, destruction, removal, isolation or reduction of the availability or quality of habitat to the extent that the species is likely to decline

(g) modification or destruction of abiotic (non-living) factors (such as water, nutrients or soil) necessary for the ecological community's survival

(h) the introduction of invasive species that are harmful to the species or ecological community becoming established

(i) interference with the recovery of the species or ecological community

(j) action that may be inconsistent with a recovery plan.

11.29 Describe the indirect, cumulative and facilitated impacts that may result from the project.

11.30 Describe any mitigation measures proposed to reduce the impact on the listed threatened species and ecological communities and the anticipated benefit of proposed mitigation measures. Describe any offsets proposed to compensate for residual impacts. Supporting evidence should be provided to demonstrate the appropriateness of mitigation measures proposed. Where the likely success of mitigation measures cannot be supported by evidence, identify contingencies in the event the mitigation is not successful.

11.31 Describe the residual significant impacts of the proposed development after all proposed avoidance and mitigation measures are taken into account.

11.32 Where relevant, demonstrate that the project will not be inconsistent with:

(a) Australia's obligations under:

(i) the Biodiversity Convention

(ii) the Convention on Conservation of Nature in the South Pacific (Apia Convention)

(iii) Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

(b) a recovery plan or threat abatement plan.

List of potential listed threatened species and their status

11.33 Address impacts on listed threatened species, including but not limited to the following:

(a) regent honeyeater (*Anthochaera phrygia)*—critically endangered
(b) Australasian bittern *(Botaurus poiciloptilus)*—endangered
(c) Coxen's fig-parrot (*Cyclopsitta diophthalma coxeni)*—endangered
(d) eastern bristlebird *(Dasyornis brachypterus)*—endangered
(e) red goshawk (*Erythrotriochis radiates)*—vulnerable
(f) squatter pigeon (*Geophaps scripta scripta)*—vulnerable
(g) painted honeyeater (*Grantiella picta)*—vulnerable
(h) swift parrot (*Lathamus discolour)—critically* endangered
(i) black-throated finch (southern) (*Poephila cincta cincta)*—endangered
(j) Australian painted snipe (*Rostratula australis)*—endangered
(k) black-breasted button-quail (*Turnix melanogaster)*—vulnerable
(l) Mary River cod (*Maccullochella mariensis)*—endangered
(m) Australian lungfish, Queensland lungfish (*Neoceratodus forsteri)*—vulnerable
(n) pink underwing moth (Phyllodes imperialis smithersi)—endangered
(o) large-eared pied bat, large pied bat (*Chalinolobus dwyeri)*—vulnerable
(p) northern quoll (*Dasyurus hallucatus)*—endangered
(q) Corben's long-eared bat, south-eastern long-eared bat (*Nyctophilus corbeni)*—vulnerable
(r) greater glider *(petauroides volans)*—vulnerable
(s) brush-tailed rock-wallaby *(Petrogale penicillata)*—vulnerable
(t) koala (*Phascolarctos cinereus)*—vulnerable
(u) grey-headed flying fox (*Pteropus poliocephalus)*—vulnerable
(v) *cycas megacarpa*—endangered
(w) *cycas ophiolitica*—endangered
(x) *bertya opponens*—vulnerable
(y) pineapple zamia *(Macrozamia pauli-guilielmi*)—endangered
(z) acacia grandifolia—vulnerable
(aa) three-leaved bosistoa yellow satinheard *(Bosistoa traansversa)*—vulnerable
(bb) cossinia (*cossinia Australiana*)—endangered
(cc) wedge-leaf tuckeroo (*Cupaniopsis shirleyana)—vulnerable*
(dd) small-leaved denhamia (*Denhamia parvifolia)*—vulnerable
(ee) fontainea rostrate—vulnerable
(ff) fontainea venosa—vulnerable
(gg) tall velvet sea-berry (*Haloragis exalata subsp. Velutina)*—vulnerable
(hh) wandering pepper-cress *(Lepidium peregrinum)*—endangered
(ii) lesser swamp-orchid *(Phaius australia)*—endangered
(jj) Mt berryman phebalium (*Phebalium distans)*—critically endangered
(kk) *plectranthus omissus*—endangered
(ll) austral cornflower, native thistle *(Rhaponticum australe)—vulnerable*
(mm) *samadera bidwillii—vulnerable*

(nn) *sophora fraseri—vulnerable*

(oo) *polianthion minutiflorum*—vulnerable

(pp) austral toadflax, toadflax (*Thesium austral)*—vulnerable

(qq) collared delma (*Delma torquate)*—vulnerable

(rr) yakka skink *(Egernia rugose)*—vulnerable

(ss) Dunmall's snake (*Furina dunmalli)*—vulnerable.

(tt) southern snapping turtle, white-throated snapping turtle (*elseya albagula)*—critically endangered

(uu) Mary River turtle, Mary River tortoise (*elusor macrurus)*—endangered.

List of potential listed threatened communities

11.34 Address impacts to listed threatened communities including but not limited to the following:

(a) lowland rainforest of subtropical Australia—critically endangered

(b) white box-yellow box–Blakely's red gum grassy woodland and derived native grassland—critically endangered.

(c) weeping myall woodlands—endangered

(d) coolibah—black box woodlands of the darling riverine plains and the brigalow belt south bioregions—endangered.

Impact on listed migratory species

Describe the listed migratory species identified below at 11.40 (including EPBC Act status, distribution, life history, habitat and the like).

11.35 Provide details of the scope, timing/effort (survey season/s) and methodology for studies or surveys used to provide information on the listed species/community/ habitat at the site (and in areas which may be impacted by the proposed development). Include details of:

(a) the application of best practice survey guidelines

(b) how studies or surveys are consistent with (or a justification for divergence from) published Australian Government guidelines and policy statements.

11.36 Assess and describe the impacts to the listed migratory species identified below at 11.40 and any others that are found to be or may potentially be present in areas that may be impacted by the project. Identify which component of the project is of relevance to each species or if the threat of impact relates to consequential actions, resulting from:

(a) the destruction, isolation or modification of habitat important to a migratory species

(b) the introduction of invasive species in an important habitat that would be harmful to a migratory species

(c) the disruption of the lifecycle (breeding, feeding, migration, or resting behaviour) of an ecologically important proportion of the population of a migratory species

(d) interference with the recovery of the species or ecological community

(e) action that may be inconsistent with a recovery plan.

11.37 Describe the indirect, cumulative and facilitated impacts that may result from the project.

11.38 Describe and discuss any mitigation measures proposed to reduce the impact on migratory species and the anticipated benefit of proposed mitigation measures.

11.39 Where relevant, demonstrate that the project will not be inconsistent with:

(a) the Bonn Convention

(b) China–Australia Migratory Bird Agreement (CAMBA)

(c) Japan–Australia Migratory Bird Agreement (JAMBA)

(d) an international agreement approved under subsection 209(4) of the EPBC Act.

List of potential migratory species

11.40 Address impacts to migratory species, including but not limited to the following:

(a) fork-tailed swift (*Apus pacificus)*

(b) oriental cuckoo, Horsfield's cuckoo (*Cuculus optatus)*

(c) white-throated needletail (*Hirundapus caudacutus)*

(d) rainbow bee-eater (*Merops ornatus)*

(e) black-faced monarch (*Monarcha melanopsis)*

(f) spectacled monarch (*Monarcha trivirgatus)*

(g) yellow wagtail (*Motacilla flava)*

(h) satin flycatcher (*Myiagra cyanoleuca)*

(i) rufous fantail (*Rhipidura rufifrons)*

(j) great egret, white egret (*Ardea alba)*

(k) cattle egret (*Ardea ibis)*

(l) Latham's snipe, Japanese snipe (*Gallinago hardwickii)*

(m) osprey (*Pandion haliaetus)*

(n) common greenshank, greenshank (*Tringa nebularia)*

(o) magpie goose *(Anseranas semippalmata)*

(p) white-bellied sea eagle *(Haliaeetus leucogaster)*

(q) swift parrot (*lathamus discolor)*

(r) painted snipe *(rostratula benghalensis (sensu lato).*

Impact on water resources/Independent Expert Scientific Committee

11.41 The National Partnership Agreement on Coal Seam Gas and Large Coal Mining, to which Queensland is a signatory, specifies that all coal seam gas and large coal mining proposals that are likely to have a significant impact on water resources are to be referred to the Independent Expert Scientific Committee (IESC) for advice.

11.42 The EIS must address the information requirements contained in the IESC's *Information Guidelines for Independent Expert Scientific Committee advice on coal seam gas and large coal mining development proposals*, and should sufficiently address and cross-reference the checklist at Appendix A of this document within the EIS.

Offsets

11.43 Describe the residual impacts of the proposed development for each relevant MNES, after all proposed avoidance and mitigation measures are taken into account. Identify whether the residual impacts are significant, requiring offsets.

11.44 Propose offsets for significant residual impacts to relevant MNES consistent with the *EPBC Act environmental offsets policy* (2012).

Conclusion

11.45 Include an overall conclusion as to the environmental acceptability of the proposal on each relevant MNES, including:

(a) a discussion on the consideration with the requirements of the EPBC Act, including the objects of the EPBC Act, the principles of ecologically sustainable development and the precautionary principle

(b) reasons justifying undertaking the proposal in the manner proposed, including the acceptability of the avoidance and mitigation measures

(c) if relevant, a discussion of residual significant impacts and any offsets and compensatory measures proposed or required for residual significant impacts on relevant MNES, and the relative degree of compensation and acceptability.

Land, flora and fauna

Objectives and performance outcomes

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

(a) activity is operated in a way that protects the environmental values of land including soils, subsoils, geology, geomorphology, landforms and associated flora and fauna

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

(c) location for the activity on a site protects all environmental values relevant to adjacent sensitive use

(d) design of the project permits the operation of the site, at which the activity is to be carried out, in accordance with best practice environmental management.

The performance outcomes corresponding to these objectives are in Schedule 5, Part 3 Table 1 and 2 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) that show these outcomes can be achieved.

Information requirements—land use

11.46 The assessment of impacts on land, flora and fauna will be in accordance with DEHP application requirements for activities with impacts to land.

11.47 Discuss 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:

(a) landscape (including visual amenity), designated sites, soils, contamination, land suitability and land uses in and around the project area, referring to regional plans and local government planning schemes

(b) the topography, geology, geomorphology of the project sites and adjoining areas

(c) the geological properties that could impact upon ground stability

(d) agricultural land considered as a priority agricultural area and/or strategic cropping land, and any other matters identified in the RPI Act and Regulation to that Act.

(e) any existing mining, petroleum, geothermal and greenhouse gas storage tenures underlying or adjacent to the project, and any to be applied for as part of this project and the potential for resource sterilisation

(f) any infrastructure proposed to be located within, or which may have impacts on, the Stock Route Network.

11.48 If the project may impact on:

(a) living areas in regional communities

(b) high-quality agricultural areas

(c) strategic cropping land, or

(d) regionally important environmental areas,

as defined in the RPI Act, provide the studies and approach to addressing the requirements of that Act.[4] Specifically, identify any RPI Act requirements that are not being addressed in this EIS process.

11.49 If the proposed development is located within a statutory regional plan, address the policies about matters of State interest that are contained within the regional plans.

11.50 For surface mines and projects with activities that disturb the land surface, show how the land form during and post mining will be stable and non-eroding over time. Describe how current technologies will be applied.

11.51 Detail any known or potential sources of contaminated land. Describe how any proposed land use may result in land becoming contaminated.

11.52 Identify 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.

11.53 Detail the proposed tenures for the infrastructure corridor, the justification for the width and access requirements along the route.

11.54 Identify the current tenure of all land within the project area, including freehold tenure, mining tenures, conservation tenures, state and Commonwealth tenures, and traditional owner access to land determinations. Identify land on which native title has been extinguished, land the subject of native title claims and approved Indigenous Land Use Agreements.

[4] Refer to www.dilgp.qld.gov.au/planning/regional-planning/regional-planning-interests-act.html

Information requirements—flora and fauna

11.55 Describe the likely impacts on the biodiversity and natural environment values of affected areas arising from the construction, operation and eventual decommissioning of the project (where known). Take into account any proposed avoidance and/or mitigation measures. The assessment should include, but not be limited to, the following key elements:

(a) matters of state environmental significance and national environmental significance

(b) terrestrial and aquatic ecosystems (including groundwater-dependent ecosystems) and their interaction

(c) biological diversity including listed flora and fauna species and regional ecosystems

(d) the existing integrity of ecological processes, including habitats of threatened, near-threatened or special least-concern species

(e) the integrity of landscapes and places, including wilderness and similar natural places

(f) 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*[5] (VMA) and the *Fisheries Act 1994*

(g) chronic, low-level exposure to contaminants or the bio-accumulation of contaminants

(h) impacts on native fauna and flora due to wastes at the site, particularly those related to any form of toxicants in supernatant water of any tailings storage facility.

11.56 Propose practical measures for protecting or enhancing natural values, and assess how the nominated quantitative indicators and standards may be achieved for nature conservation management. In particular, address measures to protect or preserve any threatened or near-threatened species.

11.57 Assess the need for buffer zones and the retention, rehabilitation or planting of movement corridors, and propose measures that would avoid the need for waterway barriers, or propose measures to mitigate the impacts of their construction and operation. The measures proposed for the progressive rehabilitation of disturbed areas, should include rehabilitation success criteria in relation to natural values that would be used to measure the progress.

11.58 Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed. Proposals for the rehabilitation of disturbed areas should incorporate, where appropriate, provision of nest hollows and ground litter.

Information requirements—rehabilitation

11.59 The EIS should provide information based on relevant guidelines, current best practice approaches and legislative requirements about the strategies and methods

[5] This is notwithstanding that the *Vegetation Management Act 1999* does not apply to mining projects for on-site works. Refer also to **www.nrm.qld.gov.au/vegetation/index.html**

for progressive and final rehabilitation of the environment disturbed by the project and decommissioning/closure.

11.60 Develop a preferred rehabilitation strategy that would minimise the amount of land disturbed at any one time, and minimise the residual loss of land and water bodies with ecological or productive value. Show the expected final topography of the site with any excavations, waste areas and dam sites on suitably scaled maps. Illustrate the proposed final land uses.

11.61 Describe and illustrate where final voids and uncompacted overburden and workings at the end of operations would lie in relation to flood levels up to and including the 'probable maximum flood level' based on the Bureau of Meteorology's 'probable maximum precipitation' forecast for the locality.

11.62 Describe rehabilitation success criteria that would be used to measure progress and completion.

11.63 Notwithstanding that management techniques may improve over the life of the project, and legislative requirements may change, the EIS needs to give confidence that all potential high-impact elements of the project (e.g. spoil dumps, voids, tailings and water management dams, creek diversions, subsidence areas etc.) are capable of being managed and rehabilitated to achieve acceptable land use suitability, to be stable, safe and self-sustaining and to prevent upstream and downstream surface and groundwater contamination.

Offsets

11.64 The proposed offsets should be consistent with the requirements set out in any applicable legislation or specific-issue Queensland offset policies.

Water quality

Objective and performance outcomes

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

(a) minimises harm to the environmental values of waters

(b) protects the environmental values of wetlands

(c) protects the environmental values of groundwater and any associated surface ecological systems.

The performance outcomes corresponding to these objectives are in Schedule 5, Part 3 Table 1 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) that show these outcomes can be achieved.

Information requirements

11.65 The assessment of impacts on water will be in accordance with DEHP application requirements for activities with impacts to water

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

11.67 Identify the quantity, quality and location of all potential discharges of water and waste water by the project, whether as point sources (such as controlled discharges from regulated dams) or diffuse sources (such as seepage from waste rock dumps or irrigation to land of treated sewage effluent). Assess the potential impacts of any discharges on the quality and quantity of receiving waters taking into consideration the assimilative capacity of the receiving environment and the practices and procedures that would be used to avoid or minimise impacts.

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

Water resources

Objectives

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

(a) equitable, sustainable and efficient use of water resources

(b) environmental flows, water quality, in-stream habitat diversity, and naturally occurring inputs from riparian zones support the long term maintenance of the ecology of aquatic biotic communities

(c) the condition and natural functions of water bodies, lakes, springs and watercourses are maintained—including the stability of beds and banks of watercourses

(d) volumes and quality of groundwater are maintained and current lawful users of water (such as entitlement holders and stock and domestic users) and other beneficial uses of water (such as spring flows and groundwater-dependent ecosystems) are not adversely impacted by the development.

Information requirements

11.69 Provide details of any proposed impoundment, extraction, discharge, injection, use or loss of surface water or groundwater. Identify any approval or allocation that would be needed under the *Water Act 2000*.

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

11.71 Describe the options for supplying water to the project, and assess any potential consequential impacts in relation to the objectives of any water resource plan, resource operations plan and wild river declaration that may apply.

11.72 Identify any quantitative standards and indicators which will be used to describe the ecological values and health of surface water environments.

11.73 Develop hydrological and hydraulic models as necessary to describe the inputs, movements, exchanges and outputs of all significant quantities and resources of surface water and groundwater that may be affected by the project. The models should address the range of climatic conditions that may be experienced at the site, and adequately assess the potential impacts of the project on water resources. The models should include a site water balance. This should enable a description of the project's impacts at the local scale and in a regional context including proposed:

(a) changes in flow regimes from diversions, water take and discharges

(b) alterations to riparian vegetation and bank and channel morphology

(c) direct and indirect impacts arising from the development.

Air

Objectives and performance outcomes

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

The performance outcomes corresponding to this objective are in Schedule 5, Part 3 Table 1 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) that show these outcomes can be achieved.

Information requirements

11.74 The assessment of impacts on air will be in accordance with DEHP application requirements for activities with impacts to air

11.75 Fully describe the characteristics of the contaminants or materials released when carrying out the activity (point source and fugitive emissions). Emissions (point source and fugitive) during construction, commissioning, upset conditions, operation and closure should be described.

11.76 Predict the impacts of the releases from the activity on environmental values of the receiving environment using recognised quality assured methods. The description of impacts should take into consideration the assimilative capacity of the receiving environment and the practices and procedures that would be used to avoid or minimise impacts. The impact prediction must:

(a) address residual impacts on the environmental values (including appropriate indicators and air quality objectives) of the air receiving environment, with reference to sensitive receptors,[6] using recognised quality assured methods. This should include all relevant values potentially impacted by the activity, under the EP Act, EP Regulation and Environmental Protection (Air) Policy 2008 (EPP (Air)).

(b) 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).

(c) 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).

11.77 Describe the proposed mitigation measures and how the proposed activity will be consistent with best practice environmental management. Where a government plan is relevant to the activity or site where the activity is proposed, describe the activity's consistency with that plan.

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

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

Social and economic

Objectives

The construction and operation of the project should aim to:

(a) avoid or mitigate adverse social impacts arising from the project

(b) capitalise on opportunities potentially available 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.

Information requirements

11.79 In accordance with the Coordinator-General's *Social impact assessment guideline* (draft), describe the likely social impacts (positive and negative) on affected communities, taking into account proposed mitigation measures.

Social and cultural area

11.80 Define the project's social and cultural area of influence, including the local, district regional and state level as relevant taking into account the:

(a) potential for social and cultural impacts to occur

(b) location of other relevant proposals or projects

(c) location and types of physical and social infrastructure, settlement and land-use patterns

(d) social values that might be affected by the project including integrity of social conditions, liveability, social harmony and wellbeing and sense of community

(e) Indigenous social and cultural characteristics, such as native title rights and interests, cultural heritage.

Community engagement

11.81 Consistent with national and international good practice, and with regard to local and regional strategies for community engagement, the proponent must undertake a community consultation and engagement strategy to engage at the earliest practicable stage with all likely affected parties across the project footprint including the mine site and transport corridor, to discuss and explain the project, to identify and respond to issues and concerns identified as social impacts and to explain the ongoing community engagement strategy.

11.82 The Strategy for Stakeholder and Community Consultation and Engagement must be provided as part of the EIS and is to include the following:

(a) The project's pre-construction, construction, operation and decommissioning stages.

(b) Detail of the community engagement principles, process and tools used and to be adopted in the future to conduct open and transparent dialogue with all stakeholders, including affected local and state government authorities. Such processes should include but not be limited to community reference groups.

(c) Detail of the engagement, negotiation and liaison strategies, including how complaints resolution will be addressed, for all stages of the project.

(d) Detail of the range of issues that will form part of the consultation engagement, liaison and negotiation strategies to be implemented.

(e) Timeframes and frequency for delivering stakeholder and community consultation and engagement strategies for all stages of the project.

(f) The engagement process should consider social and cultural factors, customs and values and linkages between social impact, economic and environmental issues.

(g) Where appropriate, consideration should be given to coordinating local and/or regional community engagement process with other project proponents.

11.83 In the context of Stakeholder and Community consultation and engagement please also see the requirements of the Impacts and Mitigation and Management section below.

Social baseline study

11.84 Undertake a targeted baseline study of the people residing in the project's social and cultural area, to identify the project's social issues, potential adverse and positive social impacts, and strategies, measures and outcomes developed to address the impacts. The social baseline study should be based on qualitative and quantitative and participatory methods. It should be supplemented by community engagement processes, and reference relevant data contained in local and state government publications, reports plans guidelines and documentation, including regional and community plans.

11.85 Describe and analyse a range of demographic and social statistics relevant to the project's social and cultural area including:

(a) major population trends and changes occurring irrespective of the project, including the permanent and transient population

(b) total population, for the social and cultural area and full-time equivalent population

(c) estimates of population growth and population forecasts resulting from the proposal including resident and transient workers

(d) household and family structures

(e) age and gender distributions

(f) education, including schooling levels and qualifications, where such information is available

(g) health and wellbeing, including but not limited to mental health

(h) cultural and ethnic characteristics

(i) Indigenous population, including age and gender

(j) income including personal and household and where possible by permanent and transient residents

(k) labour force by occupation and industry

(l) housing costs: monthly housing repayments (per cent of dwellings in each category) and weekly rent (per cent of dwellings in each category), housing tenure type and landlord type, household and family type

(m) housing availability and affordability: rental market (size, vacancy rates, seasonal variations, weekly rent by percentage dwellings in each category); the availability and typical costs of housing for purchase, monthly housing repayments by percentage of dwellings in each category; and the availability of social housing

(n) disability prevalence

(o) the social and economic index for areas, index of disadvantage—score and relative ranking

(p) crime including domestic violence

(q) any other indicators determined through community engagement process.

11.86 The social baseline study should take account of current social issues such as:

(a) the social infrastructure, civic facilities, services and networks—for definition see South East Queensland Regional Plan 2009–2031

(b) settlement patterns including names, locations, size history and cultural aspects of settlement in the social and cultural area

(c) the identity, values, lifestyles, vitality, characteristics and aspirations of communities in the social and cultural area, including Indigenous communities

(d) land use and land ownership patterns including:

(i) the number of properties affected by the project including the mine site and transport corridor

(ii) rural properties, farms, cropping land and grazing areas including on-farm activities near the proposed activities

(iii) the number of families directly and indirectly affected by the project including traditional owners and their families, property owners and families of workers either living on the property or workers where the property is their primary employment

(e) use of social and cultural area for forestry, fishing, recreation, business and industry, tourism, aquaculture and Indigenous cultural use of flora and fauna.

Impacts and mitigation and management measures

11.87 Assess and describe the type, level and significance of the project's social impacts (beneficial and adverse) on the local and cultural area, based on outcomes of community engagement processes and the social baseline study, as follows:

(a) Describe and summarise outcomes of community engagement processes including the response of the affected communities, including Indigenous people.

(b) Develop all mitigation and management strategies in close consultation, collaboration and negotiation with key stakeholders including but not limited to local affected communities, landholders, state government agencies and local government authorities.

(c) Describe any consultation, collaboration, and negotiation about the acceptance or agreement of proposed mitigation and management strategies, and how practicable management and monitoring regimes will be implemented.

(d) Include sufficient data to enable affected local and state authorities to make informed decisions about the project's effect on their business and plan for the provision of social infrastructure in the project's social and cultural area.

11.88 For identified social impacts, present social impact mitigation strategies and measures to address the following:

(a) Recruitment, training and development of the construction and operational workforces, identifying local and regional workforce management strategies and including information on any part of the workforce to be sourced from outside the local and regional social and cultural area.

(b) Housing and accommodation issues, consistent with the following core principles to guide the identification and assessment of accommodation and housing impacts and the development of mitigation and management strategies:

(i) requirements for project workforce accommodation, considering housing market impacts

(ii) strategies to mitigate or manage negative impacts of project workforce accommodation and housing market impacts

(iii) clear and detailed strategy for accommodating all construction and operational workforces

(iv) strategies to support and commit to the liveability of resource communities.

11.89 The strategy for accommodating construction and operational workforces must describe:

(a) projected size, nature and location of the workforce for pre-construction, construction and operational phases including the projected proportion of local and regional workers and workers who will fly in, fly out, drive in, drive out

(b) towns, cities and regions fly-in fly-out and drive-in drive-out workers are likely to be permanently residing

(c) plans for accommodating the proportion of the workforce who will not readily access local accommodation during pre-construction, construction or operational phases

(d) the strategy for identified community health and wellbeing impacts must describe:

(i) demographic changes in the profile and how sufficient, is the current social infrastructure, services, local organisations, including but not limited to health and welfare, education, policing and emergency services, given the changes resulting from the project

(ii) adequate provision of education, training, development and employment for women, people with a disability, and Indigenous people.

Workforce profile and demand

11.90 A workforce management plan is required that demonstrates and includes:

(a) projected size, nature and location of the workforce for the project, for pre-construction, construction and operational phases including the projected proportion of workers who will be fly-in fly-out and drive-in drive-out

(b) workforce demand: the estimated composition of proposed workforce by occupation, project stage and duration

(c) supply issues: analysis of impacts on relevant local, state and national workforce profiles and labour supply

(d) recruitment/workforce planning and policies for recruiting workers, addressing recruitment of local and non-local workers including areas of high unemployment, Indigenous workers, women and people with a disability

(e) in order of prioritisation a commitment and strategies for recruiting, training and developing workers from:

  (i) local and regional communities

  (ii) recruitment to the regional community

  (iii) recruitment from priority areas, such as areas of high unemployment and socio- economic disadvantage

  (iv) recruitment from other areas of Queensland

  (v) recruitment from other areas of Australia and overseas

(f) details of all operational employees whether employed directly, by contractors or by other recruitment arrangements

(g) detail about how the future recruitment of subsequent replacement positions will be made available during the life of the mine

(h) detail on roster arrangements for local, regional and FIFOoperational workers

(i) training and development strategies and initiatives for the recruitment of local and regional workers to build better local and regional skills capacity, including but not limited to apprenticeships, traineeships, graduates

(j) target and performance indicators in relation to local, regional and FIFO recruitment strategies and initiatives

(k) training and development strategies and initiatives for vulnerable groups, including women, people with a disability and Indigenous people

(l) details of employee assistance programs to support worker health, wellbeing and mental health, including details of the range of services to be provided.

Social infrastructure, health and community wellbeing

11.91 A social infrastructure, health and community wellbeing plan must be provided that details:

(a) forecasts impacts on access and demand for health and medical services provided by hospitals, general practitioners and community health centres

(b) strategies for how these health services will be maintained for the community

(c) any community concerns about potential health and safety impacts resulting from the project and any mitigation strategies to be implemented, including road safety

(d) the level of on-site health services to be provided for workers

(e) workforce code of conduct to manage worker behaviour in impacted communities

(f) emergency response arrangements and mitigation strategies agreed with emergency services providers, for incidents both on and off the project site

(g) impacts on community services and facilities, including child care, family and domestic violence, youth and disability support, community and sporting organisations

(h) how impacted community services and facilities will be maintained for the community

(i) scope, frequency and scale of any community development programs to be implemented and outcomes to be achieved

(j) consultation, monitoring and mitigation strategies in relation to potential community health impacts in relation to air quality, noise and water.

Local business and industry content (procurement)

11.92 The Queensland Resources Council Code of Practice for Local Content (2013) is widely used as a basis for procurement plans across the resources sector. The plan must include:

(a) an assessment of the current local community and regional supplier capacity and capability

(b) proposed programs and policies to be implemented to build local and regional capacity and capability

(c) procurement strategies and initiatives to be implemented for local and regional suppliers.

The plan should also apply to contractors and sub-contractors who have been contracted to deliver project services on behalf of the project owner.

Cumulative impacts

11.93 Evaluate and discuss the cumulative social impacts resulting from the project. Include an estimation of the overall size, significance and likelihood of those impacts. Cumulative impacts, in this context, is defined as the additional impacts on

(a) population

(b) workforce (construction and operation)

(c) workers accommodation

(d) local and regional housing markets

(e) the use of and access to community infrastructure, services and community health and wellbeing.

11.94 These impacts are in relation to other proposals for development projects in the local and regional areas, which are publicly known or communicated by the Office of the Coordinator-General.

Impacts and mitigation and management measures

11.95 Address direct and cumulative impacts from any existing or proposed projects in conjunction with this proposed project including an assessment of the size, significance and likelihood of these impacts at the local and regional level. Consider the following:

(a) Population and demographic shifts, disruptions to existing lifestyles, the health and social wellbeing of families and communities, social dysfunction including alcohol and drugs, crime, violence and social and cultural disruption due to population influx.

(b) The needs of vulnerable groups including women, children and young people, the aged and people with a disability and Indigenous people.

(c) Indigenous cultural property issues.

(d) Local, regional and state labour markets during the construction and operational phasers with regard to the source of the workforce, including employees and all contractors. Detail the proponent's or contractor's strategies for employing locally, regionally and more broadly giving consideration of cumulative impacts of other projects and how these strategies relate to state and Commonwealth resource workforce planning, skill development and training strategies and policies.

(e) Proposed new skills and training related to the project including the occupational skill groups required and potential skill shortages anticipated.

(f) How much service revenue and work is likely to flow to the project's social and cultural area.

(g) Cumulative impacts of construction and operational workforces, their families and associated contractors on housing, accommodation and land availability and affordability.

Social impact action plans

11.96 The following impact mitigation and management Action Plans detailing outcomes to be achieved must be provided:

(a) workforce management action plan

(b) housing and accommodation action plan

(c) stakeholder and community consultation and engagement action plan

(d) social infrastructure, community health and wellbeing action plan

(e) local industry participation and procurement plan (not applicable if the proponent confirms in writing that they will adopt the principles of the Resources and Energy Sector Code of Practice for Local Content).

Economic impact assessment

11.97 Identify the economic impacts of the project on the local and regional area. Estimate the costs and benefits and economic impacts of the proposal using both regional impact analysis and cost–benefit analysis. The analysis should be consistent with the Coordinator-General's *draft Economic impact assessment guideline for coordinated projects*[7]

11.98 Describe the local and regional economies likely to be impacted by the project and identify the relevant stakeholders.

11.99 Proponents should use a robust method to quantify the direct and indirect economic impacts on local, regional and state economies arising from each stage of the project, and estimate the change in key indicators including:

(f) gross regional product (GRP)

[7] Department of State Development 2016, draft *Economic impact assessment guideline for coordinated projects – This information applies to projects declared 'coordinated' under the State Development and Public Works Organisation Act 1971*. Brisbane: Office of the Coordinator-General.

(g) gross state product (GSP)

(h) employment outcomes

(i) value added to the economy by the project by sector or industry.

11.100 The economic analysis could consider matters including, but not limited to:

(a) the significance of the proposal in the local and regional economic context

(b) 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

(c) transport and infrastructure networks along with other essential services and facilities

(d) the cost of any additional infrastructure to all levels of government

(e) the potential impacts the project may have on relevant prices, which might include wages, housing market costs, input costs and/or household goods and services

(f) local business and supply chain opportunities

(g) any significant economic benefits and costs arising from all stages of the project, or different project options if available. Potential benefits and costs along with relevant positive and negative externalities should be valued where reasonable; otherwise they should be described using quantitative and qualitative information. The results of this assessment should be presented as the net present values.

Transport

Objectives

The construction and operation of the project should aim to:

(a) maintain the safety and efficiency of all affected transport modes for the project workforce and other transport system users

(b) avoid or mitigate impacts on the condition of transport infrastructure

(c) ensure any required works are compatible with existing infrastructure and future transport corridors.

Information requirements

11.101 Proponents should make appropriate modal choices to ensure transport efficiency and minimise impact on the community. The EIS should include a clear summary of all transport tasks for the project, including workforce, inputs and outputs during the construction and operational phases.

11.102 Present the transport assessment in separate sections for each project-affected mode (road, rail, air and sea) as appropriate for each phase of the project. Provide sufficient information to allow an independent assessment of how the economic life and design life of existing transport infrastructure will be affected by project traffic at the local and regional level (e.g. local roads and state-controlled roads).

11.103 Include details of the adopted assessment methodology:

(a) for impact on roads: guidelines and policies on the relevant local government website and guidelines and policies identified on the Department of Transport

and Main Roads website, including the road impact assessment report in accordance with the *Guidelines for Assessment of Road Impacts of Development*

(b) for impacts on rail level crossings: the Australian Level Crossing Assessment Model

(c) local and state programs including the rail network strategy and the Qld Traffic and Roads Implementation Program

(d) for impacts on airports: identify whether the project impacts fit with the airport's strategic plan.

11.104 Discuss and recommend how identified impacts will be mitigated so as to meet the above objectives for each transport mode. Mitigation strategies may include works, contributions or management plans and are to be prepared in close consultation with relevant transport authorities (including local government); should consider those authorities' works program and forward planning, and be in accordance with the relevant transport authorities' methodologies, guidelines and design manuals.

Hazards and community safety

Objectives

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

(a) the risk of, and the adverse impacts from, natural and man-made hazards are avoided, minimised or mitigated to protect people and property

(b) the community's resilience to natural hazards is increased

(c) developments involving the storage and handling of hazardous materials are appropriately located, designed and constructed to minimise health and safety risks to communities and individuals and adverse effects on the environment.

Information requirements

11.105 Describe the potential risks to public safety, people and property that may be associated with the project in the form of a preliminary risk assessment for all components of the project and in accordance with relevant standards. The assessment should discuss:

(a) potential hazards, accidents, spillages, fire and abnormal events that may occur during all stages of the project, including estimated probabilities of occurrence (and include risk contours where relevant).

(b) all hazardous substances to be used, stored, processed or produced and the rate of usage

(c) potential hazards to flora and fauna, natural events (for example, cyclone, storm tide inundation, flooding, bushfire) and implications related to climate change

(d) how the project may potentially affect hazards away from the project site (e.g. changing flooding characteristics).

11.106 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.

11.107 Provide an outline of the proposed integrated emergency management planning procedures (including evacuation plans and emergency response plans) for the range of situations identified in the risk assessment developed in this section.

11.108 Provide details of the safeguards to be employed or installed to reduce the risk of injury to persons, fauna, flora and environmentally sensitive sites.

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

Biosecurity

Objective

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

(a) the spread of weeds and pest animals is minimised

(b) existing weeds and pests are controlled.

Information requirements

11.110 Identify through desk top and field surveys the weed and pest species likely or confirmed at the site. Assess the risk of the project spreading or introducing weeds and pests.

11.111 Propose detailed measures to control and limit the spread of pests and weeds on the project site and adjacent areas, particularly declared plants under the *Plant Protection Act 1989* and the Land Protection (Pest and Stock Route Management) Regulation 2003 and weeds of national significance outlined in the Department of the Environment and Energy website, and designated pests under the *Public Health Act 2005*. All proposed measures must be in accordance with any relevant biosecurity surveillance or prevention program authorised under the *Biosecurity Act 2014.*

Flooding and regulated dams

Objective

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

Information requirements

11.112 Describe current flood risk for a range of annual exceedance probabilities for potentially affected waterways, and assess (through flood modelling) how the project may potentially change flooding characteristics. The assessment should consider all infrastructure associated with the project including levees, roads and linear infrastructure and all proposed measures to avoid or minimise impacts.

11.113 List and describe all dams required for the project and undertake an assessment to determine the hazard of each dam (low, significant, or high), according to the criteria in the EHP *Manual for Assessing Hazard Categories and Hydraulic Performance of Dams*. Refer also to the requirements in the 'hazards and community safety' section of this TOR (page 29). Provide coordinates of all dam locations and water quality monitoring locations.

Noise and vibration

Objective and performance outcomes

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

The performance outcomes corresponding to this objective are in Schedule 5, Part 3, Table 1 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) that show these outcomes can be achieved.

Information requirements

11.114 The assessment of impacts on noise and vibration will be in accordance with DEHP Application Requirements for Activities with noise impacts

11.115 Fully describe the characteristics of the noise and vibration sources that would be emitted when carrying out the activity (point source and general emissions). Noise and vibration emissions (including fugitive sources) that may occur during construction, commissioning, upset conditions, operation and closure should be described.

11.116 Predict the impacts of the noise emissions from the activity on the environmental values of the receiving environment, with reference to sensitive receptors[8], using recognised quality assured methods. Taking into account the practices and procedures that would be used to avoid or minimise impacts, the impact prediction must address the:

(a) activity's consistency with the objectives

(b) cumulative impact of the noise with other known emissions of noise associated with existing development and possible future development (as described by approved plans)

(c) potential impacts of any low-frequency (<200 Hz) noise emissions.

11.117 Describe how the proposed activity would be managed to be consistent with best practice environmental management for the activity. Where a government plan is relevant to the activity, or the site where the activity is proposed, describe the activity's consistency with that plan.

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

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

Waste management

Objective and performance outcomes

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

The performance outcomes corresponding to this objective are in Schedule 5, Part 3 Table 1 of the EP Regulation. The proponent should supply sufficient evidence (including through studies and proposed management measures) that show these outcomes can be achieved.

Information requirements

11.119 The assessment of impacts on waste will be in accordance with DEHP Application Requirements for Activities with waste impacts

11.120 Describe all the expected significant waste streams[9] from the proposed project activities (typically these would include waste rock, tailings and coarse rejects from mining and refining projects, water and salt from petroleum and gas projects), during the construction, operational and decommissioning phases of the project.

11.121 Describe the quantity, form (liquid, solid, gas), hazard, and toxicity of each significant waste, as well as any attributes that may affect its likelihood of dispersal in the environment, as well the associated risk of causing environmental harm.

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

11.123 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.

11.124 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.

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

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

[9] Waste includes overburden, tailings and any materials (liquid, solid or gaseous) generated by the project that is not product.

Cultural heritage

Objective

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

Information requirements

11.127 Unless section 86 of the *Aboriginal Cultural Heritage Act 2003* (ACH Act) applies, the proponent must develop a Cultural Heritage Management Plan in accordance with the requirements of Part 7 of the ACH Act.

11.128 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.

Greenhouse gas emissions

11.129 Provide an inventory of projected annual emissions for the life of the mine for each relevant greenhouse gas, with total emissions expressed in 'CO_2 equivalent' terms for the following categories:

(a) scope 1 emissions—means direct emissions of greenhouse gases from sources within the boundary of the facility and as a result of the facility's activities (including emission from vegetation clearing)

(b) scope 2 emissions—means emissions of greenhouse gases from the production of electricity, heat or steam that the facility will consume, but that are physically produce by another facility.

11.130 Briefly describe method(s) by which estimates were made.

11.131 Use the *National Greenhouse Accounts (*NGA) *Factors (*Commonwealth of Australia 2012) as a reference source for emission estimates, supplemented by other sources where practicable and appropriate. As a requirement of the NGA factors, estimates should include the loss of carbon sink capacity of vegetation due to clearing.

11.132 Discuss the potential for greenhouse gas abatement measures, including:

(a) the proposed measures (alternatives and preferred) to avoid and/or minimise direct greenhouse gas emissions, for example, using renewable technologies for project power generation

(b) how the preferred measures minimise emissions and achieve energy efficiency

(c) any opportunities to further offset greenhouse gas emissions through indirect means including sequestration and carbon trading.

12. Appendices to the EIS

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

12.2 No significant issue or matter should be mentioned for the first time in an appendix—it must be addressed in the main text of the EIS.

12.3 Include a table listing the section of the EIS where each requirement of the TOR is addressed.

12.4 Include a glossary of terms and a list of acronyms and abbreviations.

Acronyms and abbreviations

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

Acronym/abbreviation	Definition
AHD	Australian Height Datum
EIS	environmental impact statement
EP Act	*Environmental Protection Act 1994*
EP Regulation	Environmental Protection Regulation 2008
EPBC Act	*Environment Protection and Biodiversity Conservation Act 1999* (Cwlth)
EPP	Environmental Protection Policy (under the EP Act)
GDA94	Geocentric Datum of Australia 1994
MNES	matters of national environmental significance (under the EPBC Act)
RPI Act	*Regional Planning Interests Act 2014*
SPA	*Sustainable Planning Act 2009*
SDAP	State Development Assessment Provisions
SDPWO Act	*State Development and Public Works Organisation Act 1971*
TOR	terms of reference
VMA	*Vegetation Management Act 1999*

Appendix 1. Policies and guidelines

Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand 2000, The Australian and New Zealand Guidelines for Fresh and Marine Water Quality, Australian Water Association (Artarmon) and NZ Water and Wastes Association (Auckland), viewed 25 August 2016, **www.environment.gov.au/system/files/resources/53cda9ea-7ec2-49d4-af29-d1dde09e96ef/files/nwqms-guidelines-4-vol1.pdf**

Australian Level Crossing Assessment Model (ALCAM), viewed 25 August 2016, **www.tmr.qld.gov.au/Travel-and-transport/Rail/Level-crossings/ALCAM.aspx**

Commonwealth of Australia 1992, *National Strategy for Ecologically Sustainable Development*, Ecologically Sustainable Development Steering Committee, Canberra, viewed 25 August 2016, **www.environment.gov.au/resource/national-strategy-ecologically-sustainable-development**

Commonwealth of Australia 2014, *Information Guidelines for Independent Expert Scientific Committee advice on coal seam gas and large coal mining development proposals*

Independent Expert Scientific Committee on Coal Seam Gas and Large Coal Mining Development, Canberra, viewed 25 August 2016, **http://www.iesc.environment.gov.au/publication**

The Coordinator-General, 2015, *Preparing an environmental impact statement: Guideline for proponents*, Department of State Development, Infrastructure and Planning, Brisbane, viewed 25 August 2016, **www.dsdip.qld.gov.au/fact-sheets-and-guidelines/coordinated-projects.html**

The Coordinator-General, 2013, Social impact assessment guideline (draft), Department of State Development, Infrastructure and Planning, Brisbane, viewed 1 September 2016, **http://www.statedevelopment.qld.gov.au/fact-sheets-and-guidelines/coordinated-projects.html**

Department of Environment and Heritage Protection 2012, *Manual for Assessing Hazard Categories and Hydraulic Performance of Structures*, *March 2016*, Department of Environment and Heritage Protection, Brisbane, viewed 25 August 2016, **www.ehp.qld.gov.au/assets/documents/regulation/era-mn-assessing-consequence-hydraulic-performance.pdf**

Department of Environment and Heritage Protection 2014, Model mining conditions—EM944, viewed 25 August 2016, **www.ehp.qld.gov.au/land/mining/guidelines.html**

Department of Environment and Heritage Protection 2016, Application requirements for activities with impacts to land, viewed 21 September 2016

http://www.ehp.qld.gov.au/assets/documents/regulation/era-gl-land-impacts.pdf

Department of Environment and heritage Protection 2016, Application requirements for activities with impacts to water, viewed 21 September 2016

http://www.ehp.qld.gov.au/assets/documents/regulation/era-gl-water-impacts.pdf

Department of Environment and Heritage Protection 2015, Application requirements for activities with impacts to air, viewed 21 September 2016.

http://www.ehp.qld.gov.au/assets/documents/regulation/era-gl-air-impacts.pdf

Department of Environment and Heritage Protection 2014, Application requirements for activities with noise impacts, viewed 21 September 2016.

https://www.ehp.qld.gov.au/assets/documents/regulation/era-gl-noise-impacts.pdf

Department of Environment and Heritage protection 2015, Application requirements for activities with waste impacts, viewed 21 September 2016,

http://www.ehp.qld.gov.au/assets/documents/regulation/era-gl-waste-impacts.pdf

Department of Environment and Heritage Protection 2009, *Queensland Water Quality Guidelines 2009,* Department of Environment and Heritage Protection, Brisbane, viewed 25 August 2016, **www.ehp.qld.gov.au/water/guidelines/**

Department of Main Roads 2006, *Guidelines for Assessment of Road Impacts of Development*, Department of Main Roads, Brisbane, viewed 25 August 2016, **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 2013, *Social impact assessment guideline,* Department of State Development, Infrastructure and Planning, Brisbane, viewed 25 August 2016, **www.statedevelopment.qld.gov.au/resources/guideline/social-impact-assessment-guideline.pdf**

Department of State Development, Infrastructure and Planning 2014, State Planning Policy, July 2014, Department of State Development, Infrastructure and Planning, Brisbane, viewed 25 August 2016, **www.dsdip.qld.gov.au/resources/policy/state-planning/state-planning-policy-jul-2014.pdf**

Maritime Safety Queensland 2013, *Guidelines for major development proposals*, Maritime Safety Queensland, Brisbane, viewed 25 August 2016, **www.msq.qld.gov.au/Waterways/Major-development-proposals.aspx**

Queensland Resources Council 2013, *Queensland Resources and Energy Sector Code of Practice for Local Content*, Queensland Resources Council, Brisbane, viewed 25 August 2016, **www.qrc.org.au/wp-content/uploads/2016/07/Local-Content-Code-of-Practice.pdf**

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