

Terms of reference for an environmental impact statement

Coopers Gap Wind Farm project

July 2016

The Department of State Development

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Part A. About these terms of reference

1. Statutory basis

- 1.1. The Coordinator-General has declared the Coopers Gap Wind Farm 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 SDPWO Act, which requires a proponent to prepare an EIS for the project.
- 1.2. 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. EIS guidelines

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

3. More information

- 3.1. 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

4. General approach

- 4.1. For the purposes of the EIS process, 'environment' is defined in Schedule 2 of the SDPWO Act and includes social and economic matters.
- 4.2. The EIS should give priority to the critical matters associated with the project (specified in section 10 of this TOR).
- 4.3. 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.

5. Mandatory requirements of an EIS

- 5.1. For all the relevant matters, the EIS must identify and describe the environmental values that must be protected. Environmental values are specified in the *Environmental Protection Act 1994* (EP Act),¹ the Environmental Protection Regulation 2008 (EP Regulation), environmental protection policies (EPPs) and relevant guidelines.²
- 5.2. The assessment should cover both the short and long terms and state whether any relevant impacts are likely to be irreversible. Also discuss scenarios of unknown, unpredictable impacts.
- 5.3. 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.
- 5.4. Provide detailed strategies in regard to all critical matters for the protection, or enhancement as desirable, of all relevant environmental values in terms of outcomes and possible conditions that can be measured and audited. 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.
- 5.5. 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.
- 5.6. Each matter assessed in the EIS (as described in section 10 and 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.
- 5.7. 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.
- 5.8. Assess the extent to which the construction and operation of the project meets all statutory and regulatory requirements of the State and that the intended outcomes are consistent with current state policies and guidelines. If there is conflict, provide comment on the planning merit that supports the project.

6. Further requirements of an EIS

- 6.1. 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 to be decided.

¹ Part 3, Division 2, Subdivision 1, section 9.

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).

- 6.2. To the extent of the information available, the assessment should endeavour to predict the *cumulative* impact³ of the project on environmental values over time and in combination with impacts created by the activities of other adjacent and upstream and downstream developments and landholders—as detected by baseline monitoring. This will inform the decision on the EIS and the setting of conditions. The absence of a comprehensive cumulative impacts analysis need not be fatal to the project.
- 6.3. Include a consolidated description of all the proponent’s commitments to implement management measures (including monitoring programs). Should the project proceed, these should be able to be carried over into the approval conditions as relevant.
- 6.4. Provide all geographical coordinates throughout the EIS in latitude and longitude against the Geocentric Datum of Australia 1994 (GDA94).
- 6.5. An EIS should also describe the expected benefits and opportunities associated with the project.
- 6.6. An appropriate public consultation program is essential to the impact assessment process. The proponent should consult with Local, State and Commonwealth government agencies, and potentially affected local communities.
- 6.7. 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.
- 6.8. Include, as an appendix, a public consultation report detailing how the public consultation plan was implemented, and the results.

7. Executive summary

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

8. Introduction

- 8.1. 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

- 8.2. Describe the following:
 - (a) the designated proponent’s full name, postal address and ABN if relevant (including details of any joint venture partners)
 - (b) the nature and extent of business activities
 - (c) proponent’s experience

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

- (d) proponent's environmental record, including a list of any breach of relevant environmental laws during the previous ten years
- (e) proponent's environmental, health, safety and community policies.

The environmental impact assessment process

- 8.3. 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.
- 8.4. 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

- 8.5. 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.
- 8.6. Identify all relevant assessment and referral triggers as prescribed under the Sustainable Planning Regulation 2009. Identify the applicable assessment manager and relevant assessment provisions for all aspects of the development (i.e. material change of use, operational works, building works, etc.).
- 8.7. The State Development Assessment Provisions (SDAP) prescribed in the Sustainable Planning Regulation 2009 set out the matters of interest to the State for development assessment where the Chief Executive of the *Sustainable Planning Act 2009* is the assessment manager or concurrence agency 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 10-11 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 <http://www.dilgp.qld.gov.au/planning/development-assessment/state-development-assessment-provisions.html>

9. Project description

Proposed development

- 9.1. The EIS must describe and illustrate at least the following specific information about the proposed project:
 - (a) project title
 - (b) project description
 - (c) project objectives
 - (d) expected capital expenditure

- (e) rationale for the project
- (f) regional and local context of the project's footprint (with maps at suitable scales)
- (g) relationship to other major projects and/or developments (of which the proponent should reasonably be aware)
- (h) workforce numbers to be employed by the project during its various phases
- (i) where personnel would be accommodated
- (j) proposed construction staging and likely schedule of works.

Site description

- 9.2. Provide real property descriptions of the project land and adjacent properties; any easements; any tenures (including resources tenures); and identification number of any lease for the project land that is subject to the application. Key transport, state-controlled roads, rail, air, port/sea and other infrastructure or services in the region and to the site should be described and mapped.
- 9.3. Provide locations of all existing or approved sensitive land uses in the vicinity of the development. Identify all host lots and non-host lots as defined in Module 20 of the *State development assessment provisions* version 1.9 - Wind farm state code and the associated *Wind farm state code planning guideline*, July 2016.
- 9.4. Describe and illustrate the topography of the project site and surrounding area, and highlight any significant features shown on the maps. Include and name rivers and creeks. Maps should include a scale, and 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.
- 9.5. Describe and illustrate specific information about the proposed project including the precise location of the proposed development in relation to designated and protected areas such as state forests or national parks.
- 9.6. Where relevant, describe and map in plan and cross-sections the geology and landforms, including catchments, of the project area. Show geological structures, such as aquifers, faults and economic resources (such as agricultural products) that could have an influence on, or be influenced by, the project's activities.
- 9.7. Where relevant, describe, map and illustrate soil types and profiles of the project area at a scale relevant to the proposed project. Identify soils that would require particular management due to wetness, erosivity, depth, acidity, salinity or other features.
- 9.8. Plans and drawings provided must be detailed enough to enable the Coordinator-General and advisory agencies to adequately assess the application.

Climate

- 9.9. Describe the site's climate patterns that are relevant to the environmental assessment. Climate information should be presented in a statistical form including long-term averages and extreme values, as necessary.

Proposed construction and operation

- 9.10. Describe the following information about the proposal:
- (a) all pre-construction activities (e.g. vegetation clearing, site access, interference with watercourses and floodplain areas)
 - (b) existing infrastructure and easements on the potentially affected land
 - (c) the proposed construction methods, associated equipment and techniques
 - (d) location, design and capacity of water supply, telecommunications, power generation and transmission infrastructure
 - (e) any infrastructure alternatives, justified in terms of ecologically sustainable development (including energy and water conservation)
 - (f) hours of operation for proposed construction works, including night time works
 - (g) the sequencing and staging of activities
 - (h) the capacity of high-impact plant and equipment, their chemical and physical processes, and chemicals or hazardous materials to be used
 - (i) the known locations of new or altered works and structures and infrastructure necessary to enable the construction and operation of the development
 - (j) any activity that is a prescribed environmentally relevant activity (ERA)
 - (k) location of quarry operations the project may source materials from
 - (l) the range of land uses and site layout
 - (m) built form and design specifics
 - (n) operation detail (e.g. hours of operation for project components)
 - (o) the commissioning process including landscaping and the rehabilitation of affected areas after construction
 - (p) management structure of final development (e.g. body corporate, privately owned entity)
 - (q) infrastructure requirements (e.g. roads, electricity, telecommunications, sewerage)
 - (r) location and scale of parking requirements
- 9.11. Refer to the relevant provisions for construction and operation included within Module 20 of the *State development assessment provisions* version 1.9 - Wind farm state code and the associated *Wind farm state code planning guideline*, July 2016.

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.

- 9.12. This section should detail, with concept and layout plans, requirements for new infrastructure, or the upgrading and/or relocating of existing infrastructure to service the project. Infrastructure to be considered should include water supply, energy supply, telecommunications, stormwater, waste disposal and sewerage.
- 9.13. Describe the typical service corridors or clearances for sewerage and recycled water mains in relation to other services.

10. Assessment of critical matters

- 10.1. This section sets out the scope of critical matters that should be given detailed treatment in the EIS. A critical matter is an aspect of the proposal that is reasonably expected to have one or more of the following characteristics:
- (a) a high or medium probability of causing serious or material environmental harm or a high probability of causing an environmental nuisance⁴
 - (b) considered contentious in the public domain, for example, has been the subject of extensive media coverage and/or there is a public perception that an activity has the potential to cause serious or material environmental harm or an environmental nuisance (regardless of the likelihood of occurrence).
- 10.2. The final scope of critical 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 assessment.

Noise and vibration

Objective

Development is planned, designed, constructed and operated to protect the environmental values of the acoustic environment.

Information requirements

- 10.3. Fully describe the characteristics of the noise and vibration sources that would be emitted when carrying out the activity (point source and general emissions). Describe noise and vibration emissions (including fugitive sources) that may occur during construction, commissioning, upset conditions, and operation.
- 10.4. Predict the impacts of the noise emissions from the construction and operation of the project on the environmental values of the receiving environment, with reference to sensitive receptors, using recognised quality assured methods, including those outlined in Module 20 of the *State development assessment provisions* version 1.9 - Wind farm state code and the associated *Wind farm state code planning guideline*, July 2016. Discuss separately the key project components likely to present an impact on noise and vibration for the construction and operation phases of the project.
- 10.5. Taking into account the practices and procedures that would be used to avoid or minimise impacts, the impact prediction must address the:

⁴ 'Material environmental harm', 'serious environmental harm' and 'environmental nuisance' are defined in Part 3, sections 15, 16 and 17 of the *Environmental Protection Act 1994*.

- (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.
- 10.6. Describe how the proposed activity, and in particular, the key project components mentioned above, would be managed so that they are consistent with relevant industry standards for environmental management of the activity. Describe the activity's consistency with the Module 20 of the *State development assessment provisions* version 1.9 - *Wind farm state code* and the associated *Wind farm state code planning guideline*, July 2016.
- 10.7. Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed.

Hazards, health and safety

Objectives

- (a) The risk of, and the adverse impacts from, natural hazards are avoided, minimised or mitigated to protect people and property and enhance the community's resilience to natural hazards.
- (b) Developments are to be appropriately located, designed and constructed to minimise health and safety risks to communities and individuals and adverse effects on the environment.

Information requirements

General

- 10.8. Describe the potential risks to people and property that may be associated with the project in the form of a preliminary risk assessment for all components of the project and in accordance with relevant standards. The assessment should include:
- (a) potential hazards, accidents, spillages, fire and abnormal events that may occur during all stages of the project, including estimated probabilities of occurrence
 - (b) identifying all hazardous substances to be used, stored, processed or produced and the rate of usage
 - (c) potential wildlife hazards, natural events (for example, cyclone, storm tide inundation, flooding, bushfire, landslide, shoreline erosion) and implications related to climate change
 - (d) how the project may potentially affect hazards away from the project site (for example, changing flooding characteristics)
 - (e) how potential health impacts on local residents would be identified, mitigated or managed.
- 10.9. Outline measures required to ensure that the proposed project avoids the release of hazardous materials as a result of a natural hazard event.

- 10.10. 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.
- 10.11. Provide an outline of the proposed integrated emergency management planning procedures (including evacuation plans, if required) for the range of situations identified in the risk assessment developed in this section.
- 10.12. Outline any consultation undertaken with the relevant emergency management authorities, including the Local Disaster Management Group.

Shadow flicker

- 10.13. Discuss the potential impacts and mitigation measures of shadow flicker on local residents using the methodology outlined in Module 20 of the *State development assessment provisions* version 1.9 - Wind farm state code and the associated *Wind farm state code planning guideline*, July 2016.

Electromagnetic interference

- 10.14. Discuss the impacts and mitigation measures of electromagnetic interference on communications systems within the locality using the methodology outlined in Module 20 of the *State development assessment provisions* version 1.9 - Wind farm state code and the associated *Wind farm state code planning guideline*, July 2016.

Aviation safety

- 10.15. Discuss potential project impacts, and proposed mitigation measures, on aircraft which may fly in the vicinity. Consider the performance outcomes for aviation safety and acceptable outcomes for aviation safety, integrity and efficiency in Module 20 of the *State development assessment provisions* version 1.9 - Wind farm state code and the associated *Wind farm state code planning guideline*, July 2016.
- 10.16. Discuss the proposal with respect to the National Airports Safeguarding Framework Guideline D: Managing the Risk of Wind Turbine Farms as Physical Obstacles to Air Navigation.
- 10.17. Discuss and recommend how identified impacts will be mitigated. Mitigation strategies are to be prepared in close consultation with relevant transport authorities (including Department of Transport and Main Roads, Local Governments, Civil Aviation Safety Authority, Air Services Australia, the district aerodrome supervisor and Department of Defence).

Flooding

- 10.18. Describe flood risks for a range of annual exceedance probabilities (including Probable Maximum Flood) for the site. Assess how the project may change flooding characteristics using the methodology outlined in Module 20 of the *State development assessment provisions* version 1.9 - Wind farm state code and the associated *Wind farm state code planning guideline*, July 2016.

- 10.19. The assessment should consider all infrastructure associated with the project including levees, roads and linear infrastructure and all proposed measures to avoid or minimise risks to life, property, community (including damage to other properties) and the environment during flood events. Refer to the assessment methodology outlined in Module 20 of the *State development assessment provisions* version 1.9 - Wind farm state code and the associated *Wind farm state code planning guideline*, July 2016.

Social and economic

Objectives

The construction and operation of the project should aim to:

- (a) avoid or mitigate adverse social and economic 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

- 10.20. In accordance with the Coordinator-General's *Social impact assessment guideline*⁵, describe the likely social impacts (positive and negative) on affected communities, taking into account proposed mitigation measures.
- 10.21. Define the project's social and cultural area of influence, including the local, regional and state level.

Community Engagement

- 10.22. The proponent must undertake a community engagement strategy to engage at the earliest practicable stage with all likely affected parties across the project footprint and all infrastructure corridor alignments.
- 10.23. Where appropriate, consideration should be given to coordinating local and/or regional community engagement processes with other project proponents.
- 10.24. Discuss engagement, negotiation and liaison strategies, including how complaints resolution will be addressed, for all stages of the project.

Social Baseline Study

- 10.25. Undertake a targeted baseline study of the people residing in the project's social and cultural area 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.

Social Impact Action Plans

- 10.26. 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

⁵ Refer to: <http://www.statedevelopment.qld.gov.au/resources/guideline/social-impact-assessment-guideline.pdf>

- (c) Stakeholder and Community Consultation and Engagement Action Plan
- (d) Social Infrastructure, Community Health and Well Being Action Plan
- (e) Local Industry Participation and Procurement Plan.

Impacts and mitigation and management measures

10.27. Address the following matters:

- the outcomes of community engagement processes including the response of the affected communities, including indigenous people
- any consultation, collaboration and/or negotiation about the acceptance or agreement of proposed mitigation and management strategies, and how practical management and monitoring regimes will be implemented
- include sufficient data to enable affected local authorities 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.

10.28. In accordance with the Coordinator-General's draft *Economic impact assessment guideline for coordinated projects*⁶, identify the size and effects of the project on the local and regional area. Estimate the net public benefits of the proposal using economic effects analysis and cost benefit analysis methodologies.

10.29. The economic analysis could consider but is not limited to potential impacts the project may have on:

- (a) 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.
- (b) The potential impacts the project may have on relevant prices, which might include wages, input costs and/or household goods and services.

Land use

Objectives

Development should be designed and operated to:

- (a) improve environmental outcomes
- (b) contribute to community wellbeing
- (c) contribute to social, economic and environmental sustainability.

Information requirements

10.30. Provide a copy of the proposed plan of development (or local area plan) explaining how the plan may vary the Kingaroy, Wambo, draft South Burnett and draft Western Downs planning schemes.

10.31. Discuss the compatibility of the project with the surrounding area and the Kingaroy/Dalby region, taking into consideration the proposed measures that would be used to avoid or minimise impacts. The discussion should include:

⁶ Department of State Development 2016, draft *Economic impact assessment guideline for coordinated projects*, 2016, Brisbane: Office of the Coordinator-General.

- (a) existing and proposed land uses in and around the project area, referring to regional plans and the local government planning scheme
 - (b) any tenures overlying and adjacent to the project site, and any to be applied for as part of this project
 - (c) state interests identified in the State Planning Policy (SPP)
 - (d) locational factors influencing the choice of site.
- 10.32. Discuss the proposal in the context of the Environment Protection and Heritage Council's draft *National Wind Farm Development Guidelines*, July 2010; as referred to in Module 20 of the *State development assessment provisions* version 1.9 - Wind farm state code and the associated *Wind farm state code planning guideline*, July 2016.
- 10.33. Discuss the proposal in relation to the Agriculture state interest identified in the SPP and the associated *State Planning Policy—state interest guideline: Agriculture*, April 2016.
- 10.34. Discuss the proposal in the context of the Darling Downs statutory regional plan and the Wambo Shire Planning Scheme for the Western Downs Regional Council.
- 10.35. Discuss the proposal in the context of the non-statutory Wide Bay Burnett Regional Plan, the Kingaroy Shire Planning Scheme and the draft planning scheme for the South Burnett Regional Council.
- 10.36. Describe and illustrate the visual impact of the construction and operation of the project. Include major views, view sheds, outlooks, and features contributing to the amenity of the area.
- 10.37. Present feasible alternatives of the project's configuration (including individual elements) that may improve environmental outcomes.
- 10.38. If the project impacts on Strategic Cropping Land (SCL), provide the approach to addressing the requirements of the *Regional Planning Interests Act 2014* (RPI Act). Document the necessary studies and discussions that have been completed concerning any SCL protection or mitigation decision.⁷
- 10.39. Identify potential and actual areas of acid sulfate soils. Where potential areas are identified, further investigations (including field surveys) should be undertaken in accordance with the SPP and accepted industry guidelines.
- 10.40. Detail any known or potential sources of contaminated land. Describe how any proposed land use may result in land becoming contaminated.
- 10.41. Identify existing and 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.

⁷ Refer to: www.nrm.qld.gov.au/land/planning/strategic-cropping

Flora and fauna

Objective

Matters of environmental significance are valued and appropriately safeguarded to support healthy and resilient ecosystems and ensure the sustainable, long-term conservation of biodiversity and the social, economic, cultural and environmental benefits it provides.

Information requirements

- 10.42. Describe the likely impacts on the biodiversity and natural environmental values of affected areas arising from the construction and operation of the project. 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
 - (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 *Water Act 2000* (for example, riverine protection permits) and/or would be assessable development for the purposes of the *Vegetation Management Act 1999* (VMA), or the *Fisheries Act 1994*
 - (g) chronic, low-level exposure to contaminants or the bio-accumulation of contaminants
 - (h) impacts on native fauna due to proximity to the site and site impacts (e.g. lighting, noise, waste)
 - (i) consideration of the relevant sections of Module 20 of the *State development assessment provisions* version 1.9 - Wind farm state code and the associated *Wind farm state code planning guideline*, July 2016.
- 10.43. 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.
- 10.44. Discuss any obligations imposed by state or Commonwealth legislation or policy, or international treaty obligations (that is, Japan–Australia Migratory Birds Agreement (JAMBA), China–Australia Migratory Birds Agreement (CAMBA) and Republic Of Korea–Australia Migratory Birds Agreement (ROKAMBA)).
- 10.45. 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.

- 10.46. Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed.
- 10.47. The *Environmental Offsets Act 2014* (EO Act) applies to the project. If a 'prescribed activity'⁸ will result in a 'significant residual impact'⁹ on a 'prescribed environmental matter'¹⁰ a 'notice of election'¹¹ must be developed in accordance with section 18 and 19 of the EO Act. To assist in understanding any offset requirements, the total area for each impacted prescribed environmental matter should be presented in a table.

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

- 10.48. The EIS should include a clear summary of the total transport task for the project, including workforce, inputs and outputs during the construction and operational phases.
- 10.49. 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.
- 10.50. Provide sufficient information to allow an independent assessment of how existing transport infrastructure will be affected by project transport at the local and regional level (for example, local roads and state-controlled roads).
- 10.51. Include details of the adopted assessment methodology for impacts on roads within the road impact assessment report in accordance with the *Guidelines for Assessment of Road Impacts of Development*.
- 10.52. Discuss the potential project impacts in relation to Module 20 of the *State development assessment provisions* version 1.9 - Wind farm state code and the associated *Wind farm state code planning guideline*, July 2016.
- 10.53. Discuss potential project impacts, and proposed mitigation measures, on aircraft which may fly in the vicinity.
- 10.54. Discuss and recommend how identified impacts will be mitigated. Mitigation strategies are to be prepared in close consultation with relevant transport authorities (including Department of Transport and Main Roads, Local Governments, Airservices Australia, Civil Aviation Safety Authority and Department of Defence).

⁸ See Section 9 of the EO Act and Schedule 1 of the Environmental Offsets Regulation 2014

⁹ See Section 8 of the EO Act

¹⁰ See Section 10 of the EO Act and Schedule 2 of the Environmental Offsets Regulation 2014

¹¹ As per the EO Act definition – Means a notice mentioned in section 18(2) by which an authority holder elects to deliver an environmental offset

11. Assessment of routine matters

- 11.1. The following subsections list the routine matters for coordinated projects, with (where applicable) a reference to the relevant objectives. In some cases, not all the matters may be relevant, while in others the list may not be exhaustive.
- 11.2. For each routine matter identified below, the level of detail should be proportional to the risk or magnitude of impacts. As a minimum, the proponent should supply sufficient information that confirms the risks/impacts are not significant.

Water quality

Objective

Development is planned, designed, constructed and operated to protect environmental values of Queensland waters and supports the achievement of water quality objectives.

Information requirements

- 11.3. Describe the hydrology within the study area.
- 11.4. Detail the chemical and physical characteristics of surface waters and groundwater within the area that may be affected by the project. Include a description of water quality variability associated with climatic and seasonal factors, variability of freshwater flows and extreme events.
- 11.5. Identify the quantity, quality and location of all potential discharges of water and wastewater by the project, whether as point sources (such as controlled discharges) or diffuse sources (such as irrigation to land of treated sewage effluent).
- 11.6. Describe the proposed management of existing and/or constructed waterbodies on the project site to maintain water quality.
- 11.7. Assess the potential impacts of the project against the relevant provisions of Module 20 of the *State development assessment provisions* version 1.9 - Wind farm state code and the associated *Wind farm state code planning guideline*, July 2016.
- 11.8. 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.
- 11.9. Describe how the achievement of the objectives would be monitored and audited, and how corrective actions would be managed. Describe mitigation strategies and contingency plans for:
- potential accidental discharges of contaminants and sediments during construction and operation
 - stormwater run-off from the project facilities and associated infrastructure
 - flooding of relevant river systems, the effects of tropical cyclones and other extreme events
 - management of acid sulfate soils (see also paragraph 11.20).

Air

Objective

Development is planned, designed, constructed and operated to protect the environmental values of air.

Information requirements

- 11.10. Fully describe the characteristics of any contaminants or materials released that may be released as a result of the construction or operations of the proposal, including point source and fugitive emissions. Emissions (point source and fugitive) during construction, commissioning, operations and upset conditions should be described.
- 11.11. 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 receptors¹². 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) qualify 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).
- 11.12. 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.
- 11.13. Describe how the achievement of the objectives would be monitored, audited and reported, and how corrective actions would be managed.

Water resources

Objectives

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

¹² For example, the locations of existing residences, places of work, schools, etc., agricultural or ecologically significant areas/species that could be impacted.

- (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

- 11.14. 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*.
- 11.15. Provide information on the proposed water usage by the project, including details about:
- (a) the ultimate supply required to meet the demand for construction and full operation of the development, including timing of demands
 - (b) the quality and quantity of all water supplied to the site during the construction and operational phases based on minimum yield scenarios for water reuse, rainwater reuse and any bore water volumes
 - (c) a water balance analysis.
- 11.16. Describe proposed sources of water supply given the implication of any approvals required under the *Water Act 2000*. Estimated rates of supply from each source (average and maximum rates) must be given and proposed water conservation and management measures must be described.
- 11.17. Determination of potable water demand must be made for the project, including the temporary demands during the construction period. Include details of any existing town water supply to meet such requirements. Detail should also be provided to describe any proposed on-site water storage and treatment for use by the site workforce during construction and operational phases.
- 11.18. Provide detailed designs for all infrastructure utilised in the treatment of on-site water including how any on-site water supplies are to be treated, contaminated water is to be disposed of and any decommissioning requirements and timing of temporary water supply/treatment infrastructure is to occur.

Biosecurity

Objectives

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

- 11.19. Propose detailed measures to control and limit the spread of pests and weeds on the project site and adjacent areas. This includes declared plants under the Biosecurity Regulation 2016, weeds of national significance, and designated pests under the *Public Health Act 2005*.

Waste management

Objective

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

Information requirements

- 11.20. For wastes besides wastewater (which is addressed in paragraph 11.9(d)), describe all the expected significant waste streams from the proposed project activities during the construction and operational phases of the project.
- 11.21. Define and describe the objectives and practical measures for protecting or enhancing environmental values from impacts by wastes. Take into account best practice waste management strategies and the Environmental Protection (Waste) Policy 2000 and the Environmental Protection (Waste) Regulation 2000.
- 11.22. 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.
- 11.23. 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.
- 11.24. 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.

Cultural heritage

Objective

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

Information requirements

- 11.25. 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.

- 11.26. 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.

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
EO Act	<i>Environmental Offsets Act 2014</i>
EP Act	<i>Environmental Protection Act 1994</i>
EP Regulation	Environmental Protection Regulation 2008
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i> (Cwlth)
EPBC Regulations	Environment Protection and Biodiversity Conservation Regulations 2000 (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)
SDAP	State Development Assessment Provisions prescribed in the Sustainable Planning Regulation 2009
SDPWO Act	<i>State Development and Public Works Organisation Act 1971</i>
SPA	<i>Sustainable Planning Act 2009</i>
TOR	terms of reference
VMA	<i>Vegetation Management Act 1999</i>

Appendix 1. Policies and guidelines

Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand 2000, *The Australian and New Zealand Guidelines for Fresh and Marine Water Quality*, Australian Water Association (Artarmon) and NZ Water and Wastes Association (Auckland), viewed 22 July 2016,

www.environment.gov.au/water/publications/quality/nwqms-guidelines-4-vol1.html

The Coordinator-General, 2013, *Preparing an environmental impact statement: Guideline for proponents*, Department of State Development, Brisbane, viewed 22 July 2016,

www.statedevelopment.qld.gov.au/fact-sheets-and-guidelines/coordinated-projects.html

The Coordinator-General 2013, *Social impact assessment guideline*, Department of State Development, Brisbane, viewed 22 July 2016,

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

Department of Agriculture and Fisheries, *DAFF Environmental Impact Assessment Companion Guide*, August 2014, Department of Agriculture and Fisheries, Brisbane, 2014, viewed 22 July 2016,

www.publications.qld.gov.au/storage/f/2014-10-16T04%3A21%3A57.215Z/environmental-impact-assessment-guide.pdf

Department of Environment and Resource Management 2009, *Queensland Water Quality Guidelines, Version 3*, Department of Environment and Resource Management, Brisbane, viewed 22 July 2016,

www.ehp.qld.gov.au/water/guidelines

Department of Environment and Heritage Protection, 2016, *EIS information guideline – Quarry material*, Department of Environment and Heritage Protection, viewed 22 July 2016,

<http://www.ehp.qld.gov.au/management/impact-assessment/eis-processes/documents/generic-tor-supporting-guidelines/tor-guideline-quarry-material.docx>

Department of Infrastructure, Local Government and Planning, 2016, *State development assessment provisions*, Version 1.9, Department of Infrastructure, Local Government and Planning, Brisbane, viewed 22 July 2016,

www.dilgp.qld.gov.au/planning/development-assessment/state-development-assessment-provisions.html

Department of Infrastructure, Local Government and Planning 2016, Module 20 – *State Development Assessment Provisions*, version 1.9 July 2016, Department of Infrastructure, Local Government and Planning, Brisbane, viewed 22 July 2016,

www.dilgp.qld.gov.au/resources/policy/sdap/v1-9/module20.pdf

Department of Infrastructure, Local Government and Planning, *State Planning Policy April 2016*, Department of Infrastructure, Local Government and Planning, viewed 22 July 2016,

www.dilgp.qld.gov.au/resources/policy/state-planning/spp-april-2016.pdf

Department of Infrastructure, Local Government and Planning 2016, *Wind farm state code – planning guideline*, July 2016, Department of Infrastructure, Local Government and Planning, Brisbane, viewed 22 July 2016,

www.dilgp.qld.gov.au/resources/guideline/planning/draft-wind-farm-state-code-guideline.pdf

Department of Main Roads, *Guidelines for Assessment of Road Impacts of Development*, Department of Main Roads, Brisbane, 2006, viewed 22 July 2016,

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

Work Health and Safety Regulation

2011(Qld), www.legislation.qld.gov.au/legislatn/current/w/workhsr11.pdf

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