

Project Specific Guidelines  
for Preparing an  
Environmental Impact  
Statement  
for  
Epuron Projects Pty Ltd  
St Patricks Plains Wind Farm

*October 2019*



ENVIRONMENT PROTECTION AUTHORITY

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## General Information for the Proponent

### Purpose

The *Environmental Management and Pollution Control Act 1994* (the EMPC Act) requires the Board of the Environment Protection Authority (the Board) to provide guidance to the proponent about what should be included in the case for assessment.

The Board will assess environmental aspects of the proposal. The relevant Planning Authority (Central Highlands Council) will assess planning aspects if the *Land Use Planning and Approvals Act 1993* applies. The Board has authorised EPA Tasmania to undertake administrative tasks and establish the information base to inform decision making on its behalf.

These guidelines provide information on preparing an Environmental Impact Statement (EIS) for an activity being assessed by the Board under the EMPC Act.

Information solely for the purpose of assessment under the relevant Planning Scheme should be supplied to the Planning Authority either:

- as required under s 54 of the *Land Use Planning and Approvals Act 1993* (LUPAA), where the planning application has commenced the environmental assessment process; or
- where it is intended to submit an EIS (draft or final) with the planning application, a combined planning and environmental report can be prepared. However, the information required for the Board's assessment must be distinguished from that supplied for the purposes of LUPAA.

### Risk Based Assessment

The EIS should be prepared using a risk based approach. Not all issues nominated in these guidelines will have the same degree of relevance to all proposed activities. Depending on the nature of the proposed activity and its location, some of the issues may be more relevant than others, and some may not be applicable at all. The level of detail provided on each issue should be appropriate to the level of significance of that environmental issue to the proposal.

As well as the issues identified in the guidelines, other significant matters may emerge during preparation of the EIS from environmental studies, public comments or other sources, which will need to be factored into the EIS. The assessment process may also change the understanding of the level of risk associated with some of the issues. This may in turn change the level of detail needed in the EIS to reflect the level of significance of that environmental issue to the proposal.

After the public consultation phase, additional information may be requested from the proponent in response to public and government agency submissions. This generally takes the form of a supplement to the EIS.

### Objectives of the EIS

The EIS should provide:

- Information for individuals and groups to gain an understanding of the proposal, the need for the proposal, the alternatives, the environment that it could affect, the positive and negative environmental impacts that may occur and the measures that will be taken to maximise positive outcomes, and minimise any adverse environmental impacts, including specific management measures.
- A basis for public consultation and informed comment on the proposal.
- A framework against which decision makers, particularly the Board, and sometimes the relevant Planning Authority, can consider the proposal and determine the conditions under which any approval might be given.

- A demonstration that the proposal is consistent with the objectives of the relevant laws and policies, including the Tasmanian Resource Management and Planning System (RMPS) and the Environmental Management and Pollution Control System (EMPCS).

### *How the Board uses the EIS*

The EIS is the basis on which the Board makes its assessment. The Board considers the EIS, as well as other relevant information, against the objectives of the RMPS and EMPCS objectives. These objectives focus on the concept of sustainable development, which requires consideration of the economic and social needs of people now and in the future, while sustaining the environment and avoiding or mitigating adverse effects. The Board will consider the objectives and endeavour to make the decision which best furthers them, when considered together. That decision may be to approve the proposal with conditions, or in some cases, the Board may decide the objectives cannot be upheld and the proposal is rejected.

### *Structure and Formatting of the EIS*

The following points should be considered when writing the EIS:

- The title page should include the proponent's name, the activity name, the proposal address or location, the EIS version number (where relevant) and the month and year of publication.
- The main text of the EIS should be written in a clear and concise style that is easily understood by the general reader.
- Assertions and assumptions should be supported by adequate argument and/or evidence, and evidence relied upon should be referenced.
- Technical terminology should be avoided as far as possible. The detailed technical data and supplementary reports necessary to support the main text should be included in appendices.
- All sources of information should be referenced and the style of referencing should be consistent throughout. An indication should also be given about how current the information is and how its reliability was tested. In particular, the degree of confidence attached to any predictions should be indicated.
- Information should be presented in maps, diagrams and site plans to enhance the level of understanding. All images must be of high quality, with all text readily readable, and should be capable of being readily copied and pasted into other documents such as a permit (e.g. all objects in images should be 'grouped'). All colour images must, when printed or photocopied in monochrome, reproduce such that all important features are readily visible. An exception may be made to the above where historical documents or photographs need to be reproduced in the document. For ease of comparison, all maps, plans and aerial photographs should be oriented in the same direction as far as practicable and a north direction arrow and scale should be included.
- When providing maps or referring to spatial databases, the coordinate reference system being used should be specified (i.e. Australian Geodetic Datum (AGD) or Geocentric Datum of Australia (GDA)).
- Any sensitive information should be provided in a separate, confidential appendix. A comment should be made in the EIS that the information has been provided in this way.
- Specific management measures must be clearly identified in the text and included in the summary table referred to in Section 9 of these guidelines.
- Where appropriate, information provided in other sections should be referenced to minimise duplication.

### *Submission of draft and final document*

Close consultation with EPA Tasmania while preparing the EIS is recommended. It is advisable for the proponent to submit a draft EIS to EPA Tasmania for review before it is finalised. Please note

that a draft document may be rejected without detailed review if it is incomplete, contains significant formatting or typographical errors, or does not comply with the Project Specific Guidelines. More than one draft may be necessary before the document is considered suitable for public release.

The EIS is to be submitted in electronic format for use with a word processor (such as Microsoft Word), and suitable for publishing on the internet (PDF format). Printed copies may also be required at public consultation stage. The proponent will be advised of the number of copies and format required.

Once the proposal is advertised for public comment, copies of the EIS must be made available to the public on request, in either printed or electronic format. The EIS will also be available on the EPA website.

### ***Commonwealth environmental assessment***

The proposal has been determined to be a controlled action on 8 October 2019 under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC Reference 2019/8497) and will require assessment and approval under the EPBC Act, in addition to Tasmanian State and Local government requirements. It was determined that the proposed action will have, or is likely to have, a significant impact on matters of national environmental significance, protected under Part 3 of the EPBC Act including:

- Listed threatened species and communities (sections 18 and 18A).

The Commonwealth and Tasmanian Governments have signed a bilateral agreement relating to environmental impact assessment under section 45 of the EPBC Act, which effectively accredits the State assessment process. The EIS should specifically describe the implications of the proposal for the relevant EPBC Act controlling provisions. This information should be sufficient to allow the Commonwealth Minister for the Environment to make an informed decision on whether or not to approve the taking of the action, under Part 9 of the EPBC Act, for the purposes of each controlling provision.

The EIS should contain a summary table showing that it addresses the matters specified in Schedule 4 of the Commonwealth [Environment Protection and Biodiversity Conservation Regulations 2000](#).

### ***False or misleading statements***

Under section 43A of the EMPC Act, the EIS must not include information that is known to be false or misleading; and nothing should be omitted if it is known that without it the EIS would be false or misleading.

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## Contents of the EIS

### Executive Summary

An executive summary of the EIS should be included to provide a clear and concise overview of the proposal, its environmental implications, the approvals process and the function of the EIS in the context of the approvals process.

For larger EISs, it is recommended that the executive summary be written as a stand-alone document, able to be provided on request to interested parties who may not wish to read or acquire the full EIS.

### Table of Contents

A table of the contents of the report with reference to the relevant page numbers. It should also contain a list of figures and tables.

### List of Abbreviations

A list of the abbreviations, acronyms and, if relevant, a glossary of terms used in the EIS.

## Key Issues to be addressed

While the EIS should evaluate all potential effects of the proposal, it should be principally focused on the key issues identified in the table below. The level of detail provided on other issues should be appropriate to the level of significance of that issue for the proposal. Variables or assumptions made in the assessment must be clearly stated and discussed. The extent to which the limitations, if any, of available information may influence the conclusions of the environmental assessment should be discussed.

The key issues identified for this proposal, which should be the focus of the EIS, are:

Key Issues	
1	<i>Potential effects on threatened avifauna</i>
2	<i>Potential effects on threatened non-avian fauna</i>
3	<i>Potential effects on threatened flora and ecological communities</i>
4	<i>Potential noise effects on surrounding residences</i>

The minimum survey requirements and studies required in relation to these key issues are provided in the relevant sections of these guidelines.

***It should be noted that other matters deemed to be significant or matters that emerge as significant from environmental studies, public comments or otherwise during the course of the preparation of the EIS, should not be excluded from consideration.***

The following guidelines may be of use in preparing the EIS:

- Environment Protection and Heritage Council, 2010, *National Wind Farm Development Guidelines – Draft*, July 2010
- New Zealand Standard NZS 6808:2010 Acoustics – wind farm noise.
- NSW Planning and Environment, 2016, *Wind Energy Guideline for State significant wind energy development*, December 2016
- Victoria Environment, Land, Water and Planning, 2016, *Policy and Planning Guidelines for the Development of Wind Energy Facilities in Victoria*, January 2016.

All discussions and conclusions should include a full justification based on best available information, including relevant conservation advices, recovery plans, threat abatement plans and guidance documents, if applicable. Commonwealth documents regarding listed threatened species and ecological communities and listed migratory species can be found at: <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>

## I. Introduction

Provide information on the following:

- Title of the proposal.
- Proponent details:
  - Name of proponent (legal entity)
  - Name of proponent (trading name)
  - Registered address of proponent
  - Postal address of proponent
  - ABN number
  - ACN number (where relevant)
- Contact person's details:
  - Name
  - Telephone
  - Email address
- Activity operator details (if the operator will be a different entity to the proponent).
- General background information on the proponent, such as relevant development and operational experience.
- General background information on the proposal, including the current status of the proposal, an overview of the principal components of the proposal, the proposal location, anticipated establishment costs, likely markets for the product, and the possibilities for future expansion.
- An examination of how the proposal relates to any other proposals that have been or are being developed, or that have been approved in the region affected by the proposal.
- Environmental legislation, standards and guidelines that will be applicable (such as policies, regulations and industry codes of practice).
- Other relevant Commonwealth, State and Local Government policies, strategies and management plans with which the proposal would be expected to comply.
- Details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:
  - The person proposing to take the action.
- If the person proposing to take the action is a corporation, details of the corporation's environmental policy and planning framework should be described.

## 2. Proposal Description

### General note

Where the proposal is to be subject to a permit application under the LUPA Act, the proposal description and specification of the site must be consistent with the intended or current permit application. Any works or activity that are for the purpose of the proposal (e.g. access works) must be included.

Provide a full description of the proposal, including construction, commissioning, operational and decommissioning phases, as well as any infrastructure and off-site ancillary facilities required for the proposal.

A detailed description should be provided of key physical components of the proposal, including their function, composition, size, capacity, operational life, technical and performance requirements, inter-relationships and method of construction, operation and maintenance.

The information listed below should be provided.

## **2.1 General**

- The major items of equipment (including pollution control equipment) and on-site facilities should be described. Detailed technical information on major items of equipment may be included in appendices.
- Details of wind turbine specifications, ancillary facilities such as a switchyard, sub-station, new and up-graded roads/access tracks, underground infrastructure (i.e. cable network), maintenance facilities and on-site amenities. The proposed generating capacity, number and dimensions of wind turbines must be specified.

## **2.2 Construction**

- A step-by-step description and timetable for significant activities during the construction phase of the proposal. Indicative timeframes for the completion of major steps (wind farm, switchyard and ancillary facilities), and the likely sequencing of steps.
- Details of any pre-construction works, including site preparation works, and any temporary or permanent removal of vegetation including, stockpiling of vegetation, erosion control measures and the potential transport of pollutants (e.g. suspended solids) from areas of disturbance during construction.
- Details of any pre-clearance surveys to be carried out prior to commencement of construction, including flora and fauna and geotechnical studies.
- Estimates of the quantities of major raw materials required for construction (e.g. gravel, sand/aggregate and water) and how and where these will be sourced, i.e. on-site and/or off-site.
- Nature, capacity and location(s) of temporary construction equipment required on-site (such as cranes, concrete batch plants, construction camps).
- Volume, composition, origin, destination and route for vehicle movements likely to be generated during the construction phase, including a breakdown for over-dimension and heavy vehicles.
- Information on the number of construction workers required in the various stages of construction, sources of labour, transport of workers to and from the site, accommodation, and support servicing requirements.
- Proposed hours per day and days per week of construction activities.

## **2.3 Commissioning**

A step-by-step description of major commissioning activities following installation of equipment. Indicative timeframes for the completion of major steps, and the likely sequencing of steps. The point at which commissioning will be considered completed should be described.

## **2.4 Operation and maintenance**

- Description of the operational and maintenance requirements (e.g. frequency of maintenance activities, equipment access and hardstand requirements) for the wind turbines.
- Details of the design life for major project components.
- The volume, composition, origin, destination and route for vehicle movements likely to be generated during the operational phase.
- The hours of operation.

## 2.5 General location map

A general location map (e.g. 1:25,000 scale or better as appropriate) which identifies the following is required:

- The location of the proposal site
- Topographical features, aspect and direction of drainage
- Road access to and from the site
- Location of waterways and drains (including ephemeral)
- The distance(s) to any nearby sensitive uses (such as residences)
- Electricity transmission lines / substations
- Boundaries of the property on which the proposal is located
- Surrounding land tenure
- Surrounding land use (identify areas of conservation or recreational significance)
- Surrounding land zoning in the local government planning scheme.

## 2.6 Site plan

Site plans are required which identify the proposal site and which include the following (where relevant).

- Definition of the land on which the activity will take place, and its boundary, by means of land title information, map coordinates or other means. This must be consistent with any intended permit application under the LUPA Act. Coordinates of the land should be provided.
- A site plan showing the location of all major items of equipment (including wind turbine layout) and facilities.
- The position of buildings and significant structures on the site (existing and proposed).
- The route of any pipelines, tracks or similar means of transporting on-site materials.
- The location(s) of raw materials storage areas.
- The locations of temporary and permanent storage areas for fuels, oils, reagents and other hazardous goods or chemicals.
- The locations of stormwater collection systems and details of drainage control measures such as cut-off drains and sediment settling ponds, including location of all discharge points (stormwater or other).
- Details of any screening vegetation.
- The location(s) of loading or unloading areas.
- The location(s) of any monitoring sites.

## 2.7 Visual description

Describe the impacts of the proposal on the visual landscape.

- The description should take account of the appearance of the proposal from significant vantage points. These should include points both inside and outside the site and should include viewpoints likely to be visited by tourists or recreational users.
- Presentation of 'artists impressions', photomontages or visual modelling is recommended.
- Shadow flicker should be modelled to assess the likelihood of disturbance to any residents in the immediate vicinity. The results of the modelling should be provided in the EIS with a discussion of how this will be managed or minimised.
- A blade glint assessment should be included in the EIS to determine the likelihood of disturbance to any residents in the immediate vicinity.

## 2.8 Off-site infrastructure

Any new infrastructure or off-site ancillary facilities required to allow the proposal to proceed should be described (for example water supply, electricity supply, roads or other transport infrastructure).

## 3. Project Alternatives

The rationale for the particular project proposed should be described.

Describe the site selection process, including site selection criteria, alternative sites considered and an assessment of those alternatives. The assessment should compare alternatives according to clearly defined environmental, social, economic and technical considerations, and provide a justification for the preferred site. The effect that any community consultation undertaken had on the selection process should be detailed.

A critique of other available technologies and the reason for the selection of the preferred technology, including from an environmental perspective, should be included where relevant. Transparency around alternatives and the criteria on which decisions have been based is encouraged as it can lead to better outcomes.

For any part of the proposal where alternative technologies, materials, design options or management practices with different environmental consequences may exist, the alternatives should be identified, their environmental performance evaluated and the reason for the proposed choice justified.

Alternatives should have regard to best practice environmental management, including those measures listed under section 4(2) of the EMPC Act.

## 4. Consultation

Details of the nature and results of public consultation undertaken by the proponent during project planning and preparation of the EIS, as well as any proposals for further public consultation during and beyond project implementation should be provided.

Early community engagement often leads to better outcomes for all and is strongly encouraged. The Board has produced a guide to community engagement which is available on the EPA website at: <http://epa.tas.gov.au/assessment/assessment-process/guidance-documents>.

Refer also to the National Wind Farm Commissioner's website for best practice community engagement at: <https://www.nwfc.gov.au/publications/best-practice>.

Comments from the following agencies are provided for information.

- TasNetworks

Welcomes continued discussions with the proponent regarding connection to the electricity transmission network in Tasmania. There are four existing transmission assets which traverse the proposed wind farm site:

- 110kV TL409 Waddamana-Parknook
- 110kV TL410 Waddamana-Palmerston
- 220kV TL502 Liapootah-Palmerston No. 1
- 220kV TL527 Liapootah-Palmerston No. 2.

- Civil Aviation Safety authority
  - Airservices Australia must be contacted via Vertical Obstacle Database (VOD) email address at [vod@airservicesaustralia.com](mailto:vod@airservicesaustralia.com), one month prior to works commencing, so that a NOTAM (Notice to Airmen) can be published advising pilots that construction of tail structures in the area is imminent.
  - Once development approval is granted, coordinates and estimated survey heights of each turbine should be reported to the Airservices Australia VOD email address to ensure that the location of the wind farm can be mapped for the information of pilots.
- AirServices Australia

An Aviation Impact Statement undertaken by an aeronautical consultant is required to be submitted along with the Wind Farm development application submitted to Airservices.
- Heritage Tasmania

In proximity to the area of the works is Tasmanian Heritage Register #11943 Great Lake Hydro Electric Scheme which relates to multiple points of interest in the Central Highlands. Any works within this area will require approval from Heritage Tasmania.
- Aboriginal Heritage Tasmania

Will provide comment on the Aboriginal heritage assessment survey for the project, once completed.

## 5. The Existing Environment

Describe the proposed site location and provide an overview of the existing environment, which may be affected by construction, and operation of the proposal, including areas associated with any ancillary activities.

Include details of salient features of the existing environment and, where appropriate, include maps, plans, photographs, diagrams or other descriptive detail.

The following details should be included.

### 5.1 Planning aspects

- If a permit is required for the proposal under the LUPA Act provide:
  - Use Class of the proposed activity under the applicable Planning Scheme.
  - Permissibility of the activity under the applicable Planning Scheme.
- Information on land tenure and property boundaries of the proposed site, with certificate of title details.
- Land zonings for the proposed site and surrounding areas.
- Any rights of way, easements and covenants affecting the site.
- Land use and planning history of the site, including the potential for site contamination<sup>1</sup>, present use and any existing buildings and significant structures.
- A description of land use and ownership in the vicinity of the site and those areas which may be affected by the proposal, including:
  - The location and nature of industrial facilities.

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<sup>1</sup> Information on potentially contaminating activities and contaminated site assessment can be found online at <http://epa.tas.gov.au/regulation/contaminated-sites>.

- Any sensitive uses<sup>2</sup> or residential zones within applicable attenuation distances including the location of individual residences, schools, hospitals, caravan parks and similar sensitive uses, and the location of any tourist or recreation facilities or routes (such as camping areas, picnic areas, walking tracks, historic routes).
- Any proposed or potentially sensitive uses within this distance of the proposal site, which have been or are likely to be granted approval under the local planning scheme, should also be considered.

## 5.2 Environmental aspects

- A description of the general physical characteristics of the site and surrounding area, including topography, local climate, geology, geomorphology, soils (including erodibility and acid sulphate soils), vegetation, fauna, groundwater and surface drainage (including waterways, lakes and wetlands).
- A description of natural processes of particular importance for the maintenance of the existing environment (e.g. fire, flooding, etc).
- Any existing conservation reserves located on or within 500 metres of the site.
- Any high quality wilderness areas identified in the *Tasmanian Regional Forest Agreement* in the vicinity of the site.
- Information on species, sites or areas of landscape, aesthetic, wilderness, scientific or otherwise special conservation significance which may be affected by the proposal. Relevant information resources include the LIST ([www.thelist.tas.gov.au](http://www.thelist.tas.gov.au)) and the Natural Values Atlas (<https://www.naturalvaluesatlas.tas.gov.au>).
- An assessment of the vulnerability of the site to natural hazards (e.g. flooding, seismic activity, fire, landslips or strong winds).
- Any available ambient monitoring results in the vicinity of the proposed development (in tabular or graphical form). The results may be summarised (e.g. as annual averages) if the summary will provide adequate information.

## 5.3 Socio-economic aspects

Briefly describe the existing social and economic environment that may be affected by the proposal, which may include information on the following:

- A summary of the social or demographic characteristics of the population living in the vicinity of the proposal site, identifying any special characteristics which may make people more sensitive to impacts from the proposal than might otherwise be expected.
- A summary of the characteristics of the local and regional economy.

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<sup>2</sup> Defined in the State Planning Provisions as ‘a residential use or a use involving the presence of people for extended periods except in the course of their employment such as a caravan park, childcare centre, dwelling, hospital or school.’

## 6. Potential Impacts and their Management

### Guide to preparing this section

While some details of the proposal may not be finalised at the time the EIS is submitted, the information in the document should be as up to date as possible. Where information is unavailable or details have not yet been finalised, estimates and the range of alternative options should be provided. However, sufficient technical detail must be provided to enable an appropriate level of assessment. For each potential impact the following should be discussed.

#### Existing conditions

Outline the existing conditions relevant to the impact.

#### Performance requirements

Identify the environmental performance requirements to be achieved for each environmental impact and provide evidence to demonstrate that these can be complied with. These may be standards or requirements specified in legislation, codes of practice, state policies, national guidelines (including relevant recovery plans and conservation advices) or as determined by agreement with the assessing agencies. Industry best practice standards should be referred to where appropriate. **Unsupported assertions that performance requirements will be achieved will not be considered adequate.**

#### Potential impacts

Outline the potential environmental, social and economic impacts of the proposal (positive and negative) through all stages, including construction, operation and closure, in the absence of special control measures. Any foreseeable variations in impacts during the start-up and operational phases should be identified.

**The level of detail provided on each issue should be appropriate to the level of significance of that environmental issue to the proposal.**

The evaluation of potential impacts should identify **plausible worst case consequences**, the vulnerability of the affected environment to the potential impacts, and the reversibility of the impacts. Potential cumulative impacts of this proposal in light of other activities underway or approved also need to be addressed. Interactions between biophysical, socio-economic and cultural impacts should be identified.

Predictions and evaluations of impacts should be based on scientifically supportable data. Direct, indirect, cumulative and facilitated impacts should all be identified. The methodologies used or relied on should be referenced, together with the relevant research and investigations supporting them. Assumptions, simplifications and scientific judgements should be stated clearly, and the nature and magnitude of uncertainties should be clearly defined. Where relevant, the choice of a particular methodology over alternative methodologies should be explained. Where impacts are not quantifiable, they should be adequately described.

Where positive benefits are claimed it will generally be appropriate to explain what measures are to be taken to ensure that those positive outcomes are realised and sustained.

#### Avoidance and mitigation measures

Describe the measures proposed to avoid or mitigate potential adverse impacts (having regard to best practice environmental management as defined in EMPCA) in order to achieve the environmental performance requirements (such as through pollution control technology or management practices). The extent to which they will overcome the anticipated impacts should be specified. The ongoing management and monitoring measures, and the party responsible for each

measure. Where there are clear, alternative avoidance or mitigation measures for a particular adverse environmental impact, the alternatives should be reviewed and the preferred option justified. Discussion of the achievability of the measures, including affordability, should be included.

Where pollution control equipment and/or treatment processes are key factors in achieving satisfactory environmental performance, contingencies in the event of breakdown or malfunction of the equipment or processes should be discussed. It should be demonstrated that the maintenance of pollution control equipment can be provided for without causing performance requirements to be exceeded.

Where measures to control environmental impacts are necessary, but will not be undertaken by the proponent, the means by which the proponent will ensure that the necessary measures are implemented should be identified (e.g. lease conditions, trade waste agreement, contractual arrangement or other binding third party commitment). **Mitigation measures over which the proponent has no control will generally not be considered adequate.**

### **Assessment of net impacts**

An assessment of the overall impacts of the development on the environment after allowing for the implementation of proposed avoidance and mitigation measures. This should include an evaluation of the significance of impacts, the potential for emissions to cause environmental and health impacts and comparison with state, national and international regulations and standards. Any net benefits likely to result from the proposal should be identified.

Discuss the impacts of the proposal in terms of the constraints or benefits it may place on the current or future use of land within the proposal site and surrounding area as a result of environmental impacts or emissions, including impacts on other uses, particularly sensitive uses.

### **Offsetting unavoidable adverse impacts**

If adverse residual environmental impacts from the proposal are considered unavoidable despite the adoption of best practice environmental management avoidance and mitigation measures, then proposals to offset such impacts should be detailed. For example, if the loss of conservation values, community assets or amenities is considered unavoidable, measures to compensate for those losses should be proposed in proportion to the loss. Any offset actions proposed must be demonstrated to be 'real' actions. That is, **the offset actions must have a measurable and relevant benefit which would otherwise not have occurred.**

### **Offsetting for significant residual impacts to MNES**

Describe the residual impacts on MNES that are likely to occur as a result of the proposed action in its entirety, after proposed avoidance and/or mitigation measures are taken into account. If applicable, this should include the reasons why avoidance or mitigation of impacts cannot be reasonably achieved.

If residual impacts are proposed to be offset provide an offset package to compensate for residual impacts to MNES. This should consist of an offset proposal and key commitments and management actions for delivering and implementing the proposed offset (e.g. an Offset Management Plan). Note, the offset management plan should be prepared as a separate document and attached as an appendix to the documentation.

Offsets must deliver an overall conservation outcome that improves or maintains the ongoing viability of the species and ecological communities, as compared to what is likely to have occurred if neither the action nor the offset had taken place. The proposed offset must meet the requirements of the Department's *EPBC Act Environmental Offsets Policy* (October 2012) available at: [www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy](http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy).

The Department's *Offset Assessment Guide* can be used as a guide to calculate the area of offset required to adequately compensate for the residual impacts of the project, it is available at: [www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy](http://www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy). An Assessment Officer within the Department will assess the offset based on the information provided in the offsets proposal using the offsets assessment guide.

Offsets required by the State can contribute to offset obligations under the EPBC Act if those offsets also meet the requirements of the *EPBC Act Environmental Offsets Policy*.

## 6.1 Key Issue 1: Threatened avian fauna

### General information

Discuss impacts of the wind farm and any other ancillary infrastructure on threatened avian fauna including:

- Impacts on species and habitats, with particular reference to rare and threatened species, migratory species and habitats, including those listed under the relevant Schedules of the Commonwealth EPBC Act and the Tasmanian *Threatened Species Protection Act 1995* (TSP Act).
- A description of the matters of national environmental significance that are within the proposal area and surrounding areas.
- Where impacts cannot be avoided, proposed measures to mitigate and/or compensate adverse impacts on biodiversity and nature conservation values should be presented.
- Any new raptor nests recorded during surveys should be submitted to the Natural Values Atlas (NVA) as soon as practicable following surveys.
- Information about the identification of threatened avian fauna including survey data and historical records. Details of surveys undertaken, including survey effort, timing and an assessment of the adequacy of the surveys.
- Information detailing known/recorded populations and known or potential habitat, including habitat in the area surrounding the proposed action.

The Land should be surveyed in accordance with the *Guidelines for Natural Values Surveys – Terrestrial Development Proposals*, which can be found at: <http://dipwe.tas.gov.au/conservation/development-planning-conservation-assessment/survey-guidelines-for-development-assessments>.

### Bird Utilisation Surveys

Bird utilisation surveys should be carried out across the proposed project footprint to determine utilisation of the area by avian fauna species. These surveys should be carried out in the following manner:

- Surveys should be undertaken by suitably qualified persons.
- Multiple observers should be used for each survey.
- Survey methodology should be such that spatial use of the site (any favoured areas, any common flight paths, etc.) can be determined, particularly for any threatened or migratory species.
- Five-day surveys are recommended at the mid-point of each season (summer, autumn, winter and spring), undertaken during daylight hours.
- Surveys should be undertaken over a minimum period of one year.

### Targeted eagle utilisation surveys

Impacts of the proposed windfarm are likely to include mortality or injury of avifauna through collision with turbines and transmission lines as well as habitat loss and disturbance. Species of particular concern include the white-bellied sea-eagle (*Haliaeetus leucogaster*) and the wedge-tailed eagle (*Aquila audax subsp. fleayi*).

Targeted utilisation surveys should be carried out across the proposed project footprint to determine utilisation of the area by eagle species. These surveys should be carried out in the manner outlined above for bird utilisation surveys, and should also include:

- An additional year of surveys (i.e. over at least two summers, two autumns, two winters and two springs) since utilisation by WTEs has been known to vary significantly between years.

- Survey data presented in a manner that is representative of the 3-dimensional nature of movement patterns (e.g. contour maps) for different seasonal activity periods and overlain with the proposed infrastructure locations for context.
- Survey coverage must be sufficient to inform a robust understanding of site utilisation and support the application of collision risk modelling.

A Collision Risk Model (CRM) to support the proposal should be provided. A CRM should be used in conjunction with other survey and assessment methods, such as bird utilisation surveys to identify potential impacts to eagle species from the proposed development.

CRM analysis must: be based on and include justification against up-to-date scientific literature and understanding; be supported by an appropriate level of site utilisation data; provide a robust assessment of any uncertainties, assumptions or limitations; and provide clear discussion of the outcomes.

The Proponent should submit a proposal outlining how the CRM analysis will be undertaken for further consultation with relevant agencies.

It is highly recommended that the proponent investigate the use of transmitters to track resident eagles within the project area to enable measurement of landscape use.

### **Eagle nest search and productivity assessment**

An eagle nest survey is required to be undertaken which covers all potentially suitable nesting habitat within the project area and initially at least 1 km outside of the project boundary. The results should be used to inform development activities and infrastructure layout.

Surveys should be undertaken following one of the methods outlined in Section 4 of the Forest Practices Authority (FPA) guidelines for nest searches, by an appropriately qualified person. If there is not suitable access to undertake surveys on foot, a survey by helicopter will be required (note nest searches should be conducted outside the eagle breeding season, July to January inclusive). A copy of the FPA guidelines is available at: [http://www.fpa.tas.gov.au/\\_data/assets/pdf\\_file/0012/110208/Fauna\\_Tech\\_Note\\_1\\_Eagle\\_nest\\_management\\_May\\_2015.pdf](http://www.fpa.tas.gov.au/_data/assets/pdf_file/0012/110208/Fauna_Tech_Note_1_Eagle_nest_management_May_2015.pdf).

Eagle nest searches will also be required to be undertaken prior to finalising the final design of all infrastructure as well as prior to construction to identify any new nests.

Following eagle nest searches, nest productivity assessments should be undertaken for all known nests within 1 km of the boundary of the wind farm site.

The EIS should outline how new nests will be detected, reported and managed post-commissioning.

### **Carcass Management**

Details of how eagle food resources (e.g. carcasses) will be managed across the site to address the collision risk (with turbines, infrastructure and vehicles) should be outlined. Monitoring along roadsides, around turbines and beneath distribution lines should be considered. The potential implications of changes to land use during and post construction, such as changes to recreational hunting activity should be considered.

### **Collision Monitoring**

An avifauna monitoring program is required to outline how collisions (injuries and mortalities) will be detected and reported, and how appropriate management responses will be implemented. Refer to avian mortality monitoring plan guidelines in Appendix B for guidance.

## Collision Management

Outline how collisions with wind turbines and associated infrastructure are proposed to be avoided or mitigated, and provide an offset strategy to address any residual impacts expected over the life of the wind farm. If technology based mitigation or avoidance approaches are proposed, i.e. radar or tracking technology, then an assessment of their effectiveness at the site should be presented. It is recommended that this is informed by results from their use at existing wind farms, particularly in the Tasmanian context.

### Masked owl (*Tyto novaehollandiae subsp. castanops*)

A survey for masked owl nesting habitat should be carried out as part of the natural values surveys. If any potential nest trees are recorded within or near to the proposed development areas, further investigations should be undertaken to determine the likely presence of the species, the potential impacts, and to inform avoidance and mitigation measures.

### Other threatened avian species

Other threatened avian species, e.g. grey goshawk (*Accipiter novaehollandiae*), swift parrot (*Lathamus discolor*) and Australasian Bittern (*Botaurus poiciloptilus*), which could be expected to occur within the development area should be identified. An assessment of potential impacts on these species and proposed mitigation measures should be included, where appropriate.

### Key legislative and policy requirements

Regard should be given to the *Australia's Biodiversity Conservation Strategy 2010-2030*, the draft *Tasmania's Nature Conservation Strategy* and the *Threatened Species Strategy for Tasmania*.

All surveys should make reference to relevant survey guidelines, including an assessment of the adequacy and appropriateness of the surveys with respect to these guidelines. Documents regarding listed threatened and migratory species can be found at: <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>.

## 6.2 Key Issue 2: Threatened terrestrial fauna

### General information

Discuss impacts of the wind farm and any other ancillary infrastructure on threatened terrestrial fauna species including:

- Impacts on species and habitats with particular reference to rare and threatened species and habitats, including those listed under the relevant Schedules of the Commonwealth EPBC Act and the Tasmanian *Threatened Species Protection Act 1995* (TSPA).
- A description of the matters of national environmental significance that are within the proposal area and surrounding areas.
- Where impacts cannot be avoided, proposed measures to mitigate and/or compensate adverse impacts on biodiversity and nature conservation values should be presented.
- The potential for migration and/or introduction of pests and animal diseases as a result of the proposal.
- Reference should be made to potential impacts of vehicle movements on wildlife as a result of the proposal, and to mitigation measures for any wildlife priority areas.
- Any new records of threatened fauna recorded during surveys should be submitted to the Natural Values Atlas (NVA) as soon as practicable following surveys.

- Information about the identification of threatened terrestrial fauna including survey data and historical records. Details of surveys undertaken, including survey effort, timing and an assessment of the adequacy of the surveys.
- Information detailing known/recorded populations and known or potential habitat, including habitat in the area surrounding the proposed action.

The Land should be surveyed in accordance with the *Guidelines for Natural Values Surveys*, which can be found at: <http://dipwe.tas.gov.au/conservation/development-planning-conservation-assessment/survey-guidelines-for-development-assessments>.

### **Tasmanian devils (*Sarcophilus harrisii*) and spotted-tailed quolls (*Dasyurus maculatus subsp. maculatus*)**

Surveys for Tasmanian devils should be undertaken in accordance with the *DPIPWE Survey Guidelines and Management Advice for Development Proposals that May Impact on the Tasmanian devil* <https://dipwe.tas.gov.au/Documents/Devil%20Survey%20Guidelines%20and%20Advice.pdf>. In the absence of specific guidelines for quolls, the Devil guidelines can be applied, given they have similar habitat requirements and are susceptible to a similar range of threats.

Surveys, assessment and proposed management measures should address all potential impacts to the species, including vegetation clearance/ground disturbance, increased habitat fragmentation, impacts to dens, changes to food resources, roadkill management, changes in land use and changes to fire regimes.

Suitable denning habitat is required to be mapped in relation to the position of proposed infrastructure to assist in determining a site layout that minimises impacts on devils and quolls. Once the final layout has been determined, den surveys should be conducted prior to construction in accordance with the Devil guidelines. Any dens that are proposed to be destroyed will require a permit to take under the *Nature Conservation Act 1999*.

The EIS is required to consider the likely impacts of any increase in traffic (on-site and off-site) and their potential impacts on native fauna (particularly threatened species). If the proposal is likely to result in an increase in traffic volume (or speed) of 10% or more, then measures to mitigate roadkill impacts should be included in the EIS. The EIS should outline how killed/injured fauna will be managed.

If after avoidance and mitigation measures are applied, residual impacts to the species are identified, then an offset proposal should be included in the EIS.

### **Miena jewel beetle (*Castiarina insculpta*)**

The Miena jewel beetle has been previously recorded near the northern end of the proposed development. A targeted survey for *Ozathamnus hookeri*, the species host-plant and food-plant, should be undertaken in potential habitat within and adjacent to areas proposed to be cleared. Any plants should be recorded and mapped. Include the results in the EIS, together with proposed management measures in accordance with the mitigation hierarchy to address potential impacts to the species.

### **Ptunarra brown butterfly (*Oreixenica ptunarra*)**

The Ptunarra brown butterfly has previously been recorded from the site of the proposed development. Areas that may provide habitat for this species (e.g. *Poa* spp. tussock grassland, grassy shrubland and woodland, or patches of *Poa* spp.) in or near to areas of proposed impact should be recorded and mapped. A targeted survey may be required during the species' flying season (usually March), and management of potential impacts should be outlined in the EIS.

## **Wombat burrows**

Wombat burrows should be documented prior to any disturbance and avoided where possible in the final design layout. Any burrows needing to be destroyed will require a permit under the NC Act prior to impact occurring.

### **6.3 Key Issue 3: Threatened flora and ecological communities**

Discuss impacts of the wind farm and any other ancillary infrastructure on threatened flora species and ecological communities including:

- A map (or maps) of existing vegetation and type, threatened species and threatened native vegetation communities.
- Impacts on flora, vegetation communities and habitat, with particular reference to rare and threatened species, communities and habitats, including those listed under the relevant Schedules of the Commonwealth EPBC Act and the Tasmanian TSP Act.
- A description of the matters of national environmental significance that are within the proposal area and surrounding areas.
- Clearing of native vegetation and habitat associated with the construction and maintenance of the proposal and the impact of any clearing on sites, species or ecological communities of special conservation significance, including any impact on the comprehensive, adequate and representative reserve system identified as part of the Tasmanian RFA, maintenance of forest communities under the Tasmanian Government *Policy for Maintaining a Permanent Native Forest Estate 2017*, and wildlife habitat strips under the *Tasmanian Forest Practices Code 2015* and on non-forest communities.
- Where impacts cannot be avoided, proposed measures to mitigate and/or compensate adverse impacts on biodiversity and nature conservation values should be presented.
- The potential for migration and/or introduction of pests, weeds and plant and animal diseases as a result of the proposal.
- Rehabilitation of disturbed areas following the completion of construction activities and cessation of the activity, including any proposed seed collection and progressive rehabilitation program.
- Any new records of threatened flora recorded during surveys should be submitted to the Natural Values Atlas (NVA) as soon as practicable following surveys.
- Information about the identification of threatened flora and vegetation communities including survey data and historical records. Details of surveys undertaken, including survey effort, timing and an assessment of the adequacy of the surveys.
- Information detailing known/recorded populations and known or potential habitat, including habitat in the area surrounding the proposed action.

### **Threatened flora surveys**

Flora surveys are required to be undertaken in areas proposed to be impacted by the proposed development. Flora surveys should be conducted at appropriate times of the year to detect threatened flora that may occur in the area (i.e. during the flowering periods of candidate species), in accordance with the *Guidelines for Natural Values Surveys – Terrestrial Development Proposals*. This is likely to require multiple surveys at different times of the year. A permit to take will be required under the TSPA, if “taking” (as defined under the TSPA) threatened flora (e.g. for the purposes of identification) is necessary.

## Threatened vegetation communities

Vegetation community ground surveys and vegetation mapping of the project site is required to be undertaken, to verify the actual distribution and condition of communities listed under the NC Act. Any discrepancies between field survey results and the existing TASVEG layer should be submitted to PCAB as soon as practicable so TASVEG can be updated accordingly.

## Weeds & diseases

Mapping of weed occurrences should be included in the natural values survey, particularly for areas proposed to be disturbed by the development. A weed and disease management plan should be included with the EIS to outline how this issue will be addressed, and how impacts on natural values will be avoided or mitigated.

## Key legislative and policy requirements

Regard should be given to the *Australia's Biodiversity Conservation Strategy 2010-2030*, the draft *Tasmania's Nature Conservation Strategy* and the *Threatened Species Strategy for Tasmania*. *Nature Conservation Act 2002*, *Forest Practices Act 1985*, *Forest Practices Regulations 2017*, the *Forest Practices Code 2015* and *Policy for Maintaining of the Permanent Native Forest Estate 2017*.

All surveys should make reference to relevant survey guidelines, including an assessment of the adequacy and appropriateness of the surveys with respect to these guidelines. Documents regarding listed threatened species and ecological communities can be found at: <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>.

### 6.4 Key Issue 4: Noise emissions

Discuss impacts of the proposal on pre-existing noise levels (during both the construction and operational phases), including:

- Identifying and describing all major sources of noise.
- A map of the location(s) of all major sources of noise.
- The potential for noise emissions (during both the construction and operational phases) to cause nuisance for nearby land users, particularly at noise sensitive premises.<sup>3</sup>

Noise modelling is required. Noise assessment should follow the general requirements of section 17 of the Noise Measurement Procedures Manual, Second Edition July 2008. The noise assessment proposed in the Notice of Intent is supported.

## Legislative and policy requirements

Consideration should be given to the requirements of the Tasmanian Environment Protection Policy (Noise) 2009 (refer <https://epa.tas.gov.au/policy/statutory-policies/state-policies-and-environmentprotection-policies/environment-protection-policy-%28noise%29-2009>), the New Zealand Standard NZS 6808:2010 Acoustics – wind farm noise and the Tasmania Noise Measurement Procedures Manual (refer [https://epa.tas.gov.au/Documents/Noise\\_Measurement\\_Procedures\\_Manual\\_2008.pdf](https://epa.tas.gov.au/Documents/Noise_Measurement_Procedures_Manual_2008.pdf)).

### 6.5 Air Quality

Discuss potential impacts of the proposal on the local and regional air environment, including:

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<sup>3</sup> 'noise sensitive premise' is defined as: residences and residential zones (whether occupied or not), schools, hospitals, caravan parks and similar land uses involving the presence of individual people for extended periods, except in the course of their employment or for recreation.

- Identifying any proposed new point source atmospheric discharge points.
- A map of the location of all point sources of atmospheric emissions.
- A description of potential sources of fugitive emissions (including odour and dust that may arise from loading, unloading and transport).

#### *Legislative and policy requirements*

Consideration should be given to the requirements of the Tasmanian *Environment Protection Policy (Air Quality)* (see <http://epa.tas.gov.au/policy-site/Pages/Air-Quality-EPP.aspx>).

### **6.6 Surface Water Quality**

Discuss potential impacts of the proposal on surface water, including:

- Identifying any proposed new point source liquid emissions (wastewater and stormwater). Note: wastewater means water used or contaminated during carrying out the activity, and does not include clean stormwater arising from rainfall on the proposal site.
- Details of stormwater management (including during reasonably foreseeable flood events). The potential for pollutants to become entrained in stormwater should be assessed.
- A map of the location of stormwater collection systems and details of drainage control measures such as cut-off drains and sediment settling ponds.
- If the proposal anticipates a discharge to a municipal sewerage system (including tankered waste) then a suitably detailed agreement with the operator of the municipal sewerage system should be negotiated.
- Details of management practices for areas disturbed during construction to prevent sediment movement into watercourses. This should include contingencies for failure of control measures, such as during heavy rainfall or flooding.

#### *Legislative and policy requirements*

It must be demonstrated that the proposal is consistent with the objectives and requirements of relevant water management policies and legislation including the *Water Management Act 1999*, the *State Policy on Water Quality Management 1997*, and the *Tasmanian State Coastal Policy 1996*.

In particular, it must be demonstrated that the proposal will not prejudice the achievement of any water quality objectives set for water bodies under the *State Policy on Water Quality Management 1997* (see <http://epa.tas.gov.au/policy-site/Pages/Water-Quality-Policy.aspx>). Where water quality objectives have not yet been set, EPA Tasmania should be consulted to identify the baseline water quality data required to enable the water quality objectives to be determined.

### **6.7 Groundwater**

Discuss potential impacts of the proposal on groundwater (quality and quantity), including:

- A map showing the location of any groundwater bores.
- A conceptual groundwater model for regional and local aquifer flows.

Information on groundwater in Tasmania is available at: <http://wrt.tas.gov.au/groundwater-info>

#### *Legislative and policy requirements*

It must be demonstrated that the proposal is consistent with the objectives and requirements of all relevant water management policies and legislation, including the *Water Management Act 1999* and the *State Policy on Water Quality Management 1997*.

### **6.8 Waste Management**

Discuss the impacts of waste generated by the proposal, including:

- Identify the source, nature and quantities of all wastes, (liquid, atmospheric or solid) including general refuse and by-products from the various stages of the process likely to be generated.
- Methods and facilities proposed to collect, store, reuse, treat or dispose of each waste stream should be identified. Maintenance requirements should be included.
- The source, nature, quantity, and method of treatment, storage and disposal for each controlled waste should be described. Note: controlled waste is defined in the EMPC Act and associated regulations. A non-exhaustive listing of categories of controlled waste can be found on the internet at <http://epa.tas.gov.au/regulation/waste-management/controlled-waste>.

### **Legislative and policy requirements**

Waste management measures must be in accordance with the following hierarchy of waste management, arranged in decreasing order of desirability:

- avoidance
- recycling/reclamation
- re-use
- treatment to reduce potentially adverse impacts
- disposal.

## **6.9 Dangerous goods and environmentally hazardous materials**

Discuss impacts of the proposal in relation to dangerous goods and environmentally hazardous materials (any substance or mixture of substances of a nature or held in quantities which present a reasonably foreseeable risk of causing serious or material environmental harm if released to the environment and includes fuels, oils, waste and chemicals), including:

- The nature, quantity and storage location of all environmentally hazardous materials including Dangerous Goods (as defined in the *Australian Code for the Transport of Dangerous Goods by Road and Rail*) that will be used during the construction and operation of the proposal.
- A map showing the location of temporary and permanent storage areas for fuels, oils, and other dangerous goods or chemicals.
- The measures (such as bunded areas or spill trays) to be adopted to prevent or control any accidental releases of dangerous goods and environmentally hazardous materials.
- Contingency plans for when control measures, equipment breakdowns or accidental releases to the environment occur, including proposed emergency and clean-up measures and notification procedures.
- Identify any safety management requirements for the protection of human health and safety affecting the community.

## **6.10 Natural Values**

### **General Information**

Discuss impacts of the proposal on nature conservation values (terrestrial and aquatic) including:

- Identify any freshwater ecosystems of high conservation management priority using the Conservation of Freshwater Ecosystem Values (CFEV) database (accessible on the internet under <https://wrt.tas.gov.au/cfev>). The scope of investigation should encompass the vicinity of the proposed development where there is likelihood of alteration to the existing environment. The specific CFEV information used for EISs should be Conservation Management Priority Potential which is appropriate for development proposals.

- Impacts on sites of geoconservation significance or natural processes (such as fluvial or coastal features), including sites of geoconservation significance listed on the Tasmanian Geoconservation Database.
- The proposal intersects the Tasmanian Geoconservation Database-listed Central Plateau Terrain. However, the very large and robust site effectively immune to human disturbance and the proposal is extremely unlikely to have any effect on its values.
- Impacts on existing conservation reserves sites or areas of special conservation significance, including areas of wilderness, scientific, or geodiversity value which may be affected by the proposal, with reference to the management objectives of the reserve(s) and the reserve management plan(s) (if any).
- Impacts on any high quality wilderness areas identified in the *Tasmanian Regional Forest Agreement* (Tasmanian RFA) which may be affected by the proposal.
- The project footprint covers areas mapped as having low probability of containing Acid Sulfate Soils (ASS). Given the proposal involves excavation of natural soils; the EIS should include a discussion on ASS in the context of potential impacts to natural values. The Tasmanian Acid Sulfate Soil Management Guidelines may assist (see <http://dpiwwe.tas.gov.au/Documents/ASS-Guidelines-FINAL.pdf> and <http://dpiwwe.tas.gov.au/Documents/ASS-Operational-FINAL.pdf>).
- Where impacts cannot be avoided, proposed measures to mitigate and/or compensate adverse impacts on biodiversity and nature conservation values should be presented.

### 6.11 Greenhouse gases

Discuss impacts of the proposal in terms of the evolving national response to climate change and greenhouse gas emissions and the targets set in the Climate Change Action Plan 2017 – 2021. Proponents will need to determine whether they are required to report to the Commonwealth under the *National Greenhouse and Energy Reporting Act 2007*.

### 6.12 Socio-economic issues

Discuss the social and economic impacts of the proposal. Details may include the following:

- An estimate of total capital investment for the proposal and where that capital will be expended (particularly in relation to the source of large capital items of processing equipment).
- Operational expenditures and revenues.
- The impacts on local and State labour markets for both the construction and operational phases of the proposal. The number and nature of direct and indirect jobs arising from the proposal must be detailed. Skills and training opportunities should also be discussed.
- The impacts on upstream/downstream industries, both locally and for the State.
- The extent to which raw materials, equipment, goods and services will be sourced locally.
- A qualitative assessment of impacts on local social amenity and community infrastructure, including recreational, cultural, health and sporting facilities and services. Any proposals to enhance or provide additional community services or facilities should be described.
- Community demographic impacts (changes to cultural background, occupation, incomes).
- Impacts on land values, and demand for land and housing.
- Impacts on the local, regional, state and national economies.
- Any publicly funded subsidies or services to be relied upon for the construction or operation of the proposal.
- Any impacts on Local, State and Federal Government rate, taxation and royalty revenues.

**The extent to which socio-economic considerations need to be described depends on the nature and extent of any negative impacts or risks to the environment from the proposal.**

Modest proposals with relatively low level and localised environmental impacts or risks may only need details of intended capital expenditure, operational expenditures, revenues and employment (distinguishing between direct and indirect employment) and a qualitative discussion of other socio-economic aspects of particular relevance.

Proposals with higher level or broader scale environmental impacts will need a more comprehensive analysis of economic and social benefits to allow the Board to assess the benefits and adverse impacts of the proposal. This may include an explanation of the methods used to model impacts and describe the manner and results of engagement with the local community to determine their needs and aspirations in relation to the proposal.

### **6.13 Infrastructure and off-site ancillary facilities**

Discuss potential environmental impacts of the proposal on any significant off-site or infrastructure facilities (including increased use of existing infrastructure, such as roads, transmission lines, ports and quarries), identify measures to avoid and mitigate any possible adverse impacts and assess the overall impacts following implementation of the proposed avoidance and mitigation measures.

Identify roads and other infrastructure to be used by vehicles for the proposal (during both construction and operation). Potential environmental impacts associated with construction and use of such infrastructure should be assessed.

### **6.14 Cumulative and interactive impacts**

This section should contain an assessment of the potential cumulative impacts of the proposal in the context of existing and approved developments in the region, if such impacts have not been addressed in previous sections.

Evaluation of the cumulative impact from wind farms on threatened eagle species should be included, particularly in relation to the wind farm in close proximity to the proposed site.

Other proposals which have been formally proposed, and for which there is sufficient information available to the proponent to allow a meaningful assessment of their impacts, should also be considered in that assessment. Uncertainties about potential impacts in such cases should be identified.

Interactions between biophysical, socio-economic and cultural impacts of the proposal should be discussed.

### **6.15 Environmental Impacts of Traffic**

This section should identify the traffic routes for the proposal (both during construction and operation) and the likely volume and nature of traffic and timing of traffic flows, including details of the current usage of these roads. Environmental impacts associated with current and altered traffic flows and usage should be discussed (such as roadkill, noise and dust impacts on other roads users and residences adjacent to roads). The assessment should focus on roads within the land defined by the proposal but also indirect impacts on public roads.

## **7. Monitoring and Review**

This section should provide an outline of any monitoring, review and reporting programs for the proposal. The program should be designed to meet the following objectives:

- Monitoring of compliance with emission standards and other performance requirements identified in the EIS.
- Assessing the effectiveness of the performance requirements and environmental safeguards in achieving environmental quality objectives.
- Assessing the extent to which the predictions of environmental impacts in the EIS have eventuated.
- Assessing compliance with management measures defined in the EIS.

A map showing the location of all monitoring sites and a table of proposed monitoring including location, parameters and frequency should be included.

## 8. Decommissioning and Rehabilitation

The EIS should describe an on-going, staged approach to site decommissioning and rehabilitation throughout the proposal life.

A preliminary Decommissioning and Rehabilitation Plan or Closure Plan should be outlined.

## 9. Management Measures

This section should contain a consolidated management measures table listing all of the management measures made throughout the EIS. Measures must be sequentially numbered, unambiguous statements of intent. For each measure, the table must specify when it is to be implemented, and refer to the section of the EIS where the measure is detailed.

## 10. Conclusion

The EIS must provide an overall conclusion as to the environmental acceptability of the proposal, including discussion on compliance with the principles of Ecologically Sustainable Development (ESD) and the objects and requirements of the EPBC Act.

## 11. References

This section should provide details of authorities consulted, reference documents etc.

## 12. Appendices

As a means of improving readability of the EIS document, detailed technical information which supports the EIS should be included in appendices. The salient features of the appendices should be included in the main body of the EIS. Care should be taken to avoid inconsistencies between technical content of Appendices and the EIS itself, unless carefully explained.

## 13. Glossary

EIS	Environmental Impact Statement
EMPC	<i>Environmental Management and Pollution Control Act 1994</i>
EMPCS	Environmental Management and Pollution Control System objectives to be found in Schedule I of EMPCA
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> JAMBA/CAMBA - Japan-Australia and China-Australia Migratory Bird Agreements
RMPS	Resource Management and Planning System of Tasmania objectives to be found in Schedule I of EMPCA
Tasmanian RFA	Tasmanian Regional Forest Agreement

## Appendix A: Other issues and agency contacts

In addition to a permit under the LUPA Act and the EMPC Act, there may be other legal requirements to allow your proposal to proceed. These may include other permits, licences or landowner consent. You may also need to contact other Government agencies to obtain information for the purpose of assessment under the LUPA Act or the EMPC Act. The following list identifies some of the key agencies you may need to contact:

Note: your proposal may be referred to other agencies in the process of preparing guidelines. Should assessments or approval outside of the Board's responsibilities be required, the respective agency will engage with you to progress them.

*Natural values including flora, fauna, and geoconservation values, or permits to deal with threatened species:*

Policy and Conservation Advice Branch

Telephone: (03) 6165 4395

Email: [conservationassessments@dpipwe.tas.gov.au](mailto:conservationassessments@dpipwe.tas.gov.au)

Website: [www.dpipwe.tas.gov.au](http://www.dpipwe.tas.gov.au)

*Historic cultural heritage, including State-level site listings, impacts and permits as required under the Historic Cultural Heritage Act 1995:*

Heritage Tasmania

Telephone: (03) 6165 3700

Email: [enquiries@heritage.tas.gov.au](mailto:enquiries@heritage.tas.gov.au)

Website: [www.heritage.tas.gov.au](http://www.heritage.tas.gov.au)

Note: Where works are proposed in or in close proximity to a heritage place entered on the Tasmanian Heritage Register or likely to be of heritage significance to the whole of Tasmania, and a permit is required under the *Land Use Planning and Approvals Act 1993*, the proposal will be referred to Heritage Tasmania by the planning authority. There may also be additional sites listed under local planning schemes, impacts on which are assessed by the relevant planning authority.

*Aboriginal heritage, including desktop assessment, artefact survey requirements, permits:*

Aboriginal Heritage Tasmania

Telephone: (03) 6165 3152

Email: [aboriginal@heritage.tas.gov.au](mailto:aboriginal@heritage.tas.gov.au)

Website: <http://www.aboriginalheritage.tas.gov.au>

Note: your proposal will be referred to Aboriginal Heritage Tasmania (AHT) on submission or referral to the Board. If Aboriginal Heritage matters are identified, AHT will engage directly with the proponent regarding relevant assessments and approvals.

*Parks and reserves, including where any proposal may impact on land managed by Parks & Wildlife:*

Parks and Wildlife Service

Telephone: 1300 827 727

Website: [www.parks.tas.gov.au](http://www.parks.tas.gov.au) and [www.thelist.tas.gov.au](http://www.thelist.tas.gov.au)

*Crown land, including where any proposal may impact on land owned by the Crown:*

Crown Land Services

Telephone: (03) 6233 6413

Email: [cls.enquiries@dpipwe.tas.gov.au](mailto:cls.enquiries@dpipwe.tas.gov.au)

Website: [www.parks.tas.gov.au](http://www.parks.tas.gov.au)

*State roads, including where any proposal requires works on or access from a State-managed road asset:*

State Roads

Telephone: (03) 6166 3369

Email: [permits@stategrowth.tas.gov.au](mailto:permits@stategrowth.tas.gov.au)

Website: [www.transport.tas.gov.au](http://www.transport.tas.gov.au)

## **Appendix B: Avian mortality monitoring plan guidelines**

## Avian Mortality Monitoring Plan Guidelines – Appendix B

1. Introduction, include
  - Brief project description and site location
  - Site layout plan
  - The proponent, including the person responsible (as defined in Schedule 1: Definitions)
  - Permit conditions fulfilled by the plan (ie EPA and/or Commonwealth).
2. Objectives of the plan
3. Survey methodology, a structured and statistically designed survey program
  - 3.1 Assuming searches by human observers or dogs.
    - The search methodology, to be informed by the results of scavenging and detectability trials should include:
      - The turbine area to be searched (ie distance from the base of turbine)
      - Spacing of circular transects (ie at what distance from the turbine base will each transect occur)
      - The number and location of turbines to be searched
      - The frequency of searches (including frequency of each individual turbine)
      - The search strategy (will the same search strategy be suitable for all turbines, based on terrain and surrounding vegetation)
      - How searches are undertaken, ie car/foot/dog/ATV, and how many observers.
    - Management of searched areas, ie will vegetation require slashing to allow detections
    - Commencement date of surveys
    - Survey duration
    - Inclusion of met masts search methodology, if present
    - Estimation of the proportion of mortalities and injured birds and bats likely to be detected, based on the results of the observer detectability and scavenger trials
    - Fatigue management plan
    - Who will conduct the searches (i.e. if informal searches will form part of the monitoring program how will the personnel be trained).
  - 3.2 If the monitoring program is supplemented by an alternative monitoring method such as an automated option (e.g. remote sensing, radar or imaging) full details of the monitoring strategy should be provided, including
    - Commencement date of surveys
    - Comparative benefit of the method relative to using human observers or dogs
    - Survey duration.
4. Incidental dead or injured bird and bat reporting, including actions taken
5. Reporting Requirements
  - Detail the notification requirements to the Director of any evidence of dead or injured native birds or bats (verbal and written).
  - Provide a commitment to provide all results of the monitoring in an annual environmental report to the director.
  - Reports of any dead or injured threatened species should be reported to Threatened Species Section.
6. Review of the mortality monitoring plan and adaptive management.



ENVIRONMENT PROTECTION AUTHORITY