

Environmental Impact
Statement Guidelines
Ark Energy Projects Pty Ltd
Hellyer Wind Farm
2753 Ridgley Highway,
Hampshire

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ENVIRONMENT PROTECTION AUTHORITY

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Information for the Proponent

Purpose of the Guidelines

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 Environmental Impact Statement).

The Board will assess environmental aspects of the proposal. The relevant Planning Authority (Council) will assess planning aspects if the *Land Use Planning and Approvals Act 1993* (the LUPA Act) applies.

These Guidelines provide information on preparing an Environmental Impact Statement (EIS) for an activity being assessed by the Board under the EMPC Act. They have been prepared based on the Notice of Intent for the proposed Hellyer Wind Farm by Ark Energy Projects Pty Ltd (formerly Epuron Projects Pty Ltd).

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

- as required under s54 of the LUPA Act, 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 LUPA Act.

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 and heritage impacts that may occur and the measures that will be taken to maximise positive outcomes, and minimise any adverse environmental and heritage 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.
- Where necessary, to enhance understanding of the proposal, information should be presented in maps, plans, diagrams and photographs. These must be of high quality and reproducible in monochrome with all text and relevant features clearly visible. Maps and plans should include a north arrow and scale.
- When spatial information (including maps, plans, grid coordinates and heights) are provided or referred to, the coordinate reference system must be specified. It is recommended that the following coordinate reference systems are used:
 - **Horizontal** – Geocentric Datum of Australia 2020, Map Grid of Australia Zone 55 (GDA94 MGA55)
 - **Vertical** – Australian Height Datum (Tasmania) (AHD83)

Information on coordinate reference systems used in Tasmania can be found on the NRE website ([Coordinate, Height and Tide Datums - Tasmania | Department of Natural Resources and Environment Tasmania](#)).

Please note that although the Geocentric Datum of Australia 2020 (GDA2020) is the new official datum for recording the horizontal location of spatial information in Australia,

implementation of this new datum in Tasmania is not yet complete and the Geocentric Datum of Australia 1994 (GDA1994) remains in use.

- 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 while preparing the EIS is recommended. It is advisable for the proponent to submit a draft EIS 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 EIS 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 (such as Microsoft Word), and suitable for publishing on the internet (PDF format). Printed copies may also be required at public consultation stage.

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 was determined to be a controlled action on 16 September 2022 under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC Reference 2022/09299) 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 (MNES), protected under Part 3 of the EPBC Act including:

- World Heritage properties (sections 12 & 15A)
- National Heritage places (sections 15B & 15C)
- Listed threatened species and communities (sections 18 & 18A)
- Listed migratory species (sections 20 & 20A)

The determination considered Tasmanian Wilderness World Heritage Area Criteria vii and x:

- Criterion vii – contain superlative natural phenomena or areas of exceptional natural beauty and aesthetic importance
- Criterion x – to contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation

More information on the Tasmanian Wilderness World Heritage Area and its listing criteria is available at <https://www.dcceew.gov.au/parks-heritage/heritage/places/world/tasmanian-wilderness#more-information>.

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. Where the proposal has been determined to be a controlled action under the EPBC Act and is being assessed in accordance with the bilateral agreement, the EIS

should specifically describe the implications of the proposal for the relevant EPBC Act controlling provisions.

If the proposal is being assessed under the bilateral agreement, 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](#).

Information on the EPBC Act can be obtained from the Commonwealth Department of Climate Change, Energy, the Environment and Water (DCCEEW) website at <https://www.dcceew.gov.au/environment/epbc> or by calling 1800 803 772.

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.

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 impacts on threatened avifauna</i>
2	<i>Potential impacts on threatened non-avian fauna</i>
3	<i>Potential impacts on threatened flora and ecological communities</i>
4	<i>Potential impacts on World Heritage properties and National Heritage places</i>
5	<i>Potential noise impacts 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 preparation of the EIS, should not be excluded from consideration.

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

- Commonwealth of Australia, 2009, *EPBC Act Policy Statement 2.3 Wind Farm Industry*
- Commonwealth of Australia, 2010, *Survey Guidelines for Australia's Threatened Birds*
- Commonwealth of Australia, 2011, *Survey Guidelines for Australia's Threatened Mammals*
- Commonwealth of Australia, 2013, *EPBC Act Policy Statement 1.1 Significant Impact Guidelines – Matters of National Environmental Significance*
- Commonwealth of Australia, 2017, *EPBC Act Policy Statement 3.21 Industry Guidelines for Avoiding, Assessing and Mitigating Impacts on EPBC Act Listed Migratory and Shorebird Species*
- Commonwealth of Australia, 2016, *Engage Early – Guidance for proponents on best practice Indigenous engagement for environmental assessments under the EPBC Act*
- 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 advice, 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>

Information to be provided

1. 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 objective of the proposal, 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

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 must be provided.

2.1 General

- The major items of 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), overhead transmission lines, maintenance facilities and on-site amenities. The proposed generating capacity, number and dimensions of wind turbines must be specified.
- Details of any proposed on-site quarries or extractive pits, including location, description of the product, extraction quantity, method(s) of extraction and processing, area of disturbance and proposed infrastructure.

2.2 Construction

- A plan of all potential areas that may be disturbed during construction, including any new quarries within the project area.
- 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.
- Temporary construction infrastructure including site offices temporary working areas, construction access roads, laydown areas, temporary stockpiles including maps showing locations.
- 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 capacity of small rural roads to allow large structures such as cranes, vehicles carrying wind turbine blades etc. to be transported on them.
- 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 Definition of the Land

A definition of the land on which the activity will take place must be provided. The land can be defined by:

- Cadastral boundaries (Title Reference, Property ID).
- Lease boundaries (Mining Lease, Crown Lease, Marine Farming Lease, etc.).
- Topographic features (roads, waterways, etc.).
- Surveyed grid coordinates.
- Other boundary types.

If the land is defined as the whole of an existing defined boundary, such as a title reference or lease, the definition of the land is simply the title reference or lease name (e.g. Title Reference I36529/1). If not, it may be necessary to define the boundary by reference to specific topographic features and or surveyed grid coordinates. The boundary must be consistent with any intended or current permit application under the LUPA Act.

A plan is required clearly showing the boundary of the land in relation to cadastral boundaries and topographic features. The boundary of the land should also be provided to the Board in a geospatial vector format (shapefile or DXF). If a boundary survey is required to adequately identify the land boundary this may be requested during the assessment process.

2.6 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.

2.7 Site plan

A site plan(s) is required which includes existing and proposed conditions and features of the site and surrounding area. Where relevant, this may include:

- Elevation contours and levels.
- The positions of topographic features including roads, tracks, and waterways.
- The positions of facilities, buildings, structures, major items of equipment, storage areas and loading or unloading areas (existing and proposed). This should include wind turbine layout.
- The route of any pipelines, tracks, roads, conveyors 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 of loading or unloading areas.
- The location(s) of any monitoring sites.

If the site plan is not based on a feature and level survey and the Board determines that this information is needed to adequately assess the proposal, one may be requested during the assessment process.

Geospatial data included on the plan(s) should also be provided to the Board in a geospatial vector format (shapefile or DXF).

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. Discuss the short, medium, and long-term advantages and disadvantages of the alternatives.

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

Include details of the nature and results of public consultation undertaken (if any) 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.

It is recommended that consultation with palawa (Tasmanian Aboriginal people) with rights and interests in the TWWHA and the Tasmanian Wilderness National Heritage Place occurs. Refer to the best practice approach in *Engage early – guidance for proponents on best practice Indigenous engagement for environmental assessments under the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)* <https://www.dcceew.gov.au/environment/epbc/publications/engage-early>.

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>

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.

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 contamination¹, 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.

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

- Any sensitive uses² 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, wetlands, coastal areas etc).
- 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* (Tasmanian RFA) in the vicinity of the site.
- A description of the World and National Heritage values relevant to the action.
- 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) and the Natural Values Atlas (NVA) (<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 for 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.
- If the proposal is associated with an existing activity, information on current regulatory approvals and licences should be provided.
- Information about the identification of the environmental values including survey data and historical records. Details of the 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 for listed threatened/migratory species and ecological communities, including habitat in the area surrounding the proposed action.

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.

² 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. In the case of a proposal which involves expansion or redevelopment of an existing activity, a summary of public complaints received in recent years and a discussion of the operator's response and how this may affect the current proposal.

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 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 short-term and long-term 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.

Include an analysis of the significance of the relevant impacts. When determining significance of impacts to MNES, the EIS should refer to the *EPBC Act Policy Statement 1.1 Significant Impact Guidelines – Matters of National Environmental Significance*.

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 unpredictability or 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 (for existing operations this should include the results of monitoring of current emissions). 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 environmental and heritage impacts (having regard to best practice environmental management as defined in EMPCA and to heritage management aims in the *Tasmanian Wilderness World Heritage Area Management Plan (2016)*) 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. 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 and efficacy of the measures 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 and heritage 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.**

Specific measures can be presented in the form of a management plan, such as an Environmental Management Plan (EMP) that sets out the framework for management, mitigation and monitoring of relevant impacts of the action, including any provisions for independent environmental auditing. The EMP needs to address the project phases (construction, operation, decommission) separately.

Assessment of residual 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 current environmental conditions (for existing activities) and 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 and heritage impacts or emissions, including impacts on other uses, particularly sensitive uses.

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 considered. If applicable, this should include the reasons why avoidance or mitigation of impacts cannot be reasonably achieved.

Offsetting unavoidable adverse impacts

If adverse residual environmental and heritage 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

If residual impacts to MNES are likely to be significant, an offset package must be proposed 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, an offset management plan should be prepared as a separate document and attached as an appendix to the documentation.

Offsets for heritage values should improve the integrity and resilience of the heritage values involved. 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 Commonwealth *EPBC Act Environmental Offsets Policy* (October 2012) available at: <https://www.dcceew.gov.au/environment/epbc/publications/epbc-act-environmental-offsets-policy>, as well as the Commonwealth environmental offsets guidance available at www.dcceew.gov.au/environment/epbc/advice-for-complying-with-the-epbc-act/environmental-offsets-under-epbc/environmental-offsets-guidance.

The *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.dcceew.gov.au/environment/epbc/publications/epbc-act-environmental-offsets-policy. The offset proposal will be assessed 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 MNES that are within the proposal area and surrounding areas, including but not limited to:
 1. Common Sandpiper (*Actitis hypoleucos*) – Migratory; Marine
 2. Fork-tailed Swift (*Apus pacificus*) – Marine; Migratory
 3. Tasmanian Wedge-tailed Eagle (*Aquila audax fleayi*) – Endangered
 4. Sharp-tailed Sandpiper (*Calidris acuminata*) – Marine; Migratory
 5. Curlew Sandpiper (*Calidris ferruginea*) – Endangered; Migratory; Marine
 6. Pectoral Sandpiper (*Calidris melanotos*) – Marine; Migratory
 7. Tasmanian Azure Kingfisher (*Ceyx azureus diemenensis*) – Endangered
 8. Latham’s Snipe (*Gallinago hardwickii*) – Marine; Migratory
 9. White-throated Needletail (*Hirandapus caudacutus*) – Vulnerable; Migratory; Marine
 10. Swift Parrot (*Lathamus discolor*) – Critically Endangered; Marine
 11. Satin Flycatcher (*Myiagra cyanoleuca*) – Marine; Migratory
 12. Eastern Curlew (*Numenius madagascariensis*) – Critically Endangered; Migratory; Marine
 13. Gould’s Petrel (*Pterodroma leucoptera leucoptera*) – Endangered
 14. Common Greenshank (*Tringa nebularia*) – Marine; Migratory
 15. Masked Owl (Tasmanian) (*Tyto novaehollandiae castanops*) (Tasmanian population) – Vulnerable
- Where impacts cannot be avoided, proposed measures to mitigate and/or compensate adverse impacts on biodiversity and nature conservation values should be presented.
- 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.
- Any new records of threatened avian fauna recorded during surveys and data from nest searching and productivity assessment should be submitted to the NVA within three months following surveys.

Surveys should be done in accordance with the [Guidelines for Natural Values Surveys related to Development Proposals](#) and [Commonwealth of Australia, 2010, Survey Guidelines for Australia’s Threatened Birds](#), and other relevant guidelines.

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.
- Five-day surveys are recommended at the mid-point of each season (summer, autumn, winter and spring), undertaken from sunrise to sunset.
- 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 includes the Tasmanian Wedge-tailed Eagle (*Aquila audax subsp. fleayi*) and the White-bellied Sea-eagle (*Haliaeetus leucogaster*).

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:

- Two years of surveys (i.e. over at least two summers, two autumns, two winters and two springs) since utilisation has been known to vary significantly between years. It is recommended that a review of the findings after Year 1 is prepared and submitted to the EPA and DCCEEW, prior to commencement of a second year of surveys as there may be adequate information to justify changes to or no further utilisation surveys. Surveys should be in accordance with the [Commonwealth of Australia, 2010, Survey Guidelines for Australia's Threatened Birds](#) and the [EPA Technical Note 1](#).
- Survey methodology should be such that spatial use of the site (any favoured areas, any common flight paths, etc.) can be determined.
- 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. The siting of turbines, distribution/transmission lines and other infrastructure should take into account the results of the utilisation surveys in order to avoid or minimise potential impacts.
- Survey coverage must be sufficient to inform a robust understanding of site utilisation and support the application of collision risk modelling.

It is noted that the project site is heavily forested and relying solely on ground-based utilisation surveys may not provide sufficient information regarding the use of the site by eagles. Therefore, the utilisation survey should incorporate the use of GPS-harnessed eagles (adults) to assess flight patterns.

The proponent should continue to consult with relevant specialists/researchers to design an appropriately informative study/approach.

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.

Eagle nest search and productivity assessment

It is noted that an aerial eagle nest search has already been undertaken in suitable habitat within 1 km of proposed turbine locations. There are known nests (and potentially unknown nests) outside of the area searched, which may comprise additional territories that extend into the proposed turbine locations, therefore nest searches should be undertaken out to 3 km from proposed turbines, to better understand the use of the project site by eagles and the potential impact upon them.

Nest searches should be conducted outside the eagle breeding season (July-January inclusive), in accordance with the [Commonwealth of Australia, 2010, Survey Guidelines for Australia's Threatened Birds and the FPA Technical Note 1](#) (including any updates by the FPA). The results should be used to inform development activities and infrastructure layout and be provided in the EIS.

If the proposal is approved, eagle nest searches will be required to be undertaken prior to the final design of all infrastructure, as well as prior to construction, to identify any new nests. The EIS should outline how new nests will be detected, reported, and managed post-commissioning.

Eagle nest productivity assessments should be carried out for all known nests onsite within 3 km from the proposed turbines annually prior to commissioning. It should be noted that an eagle nest productivity assessment is defined as the number of chicks reared to fledging, not just the number of eggs and/or chicks produced each season.

Collision Management and Monitoring

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.

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. The EIS should also outline how the proponent intends to compensate for non-detections (i.e., birds that collide with turbines but are not detected during collision monitoring), particularly given the forested nature of the site and the likely difficulty in detecting all collisions. Forestry management at the site must be taken into consideration for collision management and monitoring.

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 land use pre-, during and post-construction, such as changes to forestry activities should be considered.

On-going disturbance

The EIS should outline how disturbance to eagles within the breeding season will be avoided in areas where roads pass within 1km of a nest (e.g., if forest has been removed through harvesting or fire, resulting in line-of-sight to the nest, then a management option may be to consider use of alternative roads).

Grey Goshawk

Given that grey goshawks (*Accipiter novaehollandiae*) were observed during eagle nest surveys, it is recommended that the EIS address the potential for impacts on this species and how these will be managed.

Key legislative and policy requirements

Regard should be given to [Australia's Strategy for Nature 2019-2030](#) and the [Threatened Species Strategy for Tasmania](#).

All surveys should refer 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>.

Assessments relating to EPBC Act listed threatened species and ecological communities should address the relevant Recovery Plans, Threat Abatement Plans and Approved Conservation Advices.

6.2 Key Issue 2: Threatened non-avian 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 TSP Act.
- A description of the MNES that are within the proposal area and surrounding areas, including but not limited to:
 1. Giant Freshwater Crayfish (*Astacopsis gouldi*) – Vulnerable
 2. Spotted-tail Quoll (*Dasyurus maculatus maculatus*) (Tasmanian population) – Vulnerable
 3. Eastern Quoll (*Dasyurus viverrinus*) – Endangered
 4. Eastern Dwarf Galaxias (*Galaxiella pusilla*) – Vulnerable
 5. Ptunurra Brown Butterfly (*Oreixenica ptunurra*) – Endangered
 6. Eastern Barred Bandicoot (Tasmania) (*Perameles gunnii gunnii*) – Vulnerable

7. Australian Grayling (*Prototroctes maraena*) – Vulnerable

8. Tasmanian Devil (*Sarcophilus harrisii*) – Endangered

- 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 NVA within three months 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.

Surveys should be done in accordance with the [Guidelines for Natural Values Surveys related to Development Proposals](#) and the [Commonwealth of Australia, 2011, Survey Guidelines for Australia's Threatened Mammals](#), and must be in accordance with specific Commonwealth guidelines for EPBC Act listed species.

Tasmanian Devils (*Sarcophilus harrisii*) and Spotted-tailed Quolls (*Dasyurus maculatus subsp. maculatus*)

Surveys to inform potential impacts on the Tasmanian Devil should be carried out in accordance with the [Tasmanian Devils - Devil Survey Guidelines and Advice](#).

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. An assessment of impacts to all suitable habitat for Tasmanian Devils and Spotted-tailed Quolls is required, including areas of denning, foraging, and other uses.

Suitable 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 2002* (NC Act).

In relation to assessing roadkill risk, the EIS should include a summary (e.g., table) showing what new roads/tracks are proposed, and how much distance they cover. An analysis of the expected vehicle movements during both construction and operational phases should also be provided, and a comparison made with existing vehicle movements.

The EIS should include an assessment of the potential for roadkill during both construction and operational phases and provide mitigation measures that will address this risk. Identification of

high-risk roadkill areas may help to inform mitigation and offset considerations for the Tasmanian devil and spotted-tailed quoll.

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.

Key legislative and policy requirements

Regard should be given to [Australia's Strategy for Nature 2019-2030](#) and the [Threatened Species Strategy for Tasmania](#).

All surveys should refer 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>.

Assessments relating to EPBC Act listed threatened species and ecological communities should address the relevant Recovery Plans, Threat Abatement Plans and Approved Conservation Advices.

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 MNES that are within the proposal area and surrounding areas, including but not limited to:
 1. Alpine Sphagnum Bogs and Associated Fens – Endangered
 2. Lowland Native Grasslands of Tasmania – Critically Endangered
 3. Tasmanian White gum (*Eucalyptus viminalis*) wet forest – Critically Endangered
 4. Tasmanian Forests and Woodlands dominated by Black gum or Brookers gum (*Eucalyptus ovata* / *E. brookeriana*) – Critically Endangered
 5. Maidenhair Spleenwort (*Asplenium hookerianum*) – Vulnerable
 6. Native Wintercress (*Barbarea australis*) – Endangered
 7. Scrambling Ground-fern (*Hypolepis distans*) – Endangered
 8. Hoary Sunray (*Leucochrysum albicans* subsp. *tricolor*) – Endangered
 9. Crowded Leek-orchid (*Prasophyllum crebriflorum*) – Endangered
 10. Swamp Fireweed (*Senecio psilocarpus*) – Vulnerable
- 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.

- How potential impacts to threatened flora, communities and habitats will be avoided.
- Where impacts cannot be avoided, proposed measures to mitigate and/or offset adverse impacts on biodiversity and nature conservation values must 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 NVA within three months 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

Ecological surveys are required to be undertaken in all areas proposed to be impacted by the proposed development. 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). Surveys should be done in accordance with the *Guidelines for Natural Values Surveys related to Development Proposals*.

A permit to take will be required under the TSP Act, if “taking” (as defined under the TSP Act) 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 directly to the NVA.

Weeds & diseases

The EIS should address the potential for project activities to result in the introduction and/or spread of weeds, pests and diseases. Mapping of weed occurrences should be included in the natural values survey, particularly for areas proposed to be disturbed by the development. Information should be provided in the EIS regarding the measures that will be taken to minimise this risk and to avoid associated potential impacts on threatened flora and fauna.

Key legislative and policy requirements

Regard should be given to [Australia's Strategy for Nature 2019-2030](#), the [Threatened Species Strategy for Tasmania](#), NC Act, *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 refer 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>.

Assessments relating to EPBC Act listed threatened species and ecological communities should address the relevant Recovery Plans, Threat Abatement Plans and Approved Conservation Advices.

6.4 Key Issue 4: World Heritage properties and National Heritage places

The Tasmanian Wilderness World Heritage listing can be found at: <https://whc.unesco.org/en/list/181>

The Australian National Heritage Database can be found at: <http://www.environment.gov.au/cgi-bin/ahdb/search.pl>

Provide a description of the Tasmanian Wilderness World Heritage area and National Heritage place with reference to its adopted Statement of Outstanding Universal Value and the Summary Statement of Significance (as available).

Provide a description of the listed aesthetic values of the Tasmanian Wilderness found in the *Tasmanian Wilderness World Heritage Area Management Plan (2016)*, and the listing in the Australian National Heritage Database (place ID 105695).

Assess impacts to heritage values of the Tasmanian Wilderness World Heritage area and National Heritage place that will be notably altered, modified, obscured or diminished as a result of the action, arising from the location of the wind farm. This must include:

- A topographic map (or maps) of the relevant parts of the Tasmanian Wilderness and the project area. Ensure that the maps include elevations in metres ASL (above sea level) of significant vantage points within the Tasmanian Wilderness and of wind farm and ancillary infrastructure. Ensure the maps provide distances from the proposed wind farm and ancillary infrastructure from those vantage points.
- Provide visual modelling and/ or 'artist impressions' of wind farm and ancillary infrastructure that are potentially visible from places of exceptional natural beauty and aesthetic importance within the Tasmanian Wilderness World Heritage Area and National Heritage place, including but not limited to Cradle Mountain Lake St Clair National Park (including recreationally important mountain peaks Cradle Mountain Summit, Marions Lookout, Crater Lake Circuit, Barn Bluff and others).
- Provide results of any modelling and analysis of impacts such as "line of sight" and elevation modelling.
- Provide an assessment of visual impacts of the wind farm and any ancillary infrastructure on the Tasmanian Wilderness, in particular to places of exceptional natural beauty and aesthetic importance listed in the *Tasmanian Wilderness World Heritage Area Management Plan (2016)* and the listing in the Australian National Heritage Database where from the wind farm and ancillary infrastructure is visible. This assessment must also consider the likely duration of

impacts to the Tasmanian Wilderness as a result of the proposed action. The visual impact assessment must be undertaken by a suitably qualified person using a broadly accepted methodology.

- Where impacts cannot be avoided, proposed measures to mitigate and/or offset adverse impacts on the listed values must be presented.

Key legislative and policy requirements

The assessment should address the *Tasmanian Wilderness World Heritage Area Management Plan* (2016), the World Heritage Management Principles and the National Heritage Management Principles.

6.5 Key Issue 5: Noise and vibration emissions

Discuss the potential for noise and vibration emissions from construction and operation of the project to result in environmental nuisance or harm on sensitive receptors, including:

- Identifying any significant potential sources of noise and vibration emissions.
- Identifying any noise-sensitive receptors in the vicinity of the project.
- Establishing the baseline (pre-existing) noise in the area with particular focus on sensitive receptors likely to be influenced by the project.
- Predicting construction noise and vibration at noise sensitive uses/receptors.
- Noise modelling is required. The report is to provide the predicted operation noise levels and noise contours and identify areas where:
 - The levels exceed the established criteria; and/or
 - The predicted levels exceed the baseline noise levels.
- Discussion of proposed construction noise and vibration management and mitigation measures, including management of noise/vibration complaints and options for noise and vibration monitoring, if required.
- Discussion of proposed operational noise monitoring, and operation phase management and mitigation strategies, if required.

Key legislative and policy requirements

Consideration should be given to the requirements of *AS 2436-2010 Guide to noise and vibration control on construction, demolition and maintenance sites*, the *New Zealand Standard NZS 6808:2010 Acoustics – wind farm noise*, the *Tasmania Noise Measurement Procedures Manual* (refer https://epa.tas.gov.au/Documents/Noise_Measurement_Procedures_Manual_2008.pdf), Part 5 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>) and the EPA Board's policy that states that the noise limit of 35 dB(A) or background + 5dB(A) at residences or land zoned for sensitive uses should apply to new wind energy projects (refer https://epa.tas.gov.au/Documents/EPA%20Board%20Communique_August%202020.pdf).

6.6 Other Natural Values

General Information

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

- The potential for construction activities to impact waterways and aquatic fauna should be included in the EIS, together with proposed management measures.
- 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.
- 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 RFA which may be affected by the proposal.
- Where impacts cannot be avoided, proposed measures to mitigate and/or compensate adverse impacts on biodiversity and nature conservation values should be presented.

Conservation Covenant

The proposed development footprint overlaps part of a Conservation Covenant (Plan Reference CPR8725), which is registered in perpetuity on land title under the NC Act. Covenants are a very restrictive and rigid agreement. The terms of this covenant generally prohibit the following activities (amongst others) within the covenanted land: removing vegetation; introducing Foreign Material; removing or disturbing soil, rock and other mineral resources; and building/placement of infrastructure.

The EIS should clearly demonstrate:

- The potential direct impacts on the covenanted land and its values.
- The potential indirect impacts on the covenanted land and its values (e.g., impacts outside of the covenanted land that may impact on values within covenanted land, such as edge effect, impacts on mobile/avian species that are considered a value of the covenant, etc.).
- If any potential impacts to covenant land/values are identified, describe the measures to avoid/mitigate those impacts.

The project may require authorisations, approvals or compliance actions pertinent to the terms and conditions of the covenant.

6.7 Air Quality

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

- 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>).

6.8 Water Quality

For construction and operational phases discuss and assess any potential impacts of the proposal on water quality including:

- Consistent with the *State Policy on Water Quality Management 1997* and the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2018 (ANZG2018)*, determine surface water bodies that may potentially be impacted by the proposed activity during construction and operation, the community values of those water bodies, relevant water quality guidelines values for the protection of those values, and potential impacts to water quality as a result of the proposal.
 - For receiving water bodies that may be impacted by the activity, determine water quality guidelines values for the protection of identified community values. As a minimum, relevant default guideline values published by the Environment Protection Authority, Tasmania, and ANZG2018 toxicant guideline values should be referred to. This may also include historical water quality data or site-specific monitoring undertaken for this proposal.
 - Assess the potential water quality impacts to identified receiving environments in relation to the selected water quality guideline values as a result of the release of contaminants entrained in stormwater, disturbance of acid sulphate soils or the discharge of any other pollutants during construction and operation of the activity.
 - Discuss how impacts will be avoided and minimised through the design and construction methodology and detail any proposed water quality monitoring in relation to any potential emissions of pollutants to receiving waters.
- Detail the potential for mobilisation of sediment for each significant construction element and/or environmental setting and discuss suitable potential mitigation measures consistent with best practice erosion and sediment control principles.(e.g. Best Practice Erosion and Sediment Control, IECA 2008 (<https://www.austieca.com.au/publications/best-practice-erosion-and-sediment-control-bpesc-document>)).
 - Provide general classification of erosion potential for each land type and topography likely to be disturbed by construction activities. Activities may include roads, laydown areas, other works yards, and turbine pads.
 - Discuss measures that may be employed to minimise erosion potential including, staging of works, temporary surface treatments, cut-off drains, temporary drainage controls and rehabilitation staging.
 - Detail design criteria for temporary and permanent drainage control and sediment containment infrastructure, including design rainfall average recurrence interval and emission limits for sediment retention basins, and drainage infrastructure.

- For significant works areas in scale or erosion risk, provide indicative plans of erosion and sediment control infrastructure that may be required at those locations to mitigate the potential for entrainment and release of sediment. Note where controls may be amended through the preparation, construction and commissioning phases.

Information on best practice erosion and sediment control is available at: [Books 1-3 - International Erosion Control Association \(austieca.com.au\)](#)

Legislative and policy requirements

Any proposed emission of contaminants to surface water must be justified in accordance with the principles under the [State Policy on Water Quality Management 1997](#) and with application of a ‘weight of evidence approach’ consistent with the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*. Reference should be made to published or determined (site specific) water quality guideline values for receiving environments. For information regarding the water quality management framework and evaluation criteria in Tasmania refer to [Technical Guidance for Water Quality Objectives \(WQOs\) Setting for Tasmania, August 2020](#).

6.9 Groundwater

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

- Where the potential exists for groundwater contamination as a result of the activity, a conceptual groundwater model for regional and local aquifer flows.
- A map showing the location of existing groundwater extraction bores nearest to the area impacted by the activity (refer to the Groundwater Information Portal <https://wrt.tas.gov.au/groundwater-info/>).
- Identify any surface water and groundwater dependant ecosystems that may receive groundwater from areas impacted by the proposal.
- Where the potential exists for groundwater contamination as a result of the activity that may not otherwise be mitigated, details of any baseline groundwater quality monitoring undertaken or proposed.
- Management of groundwater within construction footprints including measures to mitigate the potential for discharge of suspended solids and other contaminants.

Legislative and policy requirements

Provide justification for any potential impact to groundwater in accordance with the principles under the [State Policy on Water Quality Management 1997](#) and with reference to likely groundwater community values, associated guideline values and guideline values for receiving surface waters. For information regarding the water quality management framework and evaluation criteria in Tasmania refer to [Technical Guidance for Water Quality Objectives \(WQOs\) Setting for Tasmania, August 2020](#).

6.10 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.

6.11 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.

6.12 Greenhouse gases

For proposals with the potential for significant release of greenhouse gas emissions or the release of ozone depleting substances, discuss impacts of the proposal in relation to greenhouse gases and ozone depleting substances including:

- A description of the direct and indirect effects of the proposal on greenhouse gas production and ozone depleting substances and any greenhouse benefits of the proposal discussed.
- Demonstration that the development will implement cost-effective greenhouse best practice measures to achieve on going minimisation of greenhouse gas emissions.
- Provision of a competent estimate for 'whole of life' greenhouse gas emissions for the proposed development. Details should also be provided of proposed measures to minimise emissions and the anticipated effectiveness of these measures. Where less emissions-

intensive options are not adopted, justification should be provided and/or mechanisms to offset greenhouse gas emissions identified.

Legislative and policy requirements

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*.

6.13 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 and heritage 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 and heritage 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.

6.14 Fire risk

Discuss the potential fire risk associated with the proposal, including:

- Consideration of fire within the site, fire escaping from the site and the impact of wildfire originating outside the development and the environmental and heritage impacts that could result from such an event.
- The objectives and management principles to be adopted to prevent and respond to potential fire events.
- Where a fire response plan is appropriate, it should be fully integrated with other relevant documents, such as a Tasmania Fire Service Local Area Fire Management Plan, a Forestry Tasmania Fire Management Plan and a Parks and Wildlife Service Fire Action Plan for relevant districts.

6.15 Infrastructure and off-site ancillary facilities

Discuss potential environmental and heritage 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 and heritage impacts associated with construction and use of such infrastructure should be assessed.

6.16 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 wind farms 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.

6.17 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.

6.18 Visual effects

Describe the impacts of the proposal on the visual landscape.

- Outline the existing visual setting within which the proposal infrastructure will be located and assess the capacity of the landscape to absorb any visual changes to the landscape as a result of the proposal.
- 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.

The provision of a visual impact assessment by a suitably qualified person is required. The assessment should utilise a broadly accepted methodology to determine the acceptability of the visual impact arising from the proposal. The visual impact assessment should analyse the acceptability of the visual impact having regard to visual aspects of the proposal, the degree of contrast and integration, field of view, existing landscape characteristics and visual compatibility of the proposal.

Measures to avoid and mitigate potential adverse visual effects should be identified, such as minimising vegetation clearance, facility height, size, design, colour, separation and post-construction re-vegetation.

In addition, if there are any residents in the immediate vicinity of the proposal:

- Shadow flicker should be modelled to assess the likelihood of disturbance to any residents. 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.

Note comments provided for information by the Civil Aviation Safety Authority in Appendix A.

7. Monitoring and Review

This section should provide an outline of any monitoring, review and reporting programs for the proposal (e.g., avifauna monitoring, carcass management, sediment control during construction, etc.). It should include planned pre-commissioning monitoring, and post-commissioning verification. 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 and heritage 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.

The EIS should describe adaptive management actions should monitoring indicate the need for adjustment in construction and operational methods.

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. Reasons justifying undertaking the proposal in the manner proposed should also be outlined.

Measures proposed or required by way of offset for any unavoidable impacts on MNES and the relative degree of compensation, should be restated here.

11. References

This section should provide details of authorities consulted, reference documents etc. References should state how the reliability of the information was tested and what uncertainties (if any) are in the information.

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

AHT	Aboriginal Heritage Tasmania
ASL	Above Sea Level
CFEV	Conservation of Freshwater Ecosystem Values
CRM	Collision Risk Model
DCCEEW	Department of Climate Change, Energy, the Environment and Water
EIS	Environmental Impact Statement
EMP	Environmental Management Plan
EMPC Act	<i>Environmental Management and Pollution Control Act 1994</i>
EMPCS	Environmental Management and Pollution Control System objectives to be found in Schedule 1 of EMPCA
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i>
ESD	Ecologically Sustainable Development
LUPA Act	<i>Land Use Planning and Approvals Act 1993</i>
MNES	Matters of National Environmental Significance
NC Act	<i>Nature Conservation Act 2002</i>
NVA	Natural Values Atlas
PWS	Tasmanian Parks and Wildlife Service
RMPS	Resource Management and Planning System of Tasmania objectives to be found in Schedule 1 of EMPCA
TWWHA	Tasmanian Wilderness World Heritage Area
Tasmanian RFA	Tasmanian Regional Forest Agreement
The Board	Board of the Environment Protection Agency
TSP Act	<i>Threatened Species Protection Act 1995</i>

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.

Your proposal has been referred to other agencies in the process of preparing Guidelines. Should assessments or approval outside of the Board's responsibilities be required, you should engage with the respective agency to progress them.

Summarised comments from the following agencies are provided for information.

- **Aboriginal Heritage Tasmania**

Aboriginal Heritage Tasmania (AHT) advised that there are a considerable number of Aboriginal heritage sites recorded within or close to the project area including artefact scatters and isolated artefacts. Additionally, the project is located within a wider landscape that is known to be culturally rich and is conducive to Aboriginal heritage. AHT records indicate the area has not been comprehensively assessed and therefore additional Aboriginal heritage is likely to be present.

An Aboriginal heritage assessment is therefore strongly recommended to identify whether the proposed project or related infrastructure will impact on Aboriginal heritage and to offer avoidance and mitigation advice. This assessment must be undertaken jointly by a Consulting Archaeologist and Aboriginal Heritage Officer.

All Aboriginal heritage assessment throughout Tasmania must meet the *Aboriginal Heritage Standards and Procedures*. A copy of the Standards and Procedures and further relevant information regarding the Aboriginal heritage assessment process can be found on AHT's website. Once the Aboriginal heritage assessment has been completed a copy of the report should be forwarded to AHT for review/comment.

- **Tasmania Parks and Wildlife Service**

The proposed wind farm may have a detrimental impact on the world heritage values of the Tasmanian Wilderness World Heritage Area (TWWHA), particularly the iconic Cradle Mountain area. The Tasmanian Wilderness is also a listed National Heritage Place. Visual impacts, impacts on wilderness values and the wilderness quality of the Tasmanian Wilderness, recreation values outside of the Tasmanian Wilderness, cumulative impact of both the Hellyer and Guildford wind farm projects, and regard to the TWWHA Management Plan all need to be considered.

- **Heritage Tasmania**

Heritage Tasmania advised that the proposal will not require assessment or approvals under the *Historic Cultural Heritage Act 1995* as the property does not include any place or part of a place that is entered in the Tasmanian Heritage Register.

Heritage Tasmania advised that they support the proponent's intention that the proposal be informed by preparation of heritage studies that encompasses both Aboriginal and historic heritage values and recommend that the proponent be committed to impact mitigation that is guided by the advice of suitably qualified professionals where sites of heritage significance are identified in proximity to the proposed wind farm infrastructure. Heritage Tasmania's [Predevelopment Assessment Guidelines](#) provide guidance on the preparation of a Cultural Heritage Study.

- **Mineral Resources Tasmania**

The proposed project area is within the Mt Read Strategic Prospectivity Zone as defined by the *Mining (Strategic Prospectivity Zones) Act 1993*. Mineral Resources Tasmania (MRT) have previously worked with Wind Farm proponents to mitigate potential impacts on existing mineral tenements or highly prospective mineralised areas. In particular to avoid sterilisation of current or future mineral resources MRT would welcome the opportunity to work with the proponent in relation to the proposed Hellyer Wind Farm.

- **TasRail**

The proposal appears to interface with the operational Melba Rail Line (State Rail Network) for approximately 12 kms and there are several important matters to address in terms of protecting the safety of its assets and operations and compliance with its obligations under Rail Legislation and associated Regulations.

- **Air Services Australia**

Air Services Australia advised that an Aviation Impact Statement (AIS) report must be submitted along with an application to airport.developments@airserviceaustralia.com together with any supporting documents, spreadsheet, drawings and CAD files which will assist with the assessment. Guidelines on Wind Farm development applications and information required is available at www.airservicesaustralia.com.

- **Civil Aviation Safety Authority**

Civil Aviation Safety Authority (CASA) advised that an aeronautical study that will identify any possible aviation safety risks and the need for mitigation of any risks is required to be undertaken by an aviation consultant. The study should provide a detailed assessment of the potential impacts of the wind farm on aviation activities and demonstrate how an acceptable level of aviation safety can be maintained. An aeronautical study should address all of the National Airports Safeguarding Framework (NASF) key considerations.

CASA also recommended that night obstacle lighting be included in the visual impact assessment.

The following list identifies some of the key agencies you may need to contact.

Conservation Assessments, Department of Natural Resources and Environment Tasmania

Telephone: (03) 6165 4396

Email: conservationassessments@nre.tas.gov.au

Website: www.nre.tas.gov.au/conservation

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

Heritage Tasmania

Telephone: (03) 6165 3700

Email: enquiries@heritage.tas.gov.au

Website: www.heritage.tas.gov.au

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

Telephone: 1300 487 045

Email: aboriginal@dpac.tas.gov.au

Website: www.aboriginalheritage.tas.gov.au

Purpose: Aboriginal heritage, including desktop assessment, artefact survey requirements, permits and advice.

Parks and Wildlife Service

Telephone: (03) 6169 9015

Email: PropertyServices@parks.tas.gov.au

Website: www.parks.tas.gov.au

Purpose: Impacts on parks and reserves managed by Parks and Wildlife, or Crown Land.

Department of State Growth

Telephone: (03) 6166 3369

Email: permits@stategrowth.tas.gov.au

Website: www.transport.tas.gov.au

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

Mineral Resources Tasmania

Telephone: 03 6165 4800

Email: info@mrt.tas.gov.au

Website: www.mrt.tas.gov.au

Purpose: Mining leases

Agriculture and Water, Department of Natural Resources and Environment Tasmania

Telephone: (03) 6165 3222

Email: Water.Enquiries@dpiw.tas.gov.au

Website: www.dpiw.tas.gov.au/water

Purpose: Water licences and works impacting natural waterway flow (e.g., dams or fords)

Appendix B: Avian mortality monitoring plan guidelines

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