

Project Specific Development Proposal and
Environmental Management Plan Guidelines

for

**Robbins Island Renewable Energy Park,
Robbins Island, northwest Tasmania**

**Board of the Environment Protection Authority
January 2018**



ENVIRONMENT PROTECTION AUTHORITY

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GENERAL INFORMATION FOR THE PROPONENT

Purpose of these Guidelines

The *Environmental Management and Pollution Control Act 1994* (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.

Environmental aspects of the proposal will be assessed by the Board, while planning aspects of the proposal will be assessed by the relevant planning authority (Circular Head Council). The Board has authorised EPA Tasmania to undertake the administrative tasks and establish the information base to inform its decision making on its behalf.

These guidelines provide general information on preparing a Development Proposal and Environmental Management Plan (DPEMP) for an activity being assessed by the Board under the EMPC Act.

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, while others will not be applicable at all. The level of detail provided on each issue should be appropriate to the level of significance of that issue for the proposal.

The DPEMP must be focused on the key issues for the proposal.

These guidelines should not be interpreted as excluding from consideration other matters that emerge as significant from environmental studies, public comments or otherwise during the course of the preparation of the DPEMP.

Following the public consultation phase, the DPEMP may require amendment as a result of consideration of public and government agency submissions. This generally takes the form of a supplement to the DPEMP.

Objectives of the DPEMP

The DPEMP should aim to provide:

- A source of information from which individuals and groups may gain an understanding of the proposal, the need for the proposal, the alternatives, the environment that it could affect, the positive and negative impacts that may occur and the measures that will be taken to maximise positive outcomes, and minimise any adverse impacts, including specific management commitments.
- A basis for public consultation and informed comment on the proposal.
- A framework against which decision makers (and in particular the Board and the local Council) can consider the proposal and determine the conditions under which any approval might be given.
- A demonstration that the proposal is consistent with objectives as required by the relevant statutes 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 DPEMP

The DPEMP should be presented so as to assist the Board to make its assessment. That means detailing and substantiating both positive and negative impacts and addressing each of the RMPS and EMPCS objectives. These objectives are very much centred around the concept of sustainable development which requires consideration of meeting 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 each objective and then endeavour to make the decision which

best furthers the objectives considered together. That decision may be to impose conditions to ensure that the objectives are furthered. In some cases it may not be possible to impose conditions to ensure that the objectives are furthered overall and in these cases the Board will reject a proposal.

Refer to the Guideline “How the EPA Board makes decisions about development proposals” for further information.

Structure and Formatting of the DPEMP

The following points should be considered when writing the DPEMP:

- The title page should include the proponent name, activity name (include “expansion” or “upgrade” where appropriate), proposal address/location, the DPEMP version number (where relevant) and the month & year of publication.
- The main text of the DPEMP 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 any 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. An indication should also be given of the currency of the information used and how the reliability of the information was tested. In particular, the degree of confidence attached to any predictions should be indicated. The style of referencing should be consistent throughout.
- Information should be presented on maps, diagrams and site plans to enhance the level of understanding. All images must be of high quality, with all text readily readable, and should be capable of being readily copied and pasted into other documents such as a permit (e.g. all objects in images should be ‘grouped’). All colour images must, when printed or photocopied in monochrome, reproduce such that all important features are readily visible. An exception may be made to the above where historical documents or photographs need to be reproduced in the document. For ease of comparison, all maps, plans and aerial photographs should be oriented in the same direction as far as practicable and a north direction arrow and scale should be included.
- When providing maps or referring to spatial databases, the coordinate reference system being used should be specified (*i.e.* Australian Geodetic Datum (AGD) or Geocentric Datum of Australia (GDA)).
- Where sensitive information needs to be provided (e.g. information on production processes, or sites or areas of conservation, scientific, archaeological and cultural heritage or other special significance) this information should be provided in a separate, confidential appendix. A comment should be provided in the DPEMP to the effect that the information has been so provided.
- Specific management commitments must be clearly identified in the text and included in the commitments table referred to in Section 9 of these guidelines.
- Where appropriate, information provided in other sections should be referenced to minimise duplication.
- The DPEMP should contain a summary table showing compliance with the project specific guidelines.

Submission of draft and final document

Close consultation with the EPA Tasmania and the relevant planning authority during the preparation of the DPEMP is recommended.

It is recommended that the proponent submit a draft DPEMP to both Circular Head Council and EPA Tasmania for review prior to its finalisation. Please note that a draft document may be rejected without detailed review if it is incomplete, contains significant formatting or typographical errors, or does not comply with the Project Specific Guidelines. More than one draft may be necessary before the document is considered suitable for public release.

The DPEMP is to be submitted in electronic formats for use with a word processor (such as Microsoft Word), and suitable for publishing on the internet (PDF format). Some printed copies may also be required. The proponent will be advised of the number of copies and format required.

Once the proposal is advertised for public comment, copies of the DPEMP are to be made available to the public upon request at no charge or for a nominal fee, in either printed or electronic format (e.g. CD ROM).

The DPEMP will also be made available on the EPA Tasmania website. Documents should be able to be downloaded over slower internet connections; images within the document should be optimised for the internet and font choices should be restricted to those most commonly used. Being judicious about the number of images and/or design elements can avoid unnecessarily adding to the file size. Large files should be broken into multiple documents (max 10 Mega bytes).

Commonwealth environmental assessment

The proposal has been determined to be a controlled action under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC Reference 2017/8096) 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 the following matters of national environmental significance, protected under Part 3 of the EPBC Act:

- Listed threatened species and communities (sections 18 and 18A); and
- Listed migratory species (sections 29 and 20A).

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

The DPEMP 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](#) (EPBC Regulations).

False or misleading statements

It should be noted that section 43A of the EMPC Act creates obligations regarding the provision of information. The DPEMP must not include information that is known to be false or misleading; and no matter should be omitted if it is known that without that matter the DPEMP is false or misleading.

KEY ISSUES TO BE ADDRESSED

While the DPEMP 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.

	Key issues	Section
1	Threatened fauna species	6.1
2	Threatened flora species and ecological communities	6.2

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

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

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

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

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

CONTENTS OF THE DPEMP

EXECUTIVE SUMMARY

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

For larger DPEMPs, 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 purchase the full DPEMP.

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 DPEMP.

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 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.
- Environmental record of person proposing to take the action (activity operator or proponent).
 - The information provided must include details of any proceedings under a Commonwealth, State or Territory law for the protection of the environment or the conservation and sustainable use of natural resources against:
 - a) The person proposing to take the action.
 - b) For an action for which a person has applied for a permit, the person making the application.

If the person proposing to take the action is a corporation, details of the corporation's environmental policy and planning framework should be described.
- 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.

2. PROPOSAL DESCRIPTION

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

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

The information listed below should typically be provided.

2.1. General

- The major items of equipment (including pollution control equipment) and on-site facilities should be described. Detailed technical information on major items of equipment may be included in appendices.
- Details of wind turbine specifications, ancillary facilities such as a sub-station, new and up-graded roads/access tracks, underground infrastructure (i.e. cable network), transmission line, maintenance facilities and on-site amenities. The proposed generating capacity, number and dimensions of wind turbines must be specified.
- Details of solar photovoltaic (PV) generation equipment.
- Details of the causeway and bridge structure proposed across Robbins Passage as well as the marine landing and wharf proposed for large size wind turbine components should be described.
- The width of the proposed transmission line corridor should be specified.
- Details of the location and proposed management of any on-site borrow pits to source construction materials should also be provided, particularly in relation to impacts associated with vegetation clearance and sedimentation near waterways.

2.2. Pre-construction and Construction Phases

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

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, transmission line (including vegetation clearance) and PV generation.
- Details of the width of the operational transmission line easement that will be required. Requirements for access to the easement and any restrictions on land use, development and access within the easement.
- 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 for the renewable energy park, including any seasonal variations.

2.5. Decommissioning

A description of the key decommissioning and closure activities should be provided.

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 as per local government planning scheme.

2.7. Site plan

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

- The boundary of the proposal site in relation to land titles. Coordinates of the land should be provided.
- A site plan showing the location of all major items of equipment (including wind turbine layout) and facilities.
- The position of buildings and significant structures on the site (existing and proposed).
- The location of the transmission line route.

- The route of any pipelines, tracks or similar means of transporting on-site materials.
- The location(s) of raw materials storage areas.
- The locations of temporary and permanent storage areas for fuels, oils, reagents and other hazardous goods or chemicals.
- The locations of stormwater collection systems and details of drainage control measures such as cut-off drains and sediment settling ponds, including location of all discharge points (stormwater or other).
- Details of any screening vegetation.
- The location(s) of loading or unloading areas.
- The location(s) of any monitoring sites.

2.8. Off-site infrastructure

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

3. PROJECT ALTERNATIVES

The rationale for the particular project proposed should be described.

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

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

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

4. CONSULTATION

The following information should be provided in the DPEMP:

- a) Details on community and stakeholder consultation already undertaken (in early planning stages).
- b) The outcomes of consultation undertaken thus far (e.g. surveys, public meetings, liaison/discussions with interested groups), clearly identifying input provided by community and stakeholders and any resultant changes made to the proposal as a result of consultation process.
- c) A description of community and stakeholder attitudes in relation to the proposal.
- d) Details of plans for on-going engagement with the community and stakeholders throughout the assessment process and throughout the life of the proposal.

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 Tasmania website at: <http://epa.tas.gov.au/regulation/guidance-documents>.

Comments from the following agencies have been provided:

- Marine and Safety Tasmania (MAST) – the causeway/bridge crossing will need to be designed to maintain passage for recreational vessels.
- Mineral Resources Tasmania – where on-site quarrying is proposed, a Mining Lease may be required to legally win the material for the development.
- TasNetworks - welcomes continued discussions with the developer regarding connection to the electricity transmission network in Tasmania. Standard easement widths for transmission voltages already used in Tasmania are as follows:
 - 110kV: 50 metres
 - 220kV: 60 metres.
- AirServices Australia – an Aviation Impact Statement report is required to be submitted along with the Wind Farm Development application.

5. THE EXISTING ENVIRONMENT

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

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

The following details should be included.

5.1 *Planning aspects*

- Information on land tenure and property boundaries of the proposal site, with title details.
- Land zonings for the proposal site and surrounding areas, and any by-laws or development standards and codes that may apply to the site and surrounding areas.
- Any rights of way, easements and covenants affecting the proposal site.
- Land use and planning history of the proposal site, including the potential for site contamination¹, the present use of the site and any existing buildings and significant structures.
- A description of land use and ownership in the vicinity of the proposal site and those areas which may be affected by the proposal. The location and nature of industrial facilities, 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) within 500 metres of the proposal site should be included (except where a greater or lesser distance has been specified by EPA Tasmania). Any proposed or potential sensitive users 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 proposal site and surrounding area, including topography, local climate, geology, geomorphology, soils (including erodibility acid sulphate soils), vegetation, fauna, groundwater and surface drainage (including waterways, lakes, wetlands, coastal areas etc). This information should be displayed on maps where appropriate.
- 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 5 kilometres of the proposal site.
- Any high quality wilderness areas identified in the *Tasmanian Regional Forest Agreement* in the vicinity of the proposal site.
- Information on species, sites or areas of landscape, aesthetic, wilderness, scientific or otherwise special conservation significance which may be affected by the proposal. Relevant information resources include the LIST (www.thelist.tas.gov.au) and the Natural Values Atlas (www.naturalvaluesatlas.dpiw.tas.gov.au).
- An assessment of the vulnerability of the site to natural hazards (e.g. flooding, seismic activity, fire, landslips or strong winds).

¹ Information on potentially contaminating activities and contaminated site assessment can be found online at <http://epa.tas.gov.au/epa> under 'Land Contamination'.

- 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.
- A description of the matters of national environmental significance that are within the proposal area and surrounding areas, including but not limited to:
 - Nationally listed threatened species
 - Tasmanian wedge-tailed eagle (*Aquila audax fleayi*) – endangered
 - Orange-bellied parrot (*Neophema chrysogaster*) – critically endangered
 - Spotted-tailed quoll (*Dasyurus maculatus* (Tasmanian population)) – vulnerable
 - Northern leek-orchid (*Prasophyllum secutum*) - endangered
 - Tasmanian devil (*Sarcophilus harrisi*) – endangered
 - Tasmanian azure kingfisher (*Ceyx azureus diemenensis*) – endangered
 - Australian fairy tern (*Sternula nereis nereis*) – vulnerable
 - Swift parrot (*Lathamus discolor*) – critically endangered
 - Bar-tailed godwit (baueri) (*Limosa lapponica baueri*) – vulnerable
 - Hooded plover (eastern) (*Thinornis rubricollis rubricollis*) – vulnerable
 - Eastern curlew (*Numenius madagascariensis*) – critically endangered, migratory
 - Red knot (*Calidris canutus*) – endangered, migratory
 - Great knot (*Calidris tenuirostris*) – critically endangered, migratory
 - Curlew sandpiper (*Calidris ferruginea*) – critically endangered, migratory
 - Lesser sand plover (*Charadrius mongolus*) – endangered, migratory
 - Marrawah skipper (*Oreisplanus munionga larana*) – vulnerable
 - Dwarf galaxias (*Galaxiella pusilla*) – vulnerable
 - Australian grayling (*Prototroctes maraena*) – vulnerable
 - Growling grass frog (*Litoria raniformis*) (also known as the green and gold frog) – vulnerable
 - Tailed spider-orchid (*Caladenia caudata*) – vulnerable
 - Windswept spider-orchid (*Caladenia dienema*) – endangered
 - Snake orchid (*Diuris lanceolata*) – endangered
 - Nationally listed migratory species
 - Sharp-tailed sandpiper (*Calidris acuminata*) – migratory
 - Double-banded plover (*Charadrius bicinctus*) – migratory
 - Bar-tailed godwit (*Limosa lapponica*) – migratory
 - Whimbrel (*Numenius phaeopus*) – migratory
 - Pacific golden plover (*Pluvialis fulva*) – migratory
 - Grey plover (*Pluvialis squatarola*) – migratory
 - Common greenshank (*Tringa nebularia*) – migratory
 - Terek sandpiper (*Xenus cinereus*) – migratory
 - Grey-tailed tattler (*Tringa brevipes*) – migratory
 - Red-necked stint (*Calidris ruficollis*) – migratory

- Latham's snipe (*Gallinago hardwickii*) – migratory
 - Little curlew (*Numenius minutus*) – migratory
 - Black-tailed godwit (*Limosa limosa*) – migratory
 - Sanderling (*Calidris alba*) – migratory
 - Ruddy turnstone (*Arenaria interpres*) – migratory
 - Little tern (*Sternula albifrons*) – migratory
 - Fork-tailed swift (*Apus pacificus*) – migratory
 - White-throated needletail (*Hirundopus caudacutus*) – migratory
 - Satin flycatcher (*Myiagra cyanoleuca*) – migratory.
- 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, must be included. The extent to which these surveys were appropriate and undertaken in accordance with the Department of the Environment and Energy's relevant scientific and policy guidance should also be stated.
 - Information detailing known/recorded populations and known or potential habitat, including habitat in the area surrounding the proposed action area. Information must include maps indicating the distribution of the matters of national environmental significance and associated habitat.

5.3 Socio-economic aspects

Describe the existing social and economic environment that may be affected by the proposal, including information on the following:

- A summary of the social/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 (e.g. existing employment trends, land values).

6. POTENTIAL IMPACTS AND THEIR MANAGEMENT

Guidance for preparation of this section

While it is recognised that some details of the proposal may not be finalised at the time the DPEMP is submitted, the information presented 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. It should be noted, however, that sufficient technical detail must be provided to enable an appropriate level of assessment to be undertaken. 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 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.

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

Predictions and evaluations of impacts should be based on scientifically supportable data (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.

The discussion of environmental impacts must clearly identify impacts specific to matters of national environmental significance for the EPBC Act controlling provisions identified on page 4 of this document as required by the EPBC Regulations, Schedule 4, Section 3.01 (b) and (c).

Avoidance and mitigation measures

Describe the measures proposed to avoid or mitigate potential adverse impacts (having regard to best practice environmental management as defined in the EMPC Act) 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.

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

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

Assessment of net impacts

An assessment of the overall impacts of the development on the environment after allowing for the implementation of proposed avoidance and mitigation measures. This should include an evaluation of the significance of impacts, the potential for emissions to cause environmental and health impacts and comparison with 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, including:

- Impacts on existing or proposed tourist or recreation activities, such as camping areas, picnic areas, walking tracks, horse riding tracks, heritage trails etc.
- Impacts on residential activities.
- Impacts on industrial activities.
- Impacts on agricultural activities, including any requirement of the *State Policy for the Protection of Agricultural Land (2007)* - (see http://www.dpac.tas.gov.au/divisions/policy/state_policies)
- Impacts on local and regional tourism.
- Impacts on other commercial activities.

Offsetting unavoidable adverse impacts.

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

With respect to residual impacts to matters of national environmental significance, information must be included regarding the reasons why avoidance or mitigation of impacts cannot be reasonably achieved. If relevant, details of an offset package to compensate for residual impacts to matters of national environmental significance should be included. This should consist of an offset proposal

(strategy) and key commitments and management actions for delivering and implementing a proposed offset (e.g. an Offset Management Plan). Please note the strategy and management plan should be prepared as two separate documents. The proposed offset must meet the requirements of the Department's *EPBC Act Environmental Offsets Policy* (October 2012) available at: www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy.

The package must include, but not be limited to, the following:

- i. A description of the offset site(s) including location, size, condition and environmental values present.
- ii. Justification of how the offset package meets the *EPBC Act Environmental Offsets Policy*.
- iii. An assessment (and justification for each input used) of the offset site(s) using the Department's *Offset Assessment Guide* available at: www.environment.gov.au/epbc/publications/epbc-act-environmental-offsets-policy.
- iv. Details on how the offset will be secured, managed and monitored, including management actions, responsibility, timing and performance criteria. This should include the specific environmental outcomes to be achieved from management measures.

Offsets required by the State can be applied if those offsets meet the *EPBC Act Environmental Offsets Policy*.

6.1 Key Issue 1: Threatened fauna

General information

Discuss impacts of the wind farm, transmission line and any other ancillary infrastructure (such as the potential causeway proposal) on threatened fauna, including avifauna and terrestrial fauna species including:

- Impacts on species, communities and habitats, with particular reference to rare and threatened species, migratory species, communities and habitats, including those listed under the relevant Schedules of the Commonwealth EPBC Act (including but not limited to those listed at 5.2) and the Tasmanian *Threatened Species Protection Act 1995* (TSPA).
- Details on whether any impacts are likely to be unknown, unpredictable or irreversible.
- Impacts on identified areas or habitats of conservation significance, including designated conservation areas, areas relating to the requirements of international treaties (e.g. Japan-Australia and China-Australia Migratory Bird Agreements (JAMBA/CAMBA) and Ramsar (wetlands) Convention), or wetlands listed in *A Directory of Important Wetlands in Australia*.
- Where impacts cannot be avoided, proposed measures to mitigate and/or compensate adverse impacts on biodiversity and nature conservation values should be presented.
- The potential for migration and/or introduction of pests, weeds and plant and animal diseases as a result of the proposal.
- Reference should be made to potential impacts of vehicle movements on wildlife as a result of the proposal, and to proposed mitigation measures for any wildlife priority areas.
- The Land should be surveyed in accordance with the *Guidelines for Natural Values Surveys*, which can be found at: <http://dpiwwe.tas.gov.au/conservation/development-planning-conservation-assessment/survey-guidelines-for-development-assessments>.

Threatened fauna surveys

In addition to the fauna surveys to be carried out in spring/summer 2017 (as stated in the Notice of Intent): bird utilisation survey; shorebird survey; bat survey using Anabat; and mammals (via camera trapping); surveys should also be conducted for other threatened fauna that may be found in the area, including but not limited to: the Green and Gold Frog (*Litoria raniformis*); Marrawah Skipper (*Oreisplanus munionga* subsp. *larana*); and Eastern Dwarf Galaxias (*Galaxiella pusilla*). The latter two species can be difficult to detect and a consultant who is suitably qualified and experienced in surveys for these species should be engaged. Please note a permit under the *Nature Conservation Act 2002* (NCA) is required to undertake electro-fishing surveys.

Surveys should also determine if any habitat suitable for threatened fauna is present in the area and should include a check of mature trees for hollows that may provide potential nests for Masked Owls.

Tasmanian devils and spotted-tailed quolls

The DPMP should include the results of surveys for devil dens in accordance with *Survey Guidelines and Management Advice for Development Proposals that May Impact on the Tasmanian Devil (Sarcophilus harrisii)* (the Devil Guidelines) which can be found at: <http://dpiwwe.tas.gov.au/conservation/development-planning-conservation-assessment/survey-guidelines-for-development-assessments>. If any Tasmanian devil or spotted-tailed quoll dens are found within the proposal area, the DPMP should provide for the monitoring and management of the dens in accordance with the Devil Guidelines. Any dens that cannot be avoided will require a permit to take under the NCA.

The construction of a causeway may facilitate the movement of Tasmanian Devils (and Devil Facial Tumour Disease, DFTD) between Robbins Island and mainland Tasmania, and result in more rapid mixing of devil populations. This could have impacts on the genetic and DFTD status of Robbins Island devils. The proponent should consult with DPIWWE's Tasmanian Devil Team to discuss

options for carrying out genetic sampling of Robbins Island devils prior to developing the DPEMP. This will help to assess the potential impacts of the causeway on the local devil population, and to determine what management strategies may be required. Should Robbins Island devils be found to be genetically distinct from the mainland population, then appropriate mitigation measures for genetic mixing of the two populations should be presented in the DPEMP. The DPEMP should also consider the likely impacts of any increase in traffic within the footprint of the proposal, and outline roadkill mitigation measures in accordance with the Devil Guidelines.

Avifauna

Impacts of the proposed windfarm are likely to include mortality or injury of avifauna through collision with turbines or transmission lines as well as habitat loss and disturbance. Species of particular concern include the White-Bellied Sea-Eagle (*Haliaeetus leucogaster*), the Wedge-Tailed Eagle (*Aquila audax subsp. fleayi*) and the Orange-Bellied Parrot (*Neophema chrysogaster*); however, there are also likely to be impacts on shorebird and migratory bird species as identified in section 5.2.

Collisions with transmission lines are a known risk to eagles. If the proposal includes the installation of transmission lines then the risks and mitigation of such impacts should be addressed.

Eagles

Targeted eagle nest surveys

A new targeted eagle nest survey should be undertaken which covers any potential nesting habitat on Robbins Island, and within one kilometre of other areas proposed to be impacted (including the proposed causeway and transmission line corridor). Surveys should be undertaken following one of the methods outlined in Section 4 of the Forest Practices Authority (FPA) guidelines for nest searches. If there is not suitable access to undertake surveys on foot, a survey by helicopter will be required (note time of year restrictions apply for undertaking these surveys). A copy of the FPA guidelines is available at:

http://www.fpa.tas.gov.au/__data/assets/pdf_file/0012/110208/Fauna_Tech_Note_1_Eagle_nest_management_May_2015.pdf.

Targeted utilisation surveys

Targeted utilisation surveys should be carried out across the proposed project footprint (including the transmission line) to determine utilisation of the area by eagle 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 so that utilisation (activity/behaviour/type of flight) and flight paths, heights and time budgets can be adequately recorded.
- Survey methodology should be such that spatial use of the site (any favoured areas, any common flight paths, etc.) can be determined.
- Five-day surveys are recommended at the mid-point of each season (summer, autumn, winter and spring), undertaken from dawn to dusk each day (as opposed to set hours).
- Since utilisation by WTEs has been known to vary significantly between years, it is recommended that surveys are undertaken over a period of at least two years (i.e. over at least two summers, two autumns, two winters and two springs). However, depending on the findings after Year 1, if the consultants feel there may be adequate information and/or mitigation proposed to justify no further utilisation surveys, PCAB could review the preliminary report and provide further advice at that time regarding a recommendation for further surveys or otherwise.

It is recommended that survey data are presented in the form of “contour maps” for different seasonal activity periods and that supporting information from field observations are included (e.g. flight heights, commonly used flight paths and time budgets).

Collision Risk Models (CRMs) are not required. If the proponent would like to use a CRM to support its proposal, it is recommended that details of the model are provided for review prior to use. However, a useful indicator of relative collision risk can be obtained from well conducted utilisation studies.

It is recommended that the DPEMP include proposed monitoring, management and offset measures in accordance with the mitigation hierarchy.

Orange-Bellied Parrot

The proposal area is within the likely migration route of the Orange-Bellied Parrot, and the species has previously been recorded within five kilometres of the proposal area. As such, the proposal has the potential to impact on the species.

Information on the extent, structure and quality of known and potential foraging habitat within and near the proposal area should be determined. It is recommended that any known or potential foraging habitat in the vicinity of the proposed windfarm sites (based on desktop mapping and results of any previous on-ground surveys) should be mapped and to the extent practicable (e.g. access) assessed on-ground to validate the findings of the desktop assessment and to record species composition and habitat quality. The DPEMP should outline details of proposed avoidance, mitigation or offset measures to account for any possible impacts on the species, including indirect effects such as increased predator movement onto the island.

Other avifauna

There are large numbers of shorebirds, seabirds, penguins and other migratory bird species that utilise the marine, intertidal and coastal areas of Robbins Island. The DPEMP should consider the potential impact of the proposal on these species, and outline appropriate avoidance or mitigation measures. In addition to collision, habitat loss and noise disturbance, consideration should also be given to the impact of light pollution.

Aquatic fauna (freshwater)

Should any listed threatened aquatic fauna species be found to be present within the development footprint, the DPEMP should address how disturbance of their habitat will be avoided or minimised. This may include the maintenance of connectivity and water quality, and the use of culverts and sediment traps in relevant areas.

Marawah Skipper

Habitat for the Marawah skipper is *Carex appressa*. The DPEMP should identify whether any such habitat is present. Surveys for larvae may be conducted at any time of the year, as larval shelters will be present. Surveys for the adults require consultants to be present during the flying time. Dependant on the likelihood of impacts to such habitat it may be appropriate to wait until micro-siting of turbines is being finalised before targeted surveys for this species are undertaken.

Marine fauna

Activities undertaken in or adjacent to the marine environment, including the proposed marine landing and causeway, should be done in a manner that avoids or minimises potential impacts to listed marine fauna – such as acoustic disturbance or the spread of marine pests. For example, should an undersea interconnector form part of the proposal, details of its physical location (buried or exposed on the sea-floor) and information about the strength and propagation of the electromagnetic field should be provided, together with measures to avoid or mitigate potential impacts on marine species. Avoidance and mitigation measures for all marine-based operations should be outlined in the DPEMP.

Key legislative and policy requirements

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

All surveys should make reference to relevant survey guidelines, including an assessment of the adequacy and appropriateness of the surveys with respect to these guidelines. Documents

regarding listed threatened and migratory species can be found at: <http://www.environment.gov.au/cgi-bin/sprat/public/sprat.pl>.

6.2 Key Issue 2: Threatened flora and ecological communities

General Information

Discuss impacts of the wind farm, transmission line and any other ancillary infrastructure (such as the potential causeway proposal) 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 (including but not limited to those listed at 5.2) and the Tasmanian TSPA.
- Clearing of native vegetation and habitat associated with the construction and maintenance of the proposal and the impact of any clearing on sites, species or ecological communities of special conservation significance, including any impact on the comprehensive, adequate and representative reserve system identified as part of the Tasmanian RFA, maintenance of forest communities under the Tasmanian Government *Policy for Maintaining a Permanent Native Forest Estate 2017*, and wildlife habitat strips under the *Tasmanian Forest Practices Code 2015* and on non-forest communities.
- Where the clearance and conversion of forests and/or threatened native vegetation communities, including non-forest communities, is undertaken a Forest Practices Plan is required unless there are circumstances which meet the exemption available under the *Forest Practices Regulations 2017*.
- Where impacts cannot be avoided, proposed measures to mitigate and/or compensate adverse impacts on biodiversity and nature conservation values should be presented.
- The potential for migration and/or introduction of pests, weeds and plant and animal diseases as a result of the proposal.
- Details on whether any impacts are likely to be unknown, unpredictable or irreversible.
- Rehabilitation of disturbed areas following the completion of construction activities and cessation of the activity, including any proposed seed collection and progressive rehabilitation program.

Threatened flora surveys

Flora surveys should be timed to ensure that ephemeral and difficult to identify species, such as orchids, are easily identifiable (e.g. during peak flowering times).

Threatened vegetation communities

Vegetation community ground surveys and vegetation mapping of the island should be undertaken, to verify the actual distribution and condition of communities listed under the NC Act.

Weeds & diseases

The DPEMP should include a commitment to survey for and manage weeds and diseases on the property. Given that *Phytophthora cinnamomi* has been recorded within one kilometre of the site, steps should also be taken to ensure that this species is not spread any further by project activities. Weeds and diseases such as *Phytophthora cinnamomi* and Chytrid Fungus should be managed in accordance with the *Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania*, which can be found at: <http://dpipwe.tas.gov.au/Documents/Weed%20%20Management%20and%20Hygiene%20Guidelines.pdf>.

Requirements for surveys

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

Key legislative and policy requirements

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

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

6.3 Air Quality

Discuss potential impacts of the proposal on the local, regional and global 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/air-quality-epp>).

6.4 Surface Water Quality

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

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

Legislative and policy requirements

It must be demonstrated that the proposal is consistent with the objectives and requirements of relevant water management policies and legislation including the *Water Management Act 1999*, the *State Policy on Water Quality Management 1997*, the *State Stormwater Strategy 2010*, and the *Tasmanian State Coastal Policy 1996*.

In particular, it must be demonstrated that the proposal will not prejudice the achievement of any water quality objectives set for water bodies under the *State Policy on Water Quality Management*

1997 (see <http://epa.tas.gov.au/policy/water-quality-policy>). Where water quality objectives have not yet been set, the EPA Division should be consulted to identify the baseline water quality data required to enable the water quality objectives to be determined.

6.5 Groundwater

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

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

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

Legislative and policy requirements

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

6.6 Noise emissions

Discuss impacts of the proposal on ambient (surrounding) noise levels (during both the construction and operational phases), including:

- Identifying and describing all major sources of noise.
- A map of the location(s) of all major sources of noise.
- The potential for noise emissions (during both the construction and operational phases) to cause nuisance for nearby land users.
- The potential for noise emissions to affect terrestrial, marine and freshwater wildlife and livestock.

It is noted that noise modelling is proposed in the Notice of Intent, this is supported.

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/air-quality-epp>).

6.7 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/identify-a-material-as-a-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; and
- disposal.

6.8 *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(s) 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.

6.9 *Biodiversity and natural values*

General Information

- Identify any freshwater ecosystems of high conservation management priority using the Conservation of Freshwater Ecosystem Values (CFEV) database (accessible on the internet under water.dpiw.tas.gov.au/wist/). 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 DPEMPs 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 which may be affected by the proposal, with reference to the management objectives of the reserve(s) and the reserve management plan(s) (if any).
- Impacts on any high quality wilderness areas identified in the *Tasmanian Regional Forest Agreement* (Tasmanian RFA) which may be affected by the proposal.
- Impacts on other species, sites or areas of landscape, aesthetic, wilderness, scientific, geodiversity or otherwise special conservation significance.
- Where impacts cannot be avoided, proposed measures to mitigate and/or compensate adverse impacts on biodiversity and nature conservation values should be presented.

Acid Sulfate Soils

Robbins Island has many of the physical attributes to host potential acid sulfate soils (PASS). Investigations should be carried out to determine whether any of the proposed activities will impact upon potentially acid sulfate sediments. This should include:

- Risk assessment of earthworks/trenching (physical disturbance through excavation);
- Risk assessment of the installation of groundwater bores and the subsequent use of groundwater leading to groundwater table drawdown and the potential for oxidation of sulfidic sediments;

- Water quality implications resulting from disturbing PASS and any risk to other natural values, including listed threatened species;
- Impacts of any surface drainage installation associated with roads or hard stands on PASS; and
- Development of appropriate management plans if PASS are likely to be impacted, including proposed avoidance and mitigation measures.

In determining the possible impact of the proposal on acid sulfate sediments, surveys should refer to the *Tasmanian Acid Sulfate Soil Management Guidelines*, with particular reference to Appendix B. These guidelines can be found at: <http://dpiwwe.tas.gov.au/Documents/ASS-Guidelines-FINAL.pdf>.

Geomorphic processes

Marine Hydrodynamics

The proposed causeway across Robbins Passage has potential to have significant impact on marine hydrodynamics that could have effects on erosional and depositional processes. These impacts should be discussed in the DPEMP, including:

- Impacts on tidal water flow that might be affected by the crossing, including changes to volume and velocity;
- Potential rate, magnitude and loci of erosion and sedimentation likely to be effected by alteration to the hydrodynamic regime;
- Potential impacts of the above on seagrass beds within Robbins Passage, and the potential spread of rice grass (*Spartina anglica*); and
- Potential impacts of the above on shorebird and migratory bird species and habitat.

Hydrodynamic modelling

- Investigation of crossing impacts should be based upon hydrodynamic and sedimentological modelling informed by detailed bathymetry and sufficient on site measurement of tidal range, tidal current velocities and sediment characteristics.
- The model should be calibrated under existing conditions before a realistic representation of the causeway and bridge structure is introduced.
- Outputs should include changes to the bed and shoreline configuration likely to result from the causeway over the life of the project, making allowance for anticipated sea level rise.

Features of Geoconservation Significance

Remarkable Banks

As the most extensive and best preserved example of a Pleistocene beach ridge complex in Tasmania, the Remarkable Banks have significant geoconservation value as a relatively undisturbed representative reference site. Further information about the proposed re-contouring of Remarkable Banks should be provided in the DPEMP. In terms of potential mitigation or offset measures, the proponent may consider:

- Appropriate compensation or offset for substantial degradation of the best landform assemblage of its type in Tasmania might include:
 1. Provision of a high resolution pre-disturbance digital elevation model of the entire 14.9 km² landform assemblage, such as may be obtained by aerial lidar survey; and
 2. Sedimentological analysis of selected exposure created by construction excavation and absolute dating (e.g. by thermoluminescence or optically stimulated luminescence methods) of samples from key parts of the sequence.

- Appropriate mitigation might include preservation of an undisturbed transect corridor across the full extent of the 100 or so beach ridges in the sequence in order to retain scope for further geoscientific study of the significant landform assemblage.

6.10 Marine and coastal

Identify any potential impacts of the proposal on marine and coastal areas not addressed in other sections. It should identify measures to avoid and mitigate any possible adverse impacts and assess the overall impacts on marine and coastal areas following implementation of the proposed avoidance and mitigation measures. Cross referencing should be made to other relevant sections dealing with conservation values (marine flora and fauna, geoconservation) and coastal impacts.

Legislative and policy requirements

It must be demonstrated that the proposal is consistent with the objectives and requirements of all relevant marine and coastal policies and legislation, including the *Living Marine Resources Management Act 1995*, *State Policy on Water Quality Management 1997* and the *Tasmanian State Coastal Policy 1996*.

6.11 Greenhouse gases and ozone depleting substances

Discuss impacts of the proposal in relation to Greenhouse Gases and ozone depleting substances including:

- The direct and indirect effects of the proposal on greenhouse gas production and ozone depleting substances should be described and any greenhouse benefits of the proposal discussed.
- It should be demonstrated that the development will implement cost-effective greenhouse best practice measures to achieve ongoing minimisation of greenhouse gas emissions.
- A competent estimate should be provided for 'whole of life' greenhouse gas emissions for the proposed development, including significant emissions associated with planning, design, construction, procurement, maintenance, use and disposal as well as interactions with services, infrastructure, occupants and the natural environment. Details should also be provided of measures that will be used to minimise 'whole of life' emissions and the anticipated effectiveness of these measures should be specified. Where less emissions-intensive options are not adopted, justification should be provided and/or mechanisms to offset greenhouse gas emissions should be 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 State Action Act 2008* and *Climate Smart Tasmania: A 2020 Climate Change Strategy*. Proponents will need to determine whether they are required to report to the Commonwealth under the *National Greenhouse and Energy Reporting Act 2007*.

6.12 Heritage

Discuss impacts of the proposal on heritage values, including impacts on:

- Declared World Heritage Area properties and values.
- Any place listed on the National Heritage List and values.
- Any place listed on the Tasmanian Heritage Register (maintained by Heritage Tasmania), including consideration of cultural landscapes.
- Any place on the Tasmanian Historic Places Inventory (maintained by Parks and Wildlife Service).

- Any place on the Tasmanian Aboriginal Site Index (maintained by Aboriginal Heritage Tasmania), including consideration of cultural landscapes.
- Local Government planning scheme heritage schedules.
- Any other places of heritage significance.

Aboriginal heritage

Aboriginal Heritage Tasmania (AHT) advised that there are a number of Aboriginal heritage sites recorded within or close to the proposed works area, including shell middens, isolated artefacts and artefact scatters. An Aboriginal heritage investigation is therefore required to identify whether the proposed project or related infrastructure will impact on any Aboriginal heritage and to identify appropriate mitigation measures.

An assessment of Aboriginal heritage by an appropriately qualified person is required prior to project approval. Different types of Aboriginal heritage assessment may be required depending upon the nature of the site. Before engaging a consultant, Aboriginal Heritage Tasmania should be contacted for advice.

The standards and guidelines packages that apply to Aboriginal Heritage Officers and Consulting Archaeologists are available at <http://www.aboriginalheritage.tas.gov.au/>.

Consultation with the Tasmanian Aboriginal Lands Council, Tasmanian Office of Aboriginal Affairs, Aboriginal Heritage Tasmania, as well as with Aboriginal communities, should occur prior to any survey of potential sites to establish regulatory requirements for heritage values, places and landscapes.

Note: Information about the precise location of Aboriginal sites may be confidential. Confidentiality requirements should be discussed with Aboriginal Heritage Tasmania and confidentiality information should not be included in the DPEMP.

Historic heritage

Heritage Tasmania advised that no places entered on the Tasmanian Heritage Register (THR) are located within the proposed site. The nearest THR listed place is the Montagu School, which is over 5 km away from the edge of the proposed site. Heritage Tasmania advised that the causeway component of the proposal extent is in proximity to a Shipwreck registered on the National Shipwreck Database. This proximity is estimated at 1 km.

An assessment of historic heritage places by an appropriately qualified person is recommended prior to project approval. Before engaging a consultant, Heritage Tasmania can advise of any places within the construction zone that are entered on the Tasmanian Heritage Register, and provide advice with regards to impacts on those places.

Heritage Tasmania's *Pre-Development Assessment Guidelines* provide an outline of the desired content for consultant's briefs and role when an historic heritage assessment is proposed by a developer who has an interest in proactively identifying and managing historic heritage values. The guidelines can be found at: <http://heritage.tas.gov.au/Documents/Pre-Development%20Assessment%20Guidelines.pdf>.

Heritage Tasmania advised the DPEMP should include a procedure for dealing with the unanticipated discovery of sites / features / artefacts of historic cultural heritage significance, and a commitment to implement this procedure – consistent with the recommendation on page 2 of Heritage Tasmania's *Pre-Development Assessment Guidelines*.

Legislative and policy requirements

The advice of the Aboriginal Heritage Tasmania should be sought to establish regulatory requirements for Aboriginal heritage values, places and landscapes. Any Aboriginal heritage material identified must be reported to the Director of National Parks and Wildlife and dealt with in accordance with the *Aboriginal Relics Act 1975*. Where a request is made to seek to disturb, destroy or otherwise deal with an Aboriginal relic as per Section 14 (1) of the *Aboriginal Relics Act 1975*,

information relevant to a permit under that Act will be required. The status of existing or pending permit applications should be provided in the DPEMP.

Any approvals required under the *Historic Cultural Heritage Act* 1995 should be identified by the proponent through consultation with Heritage Tasmania.

6.13 Land use and development

This section should identify any potential effects of the proposal in terms of constraints or benefits it may place on the current or future use of land within the proposal site and surrounding area. It should identify measures to avoid, mitigate and compensate for any possible adverse effects.

The following issues should be addressed (where relevant).

- Effects on existing or proposed tourist or recreation activities, such as camping areas, picnic areas, walking tracks, horse riding tracks, heritage trails etc.
- Effects on residential activities.
- Effects on industrial activities.
- Effects on agricultural activities, including any requirement of the *State Policy for the Protection of Agricultural Land (2007)* - (see http://www.dpac.tas.gov.au/divisions/policy/state_policies)
- Effects on local and regional tourism.
- Effects on other commercial activities.

6.14 Visual impacts

Discuss impacts of the proposal on the visual landscape, including:

- Assess the capacity of the landscape to absorb any visual changes as a result of the proposal. The assessment should also 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. The methodology used and assumptions made in the assessment should be clearly identified.
- Presentation of 'artists impressions', photomontages or visual modelling is recommended.
- Measures to avoid and mitigate potential adverse visual impacts should be identified, such as minimising vegetation clearance, facility height, size, design, colour, separation and post-construction revegetation.
- Shadow flicker should be modelled to assess the likelihood of disturbance to any residents in the immediate vicinity. The results of the modelling should be provided in the DPEMP with a discussion of how this will be managed or minimised.
- A blade glint assessment should be included in the DPEMP to determine the likelihood of disturbance to any residents in the immediate vicinity.

6.15 Socio-economic issues

Discuss the social and economic impacts of the proposal, including:

- 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 these socioeconomic considerations need to be described depends in part upon the nature and extent of any negative impacts or risks to the environment arising from the proposal. Modest proposals with relatively low level and localised environmental impacts or risks may only require a detailed explanation of intended capital expenditure, operational expenditures, revenues and employment levels (distinguishing between direct and indirect employment) and a qualitative discussion of other socio- economic aspects of particular relevance.

Proposals with higher level or broader scale environmental impacts will require a more comprehensive and robust substantiation of the economic and social benefits of the proposal to allow the Board to undertake a robust assessment of the benefits and adverse impacts of the proposal. Such substantiation would include an explanation of the methodologies used to model impacts and a description of the manner and results of engagement with the local community to determine their needs and aspirations in relation to the proposal.

Any information of a confidential nature may be provided as a separate appendix and noted by reference only in the main document.

6.16 Health and safety issues

Review any health and safety issues relating to employees, site visitors and the public which have not been addressed in other sections.

It must be demonstrated that health and safety issues have been taken into account during the planning of the proposal, including an analysis of alternatives. It should be demonstrated that compliance with the *WorkHealth and Safety Act 2012* and the *Work Health and Safety Regulations 2012* will be achieved. Health and safety management systems to be used during construction and operational phases should be described.

The following issues should be addressed.

- Construction phase health and safety issues.
- Security arrangements to prevent unauthorised access to the proposal site during construction.
- Operations, maintenance and inspection health and safety issues.

6.17 Hazard analysis and risk assessment

Provide a preliminary analysis (appropriate to the scale of the proposal) of the potential for a major hazard event (such as an explosion) to occur and proposed safeguards to prevent such an occurrence. The preliminary analysis should systematically identify all potential major hazards (internal and external) to people and the environment associated with the construction, operation, maintenance and decommissioning of the proposal.

6.18 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.
- The objectives and management principles to be adopted for the preparation of a fire response plan.
- The fire response plan 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.

Legislative and policy requirements

The DPMP should demonstrate compliance with the relevant requirements of the *Fire Service Act 1979* and the *Work Health and Safety Act 2012*.

6.19 Infrastructure and off-site ancillary facilities

Discuss impacts of the proposal on any significant off-site or infrastructure facilities (including increased use of existing infrastructure, such as roads, 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. For example, upgrading or re-routing of roads, rail or other services required as a result of the proposal, should be detailed.

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

6.20 Environmental management systems

This section should provide information on strategic matters relating to environmental management of the proposal, including a description of the following:

- Any environmental management systems or environmental policies implemented or proposed by the proponent, which are relevant to the environmental management of the proposal.
- Organisational structure and environmental responsibility within that structure for the proposal.
- Procedures and instructions to employees (including contractors) on minimising adverse environmental impacts of activities, as well as employee induction and education programs to ensure an appropriate response to operational environmental concerns should be included in relevant sections.

6.21 Cumulative and interactive impacts

Where relevant, 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.

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.

6.22 Traffic impacts

This section should identify roads to be used by vehicles associated with 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. Impacts associated with altered traffic flows should be discussed (such as impacts on other roads users and residences adjacent to roads).

7. MONITORING AND REVIEW

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

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

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

8. DECOMMISSIONING AND REHABILITATION

The DPEMP 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. COMMITMENTS

This section should contain a consolidated commitments table listing all of the commitments made throughout the DPEMP. Commitments must be sequentially numbered, unambiguous statements of intent. For each commitment, the table must specify when the commitment is to be implemented, specify who is responsible for the undertaking of the commitment, and refer to the section of the DPEMP where the commitment is detailed.

The commitments will provide a basis for the preparation of conditions of approval, should approval be granted.

10. CONCLUSION

Describe the proposal and draw together the critical environmental, social and economic impacts of the proposal, both positive and negative; present a balanced overview of the net impacts of the proposal, and the extent to which any adverse impacts can be satisfactorily avoided, mitigated, remediated or compensated and positive impacts promoted and sustained. The conclusion should also describe how the proposal meets and furthers the objectives of relevant Commonwealth and State legislation, policies, plans and strategies. This should be done by itemising the RMPS and EMPCS objectives and providing a commentary about how the proposal addresses each of the objectives.

With regard to matters of national environmental significance, conclusions regarding the environmental acceptability of the proposal must be made. This should include discussion on compliance with the principles of Ecologically Sustainable Development (ESD) and the objects and

requirements of the EPBC Act. To assist the proponent, the *National Strategy for Ecologically Sustainable Development* (1992) is available on the following web site: <https://www.environment.gov.au/about-us/esd/publications/national-esd-strategy>.

11. REFERENCES

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

The currency (date), reliability and uncertainty of the reference material should be stated within the DPMP at a location appropriate for the structure of the DPMP.

12. APPENDICES

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

GLOSSARY

DPMP – Development Proposal and Environmental Management Plan

EMPC Act – Environmental Management and Pollution Control Act 1994

EMPCS - Environmental Management and Pollution Control System objectives to be found in Schedule 1 of the EMPC Act

EPBC Act - Environment Protection and Biodiversity Conservation Act 1999 (Cth)

EPBC Regulations – Environment Protection and Biodiversity Conservation Regulations 2000 (Cth)

JAMBA/CAMBA - Japan-Australia and China-Australia Migratory Bird Agreements

RMPS – Resource Management and Planning System of Tasmania objectives to be found in Schedule 1 of the EMPC Act

Tasmanian RFA - Tasmanian Regional Forest Agreement