

Environmental Impact  
Statement Guidelines  
Marinus Link Pty Ltd  
Heybridge shore crossing  
for Marinus Link

*September 2022*



ENVIRONMENT PROTECTION AUTHORITY

## Table of Contents

|  |    |
|--|----|
| Information for the Proponent.....   | 1  |
| Purpose of the Guidelines.....   | 1  |
| Contents of the EIS.....   | 5  |
| Executive Summary.....   | 5  |
| Table of Contents .....  | 5  |
| Glossary.....  | 5  |
| Information to be provided.....  | 6  |
| 1. Introduction .....  | 6  |
| 2. Proposal Description.....   | 7  |
| 2.1 General.....   | 7  |
| 2.2 Construction.....  | 7  |
| 2.3 Commissioning.....   | 8  |
| 2.4 Definition of the Land.....  | 8  |
| 2.5 General location map.....  | 8  |
| 2.6 Site plan.....   | 9  |
| 2.7 Off-site infrastructure.....   | 9  |
| 3. Rationale and Project Alternatives.....                                     | 9  |
| 4. Public Consultation.....  | 10 |
| 5. The Existing Environment .....  | 10 |
| 5.1 Planning aspects.....  | 10 |
| 5.2 Environmental aspects - overview .....                                     | 11 |
| 5.3 Socio-economic aspects.....  | 11 |
| 6. Potential Impacts and their Management.....                                 | 12 |
| Guide to preparing this section.....   | 12 |
| Existing conditions.....   | 12 |
| Performance requirements .....   | 12 |
| Potential impacts.....   | 12 |
| Avoidance and mitigation measures.....   | 13 |
| Assessment of residual impacts.....  | 13 |
| Offsetting unavoidable adverse impacts .....                                   | 13 |
| Key Issues to be addressed.....  | 14 |
| 6.1 Key Issue 1: Terrestrial natural values.....                               | 15 |
| 6.2 Key Issue 2: Potentially contaminated material and acid sulfate soils..... | 18 |
| 6.3 Key Issue 3: Marine natural values.....                                    | 19 |
| 6.4 Marine water quality .....   | 21 |

|      |  |    |
|------|--|----|
| 6.5  | Water quality (surface and groundwater).....                 | 22 |
| 6.6  | Noise and vibration emissions.....                           | 24 |
| 6.7  | Air Quality.....   | 25 |
| 6.8  | Waste Management.....  | 26 |
| 6.9  | Dangerous goods and environmentally hazardous materials..... | 26 |
| 6.10 | Marine and Coastal.....                                      | 27 |
| 6.11 | Greenhouse gases and ozone depleting substances .....        | 27 |
| 6.12 | Socio-economic issues.....                                   | 28 |
| 6.13 | Hazard analysis and risk assessment.....                     | 28 |
| 6.14 | Infrastructure and off-site ancillary facilities .....       | 29 |
| 6.15 | Environmental Management Systems .....                       | 29 |
| 6.16 | Cumulative and interactive impacts.....                      | 29 |
| 7.   | Monitoring and Review.....                                   | 30 |
| 8.   | Decommissioning and Rehabilitation.....                      | 30 |
| 9.   | Management Measures.....                                     | 30 |
| 10.  | Conclusion.....  | 30 |
| 11.  | References .....   | 30 |
| 12.  | Appendices .....   | 30 |
| 13.  | Glossary .....   | 31 |
|      | Appendix A: Other issues and agency contacts .....           | 32 |

## Information for the Proponent

### I. 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) for a proposal.

These Guidelines provide information on preparing an Environmental Impact Statement (EIS) to address the potential environmental impacts of the proposed shore crossing at Heybridge ('the proposal') for the Marinus Link project, being assessed by the Board under the EMPC Act. They have been prepared based on the proposal for the Heybridge shore crossing for the Marinus Link project titled *Marinus Link – Heybridge Shore Crossing – EPA Referral* referred to the Board by Marinus Link Pty Ltd on 8 July 2022 under s27(2) of the EMPC Act.

It is acknowledged that the information provided in response to these EIS Guidelines may be presented within or attached to a larger document prepared for the entirety of the Marinus Link project. This may include the Heybridge Converter Station for the Marinus Link project lodged by Marinus Link Pty Ltd under the *Land Use Planning and Approvals Act 1993* (the LUPA Act) with Burnie City Council (DA 2022/76) and referred to the Board by Council on 18 July 2022 under s24 of the EMPC Act, as well as Commonwealth and Victorian Government requirements, in addition to those of the Tasmanian Government under the EMPC Act. However, information provided for the purpose of addressing these EIS Guidelines must be clearly identified in the document and/or attachments provided for the purpose of the case for assessment under the EMPC Act.

It is noted that this proposal is not subject to a planning application under the *Land Use Planning and Approvals Act 1993* (the LUPA Act).

### Commonwealth environmental assessment

On 4 November 2021 the Marinus Link project was determined to be a controlled action under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) (EPBC Reference 2021/9053) 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 has the potential to have a significant impact on matters of national environmental significance (MNES), protected under Part 3 of the EPBC Act including:

- Listed threatened species and communities (sections 18 and 18A)
- Listed migratory species (sections 20 and 20A)
- Commonwealth marine areas (sections 23 and 24A)

The controlled action decision relates to the entirety of the Marinus Link project.

These Guidelines relate to only that portion of the project referred to the Director of the EPA under s27(2) of the EMPC Act on 8 July 2022.

As the declared controlled action is larger than the scope of the EPA Board's assessment under the EMPC Act, the proposal is not able to be assessed in accordance with the Bilateral Agreement between the Commonwealth and Tasmanian Governments under section 45 of the EPBC Act, relating to environmental impact assessment.

## Risk Based Assessment

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

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

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

## Objectives of the EIS

The EIS should provide:

- Information for individuals and groups to gain an understanding of the proposal, the need for the proposal, the alternatives, the environment that it could affect, the positive and negative environmental impacts that may occur and the measures that will be taken to maximise positive outcomes, and minimise any adverse environmental impacts, including specific management measures.
- A basis for public consultation and informed comment on the proposal.
- A framework against which decision makers, particularly the Board, and sometimes the relevant Planning Authority, can consider the proposal and determine the conditions under which any approval might be given.
- A demonstration that the proposal is consistent with the objectives of the relevant laws and policies, including the Tasmanian Resource Management and Planning System (RMPS) and the Environmental Management and Pollution Control System (EMPCS).

## How the Board uses the EIS

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

## Structure and Formatting of the EIS

In addition to the comments made above regarding the need to address requirements from multiple jurisdictions, the following points should be considered when writing the EIS:

- Noting that the EIS will address the requirements of multiple jurisdictions, it must be made clear which components of the EIS are relevant to Tasmania and to these Guidelines.

- 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 using a consistent style throughout. An indication should also be given as to 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
  - **Vertical** – Australian Height Datum (Tasmania) (AHD83)

Information on coordinate reference systems used in Tasmania can be found on the NRE website<sup>1</sup>.

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 so the Geocentric Datum of Australia 1994 (GDA1994) may be applicable.

- Any sensitive information, as covered by section 23 of the EMPC Act, 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, with clear justification for this decision.
- 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.
- The EIS should contain a summary table showing compliance with the guidelines.

---

<sup>1</sup> [Coordinate, Height and Tide Datums - Tasmania | Department of Natural Resources and Environment Tasmania \(nre.tas.gov.au\)](https://nre.tas.gov.au/Coordinate-Height-and-Tide-Datums-Tasmania)

### **Submission of draft and final document**

Close consultation with the 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.

### ***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

### 2. 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.

### 3. 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.

### 4. Glossary

Include a list of abbreviations, acronyms and technical terms used in the EIS.



## Information to be provided

### 5. Introduction

Provide information on the following:

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

## 6. 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.

Provide a detailed description 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.

Provide the following information as relevant:

### 2.1 General

- Details of the proposal, including an overview of the Marinus project as a whole, details of the particular component being assessed and any ancillary infrastructure.
- Description of the major items of equipment (including pollution control equipment) and on-site facilities as relevant. Detailed technical information on major items of equipment may be included in appendices.

### 2.2 Construction

- A step-by-step description and timetable for significant activities during the construction phase of the proposal. Indicative timeframes for the completion of major steps, and the likely sequencing of steps.
- Details of any pre-construction works, including site preparation works, any temporary or permanent removal of vegetation including stockpiling of vegetation, and erosion control measures.
- 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 onsite.
- The volume, composition, origin, destination, and route for vehicle movements (including road, rail, shipping, and air) likely to be generated during each phase of the proposal, including a break-down for over-dimension and heavy road vehicles.
- Information on the number of construction workers required in the various stages of construction, sources of labour, transport of workers to and from the site, accommodation, and support servicing requirements.
- Proposed hours per day and days per week of construction activities.

## 2.3 Commissioning

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

## 2.4 Definition of the Land

A definition of 'the land' (or area) 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 136529/1). If not, it may be necessary to define the boundary by reference to specific topographic features and/or surveyed grid coordinates.

A plan is required clearly showing the boundary of the land in relation to cadastral boundaries and topographic features (as relevant). 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.

## 2.5 General location map

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

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

## 2.6 Site plan

A site plan(s) is required which includes existing and proposed conditions and features of the site/cabling route and surrounding area out to the limit of State waters. Where relevant, this may include:

- Elevation contours and levels.
- The positions of topographic features including roads, tracks, waterways, and drains.
- Key shoreline and benthic geomorphological features.
- Key natural values or constraints such as potentially contaminated areas.
- The positions of facilities, buildings, structures, major items of equipment, storage areas and loading or unloading areas (existing and proposed).
- The route of any pipelines, tracks, roads, conveyors, or similar means of transporting on-site materials.
- The location 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 or bund walls.
- 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).

## 2.7 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).

## 7. Rationale and Project Alternatives

Discuss the rationale for Marinus Link as a whole and this component of the project in particular, including how it relates to other proposals.

Describe the site/route selection process, including selection criteria, alternative sites/routes 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/route. Detail the effect that any community consultation undertaken had on the selection process.

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

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

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

## 8. Public Consultation

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

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<sup>2</sup>.

## 9. The Existing Environment

Describe the proposed site/route 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.

Include the following details:

### 9.1 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/route, 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 and water use and planning history of the site, including the potential for site contamination<sup>3</sup>, present use and any existing buildings and significant structures.
- A description of land use and ownership in the vicinity of the site and those areas which may be affected by the proposal, including:
  - The location and nature of industrial facilities.

---

<sup>2</sup> [Guidance Documents | EPA Tasmania](#)

<sup>3</sup> Information on potentially contaminating activities and contaminated site assessment can be found online at <http://epa.tas.gov.au/regulation/contaminated-sites>.

- Any sensitive uses<sup>4</sup> or residential zones within applicable attenuation distances including the location of individual residences, schools, hospitals, caravan parks and similar sensitive uses, and the location of any tourist or recreation facilities or routes (such as camping areas, picnic areas, walking tracks, historic routes).
- Any proposed or potentially sensitive uses within this distance of the proposal site, which have been or are likely to be granted approval under the local planning scheme, should also be considered.

## 9.2 Environmental aspects - overview

- A description of the general physical characteristics of the site/route and surrounding area, including topography, local climate, geology, geomorphology, soils (including erodibility, potential contamination, and acid sulphate soils), vegetation, fauna, groundwater and surface drainage (including waterways, lakes, wetlands, coastal areas etc), and seabed characteristics.
- A description of natural processes of particular importance for the maintenance of the existing environment (e.g., fire, flooding, wave action etc).
- Any existing conservation reserves located on or within 500 metres of the site/route.
- 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<sup>5</sup> and the Natural Values Atlas<sup>6</sup>.
- An assessment of the vulnerability of the site to natural hazards (e.g., flooding, seismic activity, fire, landslips, or strong winds).
- Any available air, noise, or water 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.

## 9.3 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.
- Human uses of the area which may be impacted by or interact with the proposal.

---

<sup>4</sup> Defined in the State Planning Provisions as 'a residential use or a use involving the presence of people for extended periods except in the course of their employment such as a caravan park, childcare centre, dwelling, hospital or school.'

<sup>5</sup> [www.thelist.tas.gov.au](http://www.thelist.tas.gov.au)

<sup>6</sup> <https://www.naturalvaluesatlas.tas.gov.au>

## 10. 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 matters should be discussed. If the proposal changes in any significant way to that described in the EIS that would materially affect the impact of the proposal, a revised EIS may be required. It is therefore important to ensure the proposal is at a suitable stage of planning before the EIS is submitted to minimise this risk.

#### Existing conditions

Outline the existing conditions relevant to the impact.

#### Performance requirements

Identify the environmental performance requirements to be achieved for each environmental impact and provide evidence to demonstrate that these can be complied with. These may be standards or requirements specified in legislation, codes of practice, state policies, national guidelines (including relevant recovery plans or conservation advice) 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. Include an analysis of the significance of the relevant impacts.

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

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

Predictions and evaluations of impacts should be based on scientifically supportable data (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 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. Include discussion of the achievability of the measures.

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.**

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

Undertake 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, comparison with current environmental conditions (for existing activities) and with State, national and international regulations and standards. If applicable, include the reasons why avoidance or mitigation of impacts cannot be reasonably achieved. Any net benefits likely to result from the proposal should be identified.

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

## Offsetting unavoidable adverse impacts

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



## 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          | Potential impacts on terrestrial natural values.          |
| 2          | Potentially contaminated material and acid sulfate soils. |
| 3          | Potential impacts on marine natural values.               |

***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.***

## 10.1 Key Issue 1: Terrestrial natural values

Discuss potential impacts of the construction of the proposal on terrestrial natural values.

### **Existing Environment**

- Specify and map known records of species and their 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 Threatened Species Protection Act 1995*<sup>7</sup> (TSP Act) and *Tasmanian Nature Conservation Act 2002*<sup>8</sup> (NC Act).
- Undertake and provide the results of a current natural values survey for the site.
- Identify any known occurrences of species of conservation significance, threatened fauna species or flora species or potential habitat in the vicinity of the proposal footprint, or potentially impacted offsite, including aquatic species and shorebirds.
- White-bellied Sea-eagle (*Haliaeetus leucogaster*) and Wedge-tailed Eagle (*Aquila audax* subsp. *fleayi*) have been recorded in the area and an eagle nest has been recorded 1.8 km from the impact site. As eagle pairs often have several nests in their territory, an eagle nest search must be undertaken within 500 m direct distance and 1 km line-of-sight of the development to determine if any unknown nests are present. As eagles can be sensitive to disturbance during the eagle nesting/breeding season (July to January inclusive), searches for nests should be undertaken outside of the breeding season.
- Identify 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).
- Specify and map known sites of geoconservation significance or natural processes (such as fluvial or coastal features), including sites of geoconservation significance listed on the Tasmanian Geoconservation Database.
- Demonstrate that any surveys comply with requirements in *Guidelines for Natural Values Surveys*<sup>9</sup>.
- Identify any environmental weed species present on or near the site.
- Describe natural processes of particular importance for the maintenance of the existing environment (e.g., fire, flooding, etc).
- Provide all results in a natural values assessment, undertaken by a suitably qualified person.

### **Potential impacts**

- Describe potential impacts of construction and operation of the proposal 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 TSP Act and NC Act.

---

<sup>7</sup> Available at <https://www.legislation.tas.gov.au/view/html/inforce/current/act-1995-083>

<sup>8</sup> Available at <https://www.legislation.tas.gov.au/view/html/inforce/current/act-2002-063>

<sup>9</sup> Available on the internet at: <https://dpipwe.tas.gov.au/conservation/development-planning-conservation-assessment/survey-guidelines-for-development-assessments>.

- Describe potential impacts of construction and operation of the proposal on fauna, including impacts on species, communities, and habitats. Provide details of impacts to rare and threatened species, migratory species, communities, and habitats, including those listed under the relevant Schedules of the TSP Act and NC Act.
- In discussion of impacts on flora and fauna, including consideration of:
  - Habitat clearance and disturbance
  - Activity causing potential disturbance (e.g., movement)
  - Noise and vibration emissions
  - Lighting
  - Vehicle movements (including roadkill)
  - Mobilised contaminated material or sediment
  - The potential for the proposed works to result in subsidence and resultant impact on shorebird habitat above and adjacent to the drill holes.
- Discuss 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).
- Discuss impacts on other species, sites, or areas of special conservation significance, including areas of wilderness or scientific value.
- Discuss the potential introduction or spread of pests, weeds and plant and animal diseases as a result of construction and operation of the proposal. Information about controlling the introduction and spread of weeds and the development of weed and disease management plans can be found in Section 4 of the NRE (2015) *Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania*.
- Discuss 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.
- In consideration of all issues, discuss any potential for cumulative impact with the proposed Heybridge converter station for Marinus Link.

### **Avoidance and Mitigation Measures**

- Describe management measures to mitigate adverse impacts to threatened fauna, flora and vegetation communities and other natural values where they cannot be avoided.
- It is noted that the shore crossings will be drilled continuously over 24 hours, 7 days a week to ensure borehole stability. It is important that illumination of the site at night is minimised as this can disorient seabirds and shorebirds. If there is to be any form of additional night time lighting associated with the construction area for safety (or other) reasons, the illumination should be kept to a minimum and red light should be used. It is recommended that the guidance principles outlined in the Commonwealth *National Light Pollution Guidelines for Wildlife* be considered for incorporation into the lighting design, in particular those specified in Appendix A (Best Practice Lighting Design).
- Where impacts cannot be avoided, present proposed measures to mitigate and/or compensate adverse impacts on biodiversity and nature conservation values.

- Develop a plan to control the spread of weeds, pests and diseases and ensure that weeds present at the impact site are properly managed.
- Discuss rehabilitation of disturbed areas following the completion of construction activities and cessation of the activity, including any proposed seed collection and progressive rehabilitation programme.
- Provide a conclusion regarding the significance of likely impacts on natural values.

### Requirements for surveys

Any flora and fauna surveys must, as a minimum, comply with the requirements of the document *Guidelines for Natural Values Assessments* published by the Department of Natural Resources and Environment (NRE). The methodology for surveys should be developed in consultation with the Department.

### Legislative and policy requirements

Tasmanian *Threatened Species Protection Act 1995* and associated regulations, *Nature Conservation Act 2002* and associated regulations, *Forest Practices Act 1985* and associated regulations and codes (as relevant). Commonwealth *National Light Pollution Guidelines for Wildlife*<sup>10</sup>.

---

<sup>10</sup> [National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds - DCCEEW](#)

## 10.2 Key Issue 2: Potentially contaminated material and acid sulfate soils

Discuss identification and management of contaminated material and potential acid sulfate soils which may be present within and adjacent to the proposal site, including the following:

- From sampling, provide an analysis as to whether Potential Acid Sulfate Soils (PASS) may be present and potentially disturbed as a result of construction of the proposal.
- For the terrestrial component of the proposal, an assessment of site contamination be undertaken in accordance with the *National Environment Protection (Assessment of Site Contamination) Measure 1999* by a consultant who holds Site Contamination Specialist certification under the Certified Environmental Practitioner Scheme (CEnvP(SC)).
- For the marine component of the proposal, an assessment of site contamination undertaken by a suitably qualified person, based on sampling and site history, applying the principles of the *National Environment Protection (Assessment of Site Contamination) Measure 1999* as relevant.
- Detail of proposed construction methodology, footprint, extent of disturbance, and how this may interact with contaminated material and PASS.
- Analysis of receptors and risk to receptors due to disturbing potentially contaminated material or PASS, during and after construction (e.g., from scouring of sediment due to altered flow patterns).
- Potential consequences of disturbance (i.e., potential impact/risks), and evaluation of their significance.
- Potential cumulative impact with works being undertaken for the Heybridge converter station.
- Describe proposed management and mitigation measures for minimising impacts of contaminated material and potential acid sulfate soils during construction and long-term use/operation, including storage, monitoring and disposal as relevant.

In regard to potential acid sulfate soils, the risk should be managed and monitored in accordance with Australian Government ASS Guidelines<sup>11</sup> and Tasmanian ASS Management Guidelines<sup>12</sup>. The national guidelines indicate that a management plan is required for an activity if >100m<sup>3</sup> ASS materials is likely to be disturbed during the construction phase. This management plan should clearly describe and detail construction techniques, include a risk assessment and describe management and monitoring activities.

### Legislative and policy requirements

*National Environment Protection (Assessment of Site Contamination) Measure 1999* (the ASC NEPM)<sup>13</sup>, *Environmental Management and Pollution Control (Waste Management) Regulations 2020*<sup>14</sup>, Australian Government ASS guideline documents, *Tasmanian Acid Sulfate Soils Management Guidelines 2009*.

---

<sup>11</sup> [Acid sulfate soils \(waterquality.gov.au\)](http://waterquality.gov.au)

<sup>12</sup> [Acid Sulfate Soils | Department of Natural Resources and Environment Tasmania \(nre.tas.gov.au\)](http://nre.tas.gov.au)

<sup>13</sup> [National Environment Protection \(Assessment of Site Contamination\) Measure | National Environment Protection Council \(nepc.gov.au\)](http://nepc.gov.au)

<sup>14</sup> [View - Tasmanian Legislation Online](http://www.legislation.tas.gov.au)

### 10.3 Key Issue 3: Marine natural values

Discuss potential impacts of the construction and operation of the proposal on terrestrial natural values.

#### **Existing Environment**

- Specify and map known records of species and their habitat in the vicinity of the proposed works, including shorebirds and aquatic species, 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 *Threatened Species Protection Act 1995* (TSP Act) and Tasmanian *Nature Conservation Act 2002* (NC Act).
- Undertake and provide the results of a marine natural values survey of the proposed cable routes, including benthic ecology, habitat and observed species.
- Demonstrate that any surveys comply with requirements in *Guidelines for Marine and Estuarine Natural Values Surveys related to Development Proposals*<sup>15</sup>.
- Identify areas or habitats of conservation significance, including designated conservation areas or areas relating to the requirements of international treaties.
- Describe natural processes of particular importance for the maintenance of the existing environment.
- Provide all results in a natural values assessment, undertaken by a suitably qualified person.

#### **Potential impacts**

- Describe potential short-term and long-term impacts of construction and operation of the proposal on flora and fauna, with particular reference to rare and threatened species, migratory species, communities, and habitats, including those listed under the relevant Schedules of the TSP Act and NC Act.
- In discussion of impacts on flora and fauna, including consideration of:
  - Habitat clearance and disturbance;
  - Activity causing potential disturbance (e.g., movement);
  - Noise and vibration emissions;
  - Lighting;
  - Vehicle/vessel movements;
  - Potential for marine mammal entanglement or collision with vessels or infrastructure;
  - Mobilised contaminated material or sediment;
  - Heat and electromagnetic radiation, including whether it will have any potential impacts on benthic ecosystems, fish or mammals, and their migratory behaviours, e.g., through impact on movement of seawater, magnetic characteristics of marine sediments or other potential impacts.
- Discuss the potential introduction or spread of pests or plant and animal diseases as a result of construction and operation of the proposal.

---

<sup>15</sup> [Guidelines for Marine and Estuarine Natural Values Surveys related to Development Proposals.pdf \(nre.tas.gov.au\)](#)

- In consideration of all issues, discuss any potential for cumulative impact with the proposed Heybridge converter station and the remainder of cabling works for Marinus Link.

### **Avoidance and Mitigation Measures**

- Describe management measures to mitigate adverse impacts to threatened fauna, flora, and other natural values where they cannot be avoided.
- It is noted that the shore crossings will be drilled continuously over 24 hours, 7 days a week to ensure borehole stability. It is important that illumination of the site at night is minimised as this can disorient seabirds and shorebirds. If there is to be any form of additional night-time lighting associated with the construction area for safety (or other) reasons, the illumination should be kept to a minimum and red light should be used. It is recommended that the guidance principles outlined in the Commonwealth *National Light Pollution Guidelines for Wildlife* be considered for incorporation into the lighting design, in particular those specified in Appendix A (Best Practice Lighting Design).
- Where impacts cannot be avoided, present proposed measures to mitigate and/or compensate adverse impacts on biodiversity and nature conservation values.
- Develop a plan to control the spread of weeds, pests and diseases and ensure that weeds present at the impact site are properly managed.
- Discuss rehabilitation of disturbed areas following the completion of construction activities and cessation of the activity, including any proposed seed collection and progressive rehabilitation programme.
- Provide a conclusion regarding the significance of likely impacts on natural values.

### **Requirements for surveys**

Any flora and fauna surveys must, as a minimum, comply with the requirements of the document *Guidelines for Natural Values Assessments* or with the *Guidelines for Natural Values Surveys – Estuarine and Marine Development Proposals* (as relevant) published by the Department of Natural Resources and Environment (NRE). The methodology for surveys should be developed in consultation with the Department.

### **Legislative and policy requirements**

Tasmanian *Threatened Species Protection Act 1995* and associated regulations, *Nature Conservation Act 2002* and associated regulations, *Forest Practices Act 1985* and associated regulations and codes (as relevant). Commonwealth *National Light Pollution Guidelines for Wildlife*<sup>16</sup>.

---

<sup>16</sup> [National Light Pollution Guidelines for Wildlife Including Marine Turtles, Seabirds and Migratory Shorebirds - DCCEEW](#)

## 10.4 Marine water quality

Discuss potential impacts of construction and operation of the proposal on marine water quality, including:

- Details and results of any baseline water quality, biological or sediment monitoring undertaken. Please note it is preferable that any such monitoring be undertaken over a minimum 18 month period on a monthly basis but may include reference to historical water quality monitoring. As available, other relevant information for assessing potential impacts such as ecotoxicological, hydrological or electromagnetic data should be included.
- Consideration of applicable Default Guideline Values (DGVs) and Protected Environmental Values (PEVs) under the *State Policy on Water Quality Management 1997*.
- Consideration of construction impacts on water quality, including:
  - the potential for pollutants such sediment, fuel, drilling fluid or other hazardous chemicals to enter the marine environment;
  - specific consideration of the potential for contaminated material or acid sulfate soils to be disturbed;
  - any potential diffuse or point source liquid emissions (e.g., stormwater or runoff from waste materials);
  - cumulative impact with proposed Heybridge converter station works and the remainder of cabling works for Marinus Link.
- Consideration of operational impacts on water quality, including:
  - electromagnetic fields (noting that electromagnetic radiation is within the definition of ‘pollutant’ under the EMPC Act); and
  - potential maintenance works.
- Discuss proposed avoidance and mitigation measures to minimise potential impacts on marine water quality. In regard to potential acid sulfate soils, the risk should be managed and monitored in accordance with the applicable Australian Government ASS guidelines<sup>17</sup> and Tasmanian ASS Management Guidelines<sup>18</sup>, as per requirements under Key Issue 2: Potentially Contaminated Material and Acid Sulfate Soils.
- Provide justification for any proposed emission of pollutants to marine waters in accordance with the principles under the *State Policy on Water Quality Management 1997*<sup>19</sup> and with application of a ‘weight of evidence approach’ consistent with the *Australian and New Zealand Guidelines for Fresh and Marine Water Quality*<sup>20</sup>. Reference should be made to published or determined (site specific) water quality guideline values for receiving environments.

### Legislative and policy requirements

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

---

<sup>17</sup> [Acid sulfate soils \(waterquality.gov.au\)](http://waterquality.gov.au)

<sup>18</sup> [Acid Sulfate Soils | Department of Natural Resources and Environment Tasmania \(nre.tas.gov.au\)](http://nre.tas.gov.au)

<sup>19</sup> [State Policy on Water Quality Management 1997 | EPA Tasmania](#)

<sup>20</sup> [Water Quality Guidelines Home](#)



## 10.5 Water quality (surface and groundwater)

Discuss potential impacts of construction and operation of the proposal on surface and groundwater, including:

- Results of any baseline water quality, biological and sediment monitoring undertaken of potentially impacted waterways.
- Consideration of Protected Environmental Values (PEVs) under the *State Policy on Water Quality Management 1997*.
- Identify any freshwater ecosystems of high conservation management priority using the Conservation of Freshwater Ecosystem Values (CFEV) database<sup>21</sup>, including values in the vicinity of the proposal. The specific CFEV information should include Conservation Management Priority Potential.
- Details of potential stormwater management measures (including during reasonably foreseeable flood events). A map of the on-land above-ground works area, with indicative locations of stormwater collection systems and drainage control measures such as cut-off drains and sediment settling ponds.
- Consideration of construction and operational impacts on water quality, including:
  - works undertaken in and near waterways;
  - the potential for pollutants to become entrained in stormwater;
  - specific consideration of the potential for contaminated material or acid sulfate soils to be disturbed;
  - cumulative impact with proposed converter station works.
- Discuss proposed avoidance and mitigation measures to minimise potential impacts on surface water quality.
- Provide justification for any proposed emission of pollutants to surface water 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.
- Where any subsurface works are proposed:
  - Provide a map showing the location of any groundwater bores (refer to the Groundwater Information Portal<sup>22</sup>), a conceptual groundwater model for regional and local aquifer flows and details of any baseline groundwater quality monitoring undertaken.
  - Identify any surface water and groundwater dependant ecosystems that may receive groundwater from areas impacted by the proposal.
  - Discuss potential impacts of the proposal on groundwater (quality and quantity), including interruption of flow, release of sediment, disturbance of contaminated material, and cumulative impact with proposed converter station works.

---

<sup>21</sup> Available at <https://dpiwwe.tas.gov.au/water/water-monitoring-and-assessment/cfev-program>

<sup>22</sup> <https://wrt.tas.gov.au/groundwater-info/>

- Discuss proposed avoidance and mitigation measures to minimise potential impacts on surface and groundwater quality.
- 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*<sup>23</sup>.

### Legislative and policy requirements

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

In particular, it must be demonstrated that the proposal will not prejudice the achievement of any water quality objectives set for water bodies under the *State Policy on Water Quality Management 1997*. Where water quality objectives have not yet been set, EPA should be consulted to identify the baseline water quality data required to enable the water quality objectives to be determined. 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*.

---

<sup>23</sup> [Technical Guidance for Water Quality Objectives Setting for Tasmania \(epa.tas.gov.au\)](https://epa.tas.gov.au)

## 10.6 Noise and vibration emissions

Discuss impacts on human sensitive receptors of the proposal on ambient (surrounding) noise levels, during both the construction and operational phases (e.g., maintenance works), including:

- Identifying and describing all sources of noise with the potential to cause nuisance, including vehicle movements;
- A map of the location of all such sources of noise;
- Considering the potential for noise emissions during both the construction and operational phases to cause nuisance for nearby land users, particularly at noise sensitive premises<sup>24</sup>, including:
  - Establishing the baseline (pre-existing) noise in the area with particular focus on sensitive receptors likely to be influenced by the proposal;
  - Establishing noise level criteria for the operational phases of the proposal;
  - Predicting noise levels at noise sensitive premises;
  - Consideration of timing and duration of noise;
  - Consideration of existing noise levels to determine whether predicted noise levels are likely to result in nuisance for sensitive premises;
  - Consideration of the potential for cumulative noise impact from the Heybridge Converter Station works;
  - Development of a construction noise and vibration management plan, including management of noise complaints and options for noise and vibration monitoring, if required.

### Legislative and policy requirements

Consideration should be given to the requirements of the Tasmanian *Environment Protection Policy (Noise) 2009*<sup>25</sup>.

---

<sup>24</sup> 'noise sensitive premise' is defined as: residences and residential zones (whether occupied or not), schools, hospitals, caravan parks and similar land uses involving the presence of individual people for extended periods, except in the course of their employment or for recreation.

<sup>25</sup> <https://epa.tas.gov.au/policy/statutory-policies/state-policies-and-environment-protection-policies/environment-protection-policy-%28noise%29-2009>

## 10.7 Air Quality

Discuss potential impacts of the proposal on local air quality, particularly during construction, and provide evidence that the activity would not cause environmental nuisance or harm, including the following:

- Identify, describe and show on a site map all sensitive receptors that could potentially be affected by dust and particulate matter emissions.
- Identify and map all possible sources of air emissions including dust and particulate matter from the site, particularly that associated with the proposed construction. This includes emissions generated from:
  - Upgrading/building of roads;
  - On-site and off-site vehicle and vessel movements;
  - Use of generators;
  - Site ground preparation/vegetation clearance/trenching/general disturbance;
  - Infrastructure construction (e.g., horizontal directional drilling pad construction);
  - Horizontal directional drilling of shore crossing cables from the Heybridge launch pad.
- Provide the details of equipment used on the site.
- Discuss potential impact of fugitive dust and particulate matter emissions from the proposed activity on the environment and the likelihood for the activity to cause environmental nuisance or harm. The discussion should consider:
  - land uses in the vicinity of the activity;
  - terrain and local climatic conditions, especially the direction and strength of prevailing winds and rainfall;
  - special consideration of the environmental impact of the activity during adverse meteorological conditions;
  - the potential for cumulative impact with the proposed converter station.
- Provide information about proposed management measures to be implemented to avoid or mitigate potential impact of emissions to air during various phases of the project including construction, commissioning, and operation, especially during adverse meteorological conditions. This may include but not be limited to watering or sealing of roads, covering of truck loads, reduced vehicle speed, road surfacing/maintenance details, enclosures, water sprays, windbreaks, and revegetation/stabilisation. Evidence of application of accepted modern technology for reduction of unavoidable emissions to the greatest extent practicable should be provided.

### Legislative and policy requirements

Consideration should be given to the requirements of the Tasmanian *Environment Protection Policy (Air Quality)*<sup>26</sup>.

---

<sup>26</sup> <http://epa.tas.gov.au/policy-site/Pages/Air-Quality-EPP.aspx>

## 10.8 Waste Management

Discuss the potential for waste generated by the proposal to be minimised and managed such that it minimises the use of raw resources and does not cause environmental nuisance or harm, including:

- Identify the source, nature, and quantities of all wastes, (liquid, atmospheric or solid) including marine wastes or sea debris, general refuse, and by-products from the various stages of the process likely to be generated.
- Identify any Controlled Waste<sup>27</sup> which may be generated by the proposal Note: Controlled Waste is defined in the EMPC Act and associated regulations. This may include extracted sediment.
- Identify best practice methods and facilities available to collect, store, reuse, treat or dispose of each waste stream, including maintenance requirements.
- Describe the source, nature, quantity of each controlled waste, and potential best practice methods of treatment, storage, and disposal for each 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

## 10.9 Dangerous goods and environmentally hazardous materials

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

- The nature, quantity and storage location of all environmentally hazardous materials including Dangerous Goods (as defined in the *Australian Code for the Transport of Dangerous Goods by Road and Rail*) that will be used during the construction and operation of the proposal.
- A map showing the location of temporary and permanent storage areas for fuels, oils, and other dangerous goods or chemicals.
- The measures (such as bunded areas or spill trays) to be adopted to prevent or control any accidental releases of dangerous goods and environmentally hazardous materials.

---

<sup>27</sup> A non-exhaustive listing of categories of controlled waste can be found on the internet at: <https://epa.tas.gov.au/business-industry/regulation/waste-management/controlled-waste/controlled-waste-category-codes>

- 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.

### Legislative and policy requirements

Reference the *Australian Code for the Transport of Dangerous Goods by Road and Rail*<sup>28</sup>.

## 10.10 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*.

## 10.11 Greenhouse gases and ozone depleting substances

Discuss the direct and indirect effects of the proposal, including construction, in relation to production, use and reduction of greenhouse gases and ozone depleting substances including:

- Consideration of the evolving national response to climate change and greenhouse gas emissions, and the targets set in the *Tasmanian Climate Change Action Plan 2017-2021* or any updated versions thereof available at the time of preparing the EIS.
- Provide an estimate of greenhouse gas emissions, energy production and energy consumption for both construction and operational phases of the proposal, including emissions associated with vegetation removal (as relevant). Calculators are available on the Australian Government Clean Energy Regulator website.
- Demonstration that the development will implement cost-effective greenhouse best practice measures to achieve on going minimisation of greenhouse gas emissions. 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

The *Tasmanian Climate Change Action Plan 2017 – 2021*<sup>29</sup> or any subsequent versions. Proponents will need to determine whether they are required to report to the Commonwealth under the *National Greenhouse and Energy Reporting Act 2007*.

---

<sup>28</sup> [Australian Dangerous Goods Code | National Transport Commission \(ntc.gov.au\)](https://www.ntc.gov.au/)

<sup>29</sup> [Department of Premier and Cabinet \(dpac.tas.gov.au\)](https://www.dpac.tas.gov.au/)

## 10.12 Socio-economic issues

Discuss the social and economic impacts of the proposal, including consideration of the following as relevant:

- 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.
- Potential interaction of the proposal with existing uses of Bass Strait, and whether the construction or operation of the proposal will impact those uses.
- Community demographic impacts (changes to cultural background, occupation, incomes).
- Impacts on land values, and demand for land and housing.
- Impacts on the local, regional, state, and national economies.
- Any publicly funded subsidies or services to be relied upon for the construction or operation of the proposal.
- Any impacts on Local, State and Federal Government rate, taxation and royalty revenues.

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

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

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

## 10.13 Hazard analysis and risk assessment

Provide a quantitative analysis of any identified risk of impact to groundwaters or surface water quality and aquatic ecosystems as a result of a major hazard event and detail relevant mitigation measures. The analysis should systematically identify all potential major environmental hazards (internal and external) to people and the environment associated with the construction, operation,

maintenance and decommissioning of the proposal. It is expected that risks to receiving aquatic waterbodies and ecosystems will be considered through HAZOPS and emergency management planning and that environmental impact mitigation measures will be incorporated into emergency response plans as appropriate.

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

Discuss potential environmental impacts of the proposal on any significant offsite 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.

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.

#### **10.15 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.

#### **10.16 Cumulative and interactive impacts**

Provide 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, including proposed transmission infrastructure.

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, and interactions between biophysical, socio-economic, and cultural impacts of the proposal discussed.



## **11. Monitoring and Review**

Provide an outline of any monitoring, review and reporting programmes for the proposal. The programme should be designed to meet the following objectives:

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

Include a map showing the location of all monitoring sites and a table of proposed monitoring including location, parameters and frequency.

## **12. Decommissioning and Rehabilitation**

Describe an on-going, staged approach to decommissioning and rehabilitation throughout the proposal life, including consideration of both post-construction and potential future decommissioning of the project.

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

## **13. Management Measures**

Provide a consolidated management measures table listing all 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.

## **14. Conclusion**

Provide an overall conclusion as to the environmental acceptability of the proposal, including discussion of compliance with the principles of Ecologically Sustainable Development and the objectives and requirements of the EMPC Act.

## **15. References**

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

## **16. 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.

## 17. Glossary

|          |  |
|----------|--|
| CFEV     | Conservation of Freshwater Ecosystem Values  |
| EIS      | Environmental Impact Statement   |
| EMPC Act | <i>Environmental Management and Pollution Control Act 1994</i>   |
| EMPCS    | Environmental Management and Pollution Control System objectives to be found in Schedule I of EMPCA  |
| EPBC Act | <i>Environment Protection and Biodiversity Conservation Act 1999 (Cth)</i> JAMBA/CAMBA - Japan-Australia and China-Australia Migratory Bird Agreements |
| LUPA Act | <i>Land Use Planning and Approvals Act 1993</i>  |
| NC Act   | <i>Nature Conservation Act 2002</i>  |
| NVA      | Natural Values Atlas   |
| PASS     | Potential Acid Sulfate Soils   |
| PEVs     | Protect Environmental Values   |
| RMPS     | Resource Management and Planning System of Tasmania objectives to be found in Schedule I of EMPCA  |
| 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 may have 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. The following list identifies some of the key agencies you may need to contact.

### TasRail

Telephone: 1300 TasRail

Email: [property@tasrail.com.au](mailto:property@tasrail.com.au)

Website: [www.tasrail.com.au](http://www.tasrail.com.au)

Purpose: Interactions with rail corridors or infrastructure. Please note, compliance with rail safety requirements under Rail Safety National Law is required.

### Conservation Assessments, Department of Natural Resources and Environment Tasmania

Telephone: (03) 6165 4396

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

Website: [www.nre.tas.gov.au/conservation](http://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](mailto:enquiries@heritage.tas.gov.au)

Website: [www.heritage.tas.gov.au](http://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](mailto:aboriginal@dpac.tas.gov.au)

Website: [www.aboriginalheritage.tas.gov.au](http://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](mailto:PropertyServices@parks.tas.gov.au)

Website: [www.parks.tas.gov.au](http://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](mailto:permits@stategrowth.tas.gov.au)

Website: [www.transport.tas.gov.au](http://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](mailto:info@mrt.tas.gov.au)

Website: [www.mrt.tas.gov.au](http://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@dpipwe.tas.gov.au](mailto:Water.Enquiries@dpipwe.tas.gov.au)

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

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



ENVIRONMENT PROTECTION AUTHORITY