

EPA Board's Guidance

I, Andrew Paul, Chairperson, the Board of the Environment Protection Authority (the Board), acting in accordance with section 60ZA(1)(b) of the *Land Use Planning and Approvals Act 1993* (LUPAA), issue the Board's Guidance for the Cellars Hill Wind Farm Major Project (the Major Project) to the Tasmanian Planning Commission's Development Assessment Panel (the Panel).

I have considered the draft assessment criteria for the Major Project prepared by the Panel and publicly exhibited from 16 July 2025, with an invitation to make a representation from 17 July 2025 until 30 July 2025, and the relevant representations referred to the Environment Protection Authority (EPA) by the Panel on 5 August 2025, respectively.

The guidance provided by the Board, as set out in this document, is in accordance with sections 60ZC(6) and (7) of LUPAA and the Environmental Impact Assessment Principles in section 74 of the *Environmental Management and Pollution Control Act 1994* (EMPCA), as modified by section 60ZC(9) of LUPAA. The Board's guidance sets out the information base that the Board requires the proponent to address in the Major Project Impact Statement (MPIS) for the Board to undertake an environmental impact assessment (EIA) of the Major Project as required by section 60ZC(4) of LUPAA.

The Board's guidance has been prepared in accordance with the proposal description in the Major Project Proposal prepared by Cellars Hill Wind Farm Pty Ltd dated 13 November 2024.

Attachment I of the Board's guidance provides advice received by the EPA from Public Health Services at the Tasmanian Department of Health in accordance with section 74(5) of EMPCA which identifies considerations for the MPIS to have regard to. It should be noted in that advice that the reference to compliance with the New Zealand Standard NZS 6808:2010 Acoustics – Wind Farm Noise has since been superseded by the EPA Board's Policy on Noise limits for wind energy projects. The Board's Policy takes primacy in this matter.

Further guidance on the EIA of the Major Project can be provided by the EPA, as required, in response to any requests from the Panel and/or proponent.

Signed:

A handwritten signature in blue ink, appearing to read 'Andrew Paul'.

Andrew Paul

CHAIRPERSON, ENVIRONMENT PROTECTION AUTHORITY

Date: 20 August 2025

Matters to be included in Assessment Criteria

1. **Avian fauna and bats** – Potential adverse impacts of the Major Project on native avian fauna and bats, particularly those listed under the *Threatened Species Protection Act 1995* (Tas) (TSP Act), must be avoided, minimised, and mitigated, and if necessary, offset, to protect and enhance the quality of the environment and to prevent environmental degradation.

Reason for Matter 1: Threatened and non-threatened native avian fauna and bat species and their habitat are known or likely to occur within the Major Project site or within 1 km of the boundary of the Major Project site, including, but not limited to the Tasmanian wedge-tailed eagle (Aquila audax ssp. fleayi), white-bellied sea-eagle (Haliaeetus leucogaster), Tasmanian masked owl (Tyto novaehollandiae ssp. castanops), swift parrot (Lathamus discolor), blue-winged parrot (Neophema chrysostoma) and grey goshawk (Accipiter novahollandia), white-throated needletail (Hirundapus caudacutus), Latham's snipe (Gallinago hardwickii). Windfarms have potential to kill or injure avian fauna through collision with wind turbine generators and transmission lines and have negative impacts on populations through nest and habitat disturbance. No species of bats are listed in Tasmania under the TSP Act, however bat populations may be significantly impacted due to their vulnerability to collision risk.

2. **Non-avian fauna** – Potential adverse impacts of the Major Project on native non-avian fauna, particularly those listed under the TSP Act, must be avoided, minimised and mitigated and, if necessary, offset, to protect and enhance the quality of the environment and to prevent environmental degradation.

Reason for Matter 2: Threatened and non-threatened non-avian fauna species and their habitat are known or likely to occur within the Major Project site or within 1 km of the boundary of the Major Project site, including, but not limited to Tasmanian devil (Sarcophilus harrisii), spotted-tailed quoll (Dasyurus maculatus ssp. maculatus), tussock skink (Pseudemoia pagenstecher) and ptunarra brown butterfly (Oreixenica Ptunarra). This indicates potential for the Major Project to cause adverse impacts on these species.

3. **Flora and vegetation communities** – Potential adverse impacts of the Major Project on native flora and vegetation communities, particularly those listed under the TSP Act and the *Nature Conservation Act 2002* (Tas) (NC Act), must be avoided, minimised and mitigated and, if necessary, offset or rehabilitated, to protect and enhance the quality of the environment and to prevent environmental degradation.

Reason for Matter 3: Threatened flora species and flora species of conservation significance are known or likely to occur within the Major Project site and surrounding areas including, but not limited to Discaria pubescens, Barbarea australis, Lepidium hyssopifolium and Cryptandra amara. A number of threatened native vegetation communities are also known or are likely to occur within the Major Project site and surrounding areas. This indicates potential for the Major Project to cause adverse impacts on these species and communities.

4. **Noise and vibration emissions** – Noise and vibration emissions from construction and operation of the Major Project must be avoided, minimised, and mitigated, such that they do not cause unreasonable loss of amenity to sensitive receptors or adverse impacts on human health.

Reason for Matter 4: Noise and vibration emissions from construction and operation of the Major Project have potential to cause environmental nuisance or environmental harm to sensitive receptors.

5. **Air emissions** – Potential adverse impacts of emissions to air from construction and operation of the Major Project including dust, odour and engine emissions must be avoided, minimised and mitigated, such that they do not cause unreasonable loss of amenity to sensitive receptors or cause impacts on human health.

Reason for Matter 5: Air emissions generated during construction and operation phases of the Major Project have potential to cause environmental nuisance or environmental harm.

- 6. Surface water quality** – Potential adverse impacts of the Major Project on surface water quality, including release of sediment and other pollutants during construction, or any sediment scouring and deposition changes post-construction, must be avoided, minimised, and mitigated to protect and enhance the quality of the environment and to prevent environmental degradation.

Reason for Matter 6: Changes to water quality as a result of the release of sediment and other pollutants to receiving surface waters can cause environmental nuisance or environmental harm through degradation of water quality, ecotoxic impacts, and changes to sediment mobilisation and deposition. The State Policy on Water Quality Management 1997 (Tas) sets out principles in relation to the management of pollution discharges to surface waters, focusing on protecting identified environmental values through the maintenance and improvement of water quality.

- 7. Hydrogeology and groundwater quality** – Potential adverse impacts of the Major Project on groundwater quality, including hydrogeological changes and the release of sediment or other pollutants during construction, must be avoided, minimised and mitigated to protect and enhance the quality of the environment and to prevent environmental degradation.

Reason for Matter 7: Changes to groundwater quality or flows have the potential to impact on groundwater beneficial uses including groundwater dependent ecosystems and surface water ecosystems receiving groundwater. The State Policy on Water Quality Management 1997 (Tas) sets out principles for the maintenance of groundwater quality in relation to potential beneficial uses of groundwater aquifers.

- 8. Aquatic natural values** – Potential adverse impacts of the Major Project on aquatic natural values must be avoided, minimised and mitigated and, if necessary, offset, to protect and enhance the quality of the environment and to prevent environmental degradation.

Reason for Matter 8: The location of the Major Project includes waterways, indicating potential for adverse impacts on aquatic flora and fauna species, aquatic habitat, and riparian areas.

- 9. Waste management** – Production of waste materials as a result of the Major Project must be avoided and minimised as far as reasonably practicable to reduce the use, handling, and transport of raw resources. All waste produced must be stored, handled, reused, and/or disposed of in such a manner to protect and enhance the quality of the environment and to prevent environmental degradation.

Reason for Matter 9: Construction works including excavation may result in environmental harm through inappropriate management, storage, and disposal of waste material, including potential acid sulfate soils, which may result in the discharge of pollutants to air, land, or water and cause impacts on human and ecosystem health. Similarly, operational activities may generate significant volumes of waste materials that require consideration under the prioritised waste management hierarchy of avoidance, reuse, recycling, energy recovery, repository storage, treatment and lastly disposal/containment.

- 10. Dangerous goods and environmentally hazardous materials** – Use or production of dangerous goods or environmentally hazardous materials as a result of the Major Project must be avoided and minimised as far as reasonably practicable. All dangerous goods or environmentally hazardous substances must be used, handled, stored, transported, and disposed of in a manner that protects and enhances the quality of the environment and prevents environmental degradation being caused.

Reason for Matter 10: Inappropriate management, storage and disposal of dangerous goods and environmentally hazardous materials may result in the discharge of pollutants to air, land, or water and cause impacts on human and ecosystem health.

- 11. Decommissioning** – The Major Project must include plans for decommissioning of wind turbines and the Major Project site to ensure stabilisation of surfaces and rehabilitation of vegetation and natural values, to protect and enhance the quality of the environment and to prevent environmental degradation.

Reason for Matter 11: Future use of the Major Project site needs to be considered in planning the Major Project, including disposal or reuse of materials. Unrehabilitated disturbed areas may result in dust emissions to air or sediment emissions to water, invasion of weed species, or loss of natural values.

- 12. Rehabilitation** – Areas disturbed during construction of the Major Project must be rehabilitated as soon as those areas are no longer required for construction or operation of the Major Project, to protect and enhance the quality of the environment and to prevent environmental degradation.

Reason for Matter 12: Unrehabilitated disturbed areas may result in dust emissions to air or sediment emissions to water, incursion and spread of weed species, or loss of natural values.

- 13. Greenhouse gas emissions, ozone depleting substances, and climate change** – Emission of greenhouse gases and ozone depleting substances as a result of construction or operation of the Major Project, including production of major components used in the Major Project, must be avoided, minimised, mitigated and, if necessary, offset, to protect and enhance the quality of the environment and to prevent environmental degradation and impacts to human and ecosystem health.

Reason for Matter 13: Construction of the Major Project may result in direct and indirect emission of greenhouse gases and ozone depleting substances which contribute to climate change.

- 14. Shadow flicker** - The intermittent shading of the sun by the blades of turbines during operation of the Major Project must be avoided, minimised, and mitigated, such that it does not cause unreasonable loss of amenity to sensitive receptors or cause impacts on human health.

Reason for Matter 14: The Major Project site is close to sensitive receptors. The intermittent shading of the sun by the blades of turbines during operation has potential to cause environmental nuisance or environmental harm to sensitive receptors.

- 15. Fire risk** – Fire risk associated with the Major Project must be avoided, minimised, and mitigated, to protect and enhance the quality of the environment and to prevent environmental degradation and impacts to human and ecosystem health.

Reason for Matter 15: Potential fire risk associated with the Major Project including fire within the Major Project site, fire escaping from the site, wildfire originating outside the site, and measures taken to control any such fires may result in environmental nuisance or environmental harm for sensitive receptors and adversely impact ecosystem health.

- 16. Socio-economic issues** – Social and economic impacts of the Major Project must be established to allow the EPA Board to evaluate both the benefits and adverse impacts that may result and the appropriateness of measures to be implemented to protect and enhance the quality of the environment and to prevent adverse impacts on communities and ecosystem health.

Reason for Matter 16: Projects with high-level or broader-scale environmental, social, and economic impacts require comprehensive analysis of the social and economic benefits to ensure such impacts are considered in the design and development of the Major Project.

- 17. Cumulative and interactive impacts** – Cumulative and interactive impacts of the Major Project must be established in the context of existing, associated, proposed, or approved development in the region and adverse impacts must be avoided, minimised, and mitigated to protect and enhance the

quality of the environment and to prevent environmental degradation and impacts to human and ecosystem health.

Reason for Matter 17: Projects of this scale have potential to cause adverse offsite impacts and where there are associated, or similar developments established or proposed at a local or statewide level, the cumulative and interactive impacts of such developments on resources, emissions, and environmental disturbance must be established in order to protect and enhance the quality of the environment and to prevent environmental degradation and impacts to human and ecosystem health.

- 18. Environmental impacts of traffic** – Potential adverse impacts of traffic associated with the Major Project, including roadkill, noise, and dust emission impacts, must be avoided, minimised, and mitigated to protect natural values and to prevent causing unreasonable loss of amenity to sensitive receptors or impacts on human health.

Reason for Matter 18: Environmental impacts of traffic from altered traffic flows and use of roads during construction and operation of the Major Project have potential to adversely impact native fauna species and cause environmental nuisance or environmental harm to sensitive receptors.

- 19. Electromagnetic radiation** – Potentially adverse human health risks associated with electromagnetic radiation generated by the Major Project must be avoided, minimised and mitigated to protect public health.

Reason for Matter 19: There is potential for wind farms to generate extremely low-frequency (ELF) electromagnetic radiation relevant to public health. ELF levels can be high near high-voltage power lines transmitting electricity generated by wind farms.

Glossary and Abbreviations

Term	Definition
Board	Board of the Environment Protection Authority
Director	Means the Director, Environment Protection Authority holding office under Section 18 of <i>Environmental Management and Pollution Control Act 1994</i> and includes a delegate or person authorised in writing by the Director to exercise a power or function on the Director's behalf.
MPP	Major Project Proposal for Cellars Hill Wind Farm Pty Ltd 13 November 2024
MPIS	Major Project Impact Statement
EMPCA	<i>Environmental Management and Pollution Control Act 1994</i>
EMPCS	Environmental Management and Pollution Control System. Objectives found in Schedule 1 of EMPCA.
Environmentally hazardous material	Means 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 but excludes sewage.
EPA	Environment Protection Authority. Tasmania's independent principal environmental regulator which administers EMPCA and consists of a Board and a Director.
JAMBA/CAMBA/ROKAMBA	Japan-Australia, China-Australia and Republic of Korea-Australia Migratory Bird Agreements
LUPAA	<i>Land Use Planning and Approvals Act 1993</i>
MNES	Matters of National Environmental Significance
NCA	<i>Nature Conservation Act 2002</i>
NVA	Natural Values Atlas (www.naturalvaluesatlas.tas.gov.au)
Noise sensitive premises	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.
RMPS	Resource Management and Planning System, Tasmania. Objectives found in Schedule 1 of EMPCA.
Suitably qualified person	Means suitably qualified person in the opinion of the Director
RFA	Tasmanian Regional Forest Agreement
TSPA	<i>Threatened Species Protection Act 1995</i>
Development footprint	Means all areas of land physically impacted (whether significant or not) within the Major Project site boundary, including any areas containing associated infrastructure, quarries, batching plants, and any other ancillary extractive activities such as access roads and tracks, parking, staff accommodation, material storage areas and areas to be impacted during construction.

Major Project site	Means the site boundary of the land to which the Major Project declaration relates and as described in the MPP.
Threatened fauna	Species of fauna listed on the Schedules 3-5 of the TSPA
Threatened flora	Species of flora listed on the Schedules 3-5 of the TSPA
Threatened native vegetation communities	Means native vegetation communities listed under Schedule 3A of the <i>Nature Conservation Act 2002</i> .
WTGs	Wind turbine generators

Schedule 1: General principles for assessing potential environmental impacts of the Major Project

The major project assessment process involves a coordinated assessment in accordance with several pieces of legislation. The Board of the Environment Protection Authority (the Board) is required to carry out an environmental impact assessment (EIA) of the Major Project under EMPCA, as modified by LUPAA. The Major Project Impact Statement (MPIS) is required to address the assessment criteria. Where an assessment of environmental issues and information on the potential environmental impacts of the Major Project is required, the Board's guidance sets out the information base that should be included in the MPIS in order for the Board to undertake its EIA and provide its advice to the Development Assessment Panel (the Panel). The assessment criteria and the Board's guidance should be read together to ensure that the MPIS addresses all matters that are relevant to both the Panel's assessment, and the Board's EIA.

The MPIS should also have regard to the following to ensure that the Board can undertake its EIA of the Major Project and provide advice to the Panel:

- Furthering the objectives at Schedule 1 of EMPCA;
- Implementation of best practice environmental management as defined in EMPCA;
- All aspects of the Major Project, including ancillary and/or other level 2 activities;
- The general principles and guidance provided in Schedules 1, 2 and 3 of this notice; and
- Advice provided by Public Health Services, Department of Health Tasmania in relation to the Major Project in accordance with section 74(5) of EMPCA (see Attachment 1 to this notice).

While some details of the Major Project may not be finalised at the time the MPIS 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 and an assessment of worst-case scenarios should be provided. Sufficient technical detail should be provided to enable an appropriate level of assessment.

General approach

When assessing environmental impacts in an MPIS the proponent should:

- Present information in a clear, well-structured manner that avoids duplication and presents technical information appropriate to its audience.
- Base assessments and evaluations on scientifically supportable, referenced data.
- Describe methodologies used and provide supporting research and investigations.
- State any scientific assumptions, simplifications, or judgements, and define uncertainties.
- Describe impacts and mitigation to a level of detail appropriate to their consequences and their ability to be controlled.

Existing conditions

Describe the existing environment in relation to the impact, including the vulnerability of the potentially affected environment. Analysis of potential environmental impacts should be in relation to the existing environment.

Impact assessment

Impact assessment is the identification and characterisation of the effects of a proposal. When undertaking impact assessment, the proponent should:

- Explain methodologies used to identify and characterise impacts.
- State clearly the impacts that are predicted to result from the development in terms of the aspect of the proposal involved and the environmental receptor affected.

- Characterise those impacts in terms of:
 - The magnitude of impacts, quantified where possible, including spatial extent and timeframe.
 - The vulnerability of the affected environmental receptors.
 - Sources and pathways for the impact to occur.
 - Probability of occurrence (if not 100%).
 - Scenarios for the impacts' occurrence including plausible worst-case consequences.
 - Reversibility of impacts.
 - Any predicted indirect effects.
 - Any aspects of other proposals examined cumulatively.
- With reference to the project description and alternatives descriptions of the EIS, state what measures to avoid or reduce impacts are considered as part of this assessment.

Impact evaluation

Impact evaluation is the determination of the 'significance' of impacts. When undertaking impact evaluation proponents should support conclusions about the significance of the impact as characterized using a structured argument which focuses on the magnitude of the impact and the sensitivity of the affected receptors.

Mitigation and monitoring

Mitigation (planning and design considerations, pollution control technology and management practices) and monitoring are measures in addition to those considered during the impact assessment above to reduce the impact of the proposal. In presenting mitigation and monitoring the proponent should:

- Describe the measures proposed.
- Describe how mitigation measures function to avoid or reduce the impacts.
- Explain how measures accord with existing guidance, accepted practice or best practice environmental management defined in EMPCA.
- Discuss contingencies for the breakdown/malfunction of equipment or processes.
- Describe any anticipated impacts resulting the mitigation actions and how these will be addressed.
- Identify if any of the control measures are to be performed by a third party, and how this will be achieved.

Residual impacts

Residual impacts are those that remain after mitigation has been taken into account. When assessing residual impacts the proponent should:

- Revisit the first evaluation of impact, taking into account the effects of the measures to reduce the magnitude of the impacts and present a revised statement of significance.
- Where required, identify appropriate offsetting, based on the relevant guidelines.

Environmental impact conclusion

An overall conclusion as to the environmental acceptability of the Major Project should be provided, including discussion of whether the Major Project is consistent with the principles of ecologically sustainable development and the objectives and requirements of EMPCA.

Schedule 2: Guidance on information to be provided in the MPIS

The guidance in this document sets out the information requirements for the Board to undertake its EIA of the Major Project. These include requirements for surveys and studies regarding specific issues which involve a higher level of environmental risk, relevant environmental performance and legislative requirements, associated regulations and policies, and reference to industry standards or best practice environmental management.

The MPIS should identify all potential environmental impacts and describe the proposed measures to avoid, minimise and mitigate adverse consequences for each of the environmental issues identified below. The detail provided on each environmental issue should reflect its level of significance. While key environmental issues are identified for the Major Project, other environmental issues that emerge as significant while preparing the MPIS, through environmental studies, public comments or otherwise, should also be considered and addressed.

Information about quarries, batching plants, and any other ancillary extractive activities that are proposed within the Major Project site boundary should be addressed under all issues in this notice. This should include measures to avoid and mitigate any potential environmental impacts in accordance with the [Quarry Code of Practice 3rd Edition \(2017\)](#) and assessment of impacts (including cumulative) after proposed avoidance and mitigation measures.

Environmental Issues:

1. Avian fauna and bats (key issue)
2. Non-avian fauna (key issue)
3. Flora and vegetation communities (key issue)
4. Noise and vibration emissions (key issue)
5. Air emissions
6. Surface water quality
7. Hydrogeology and groundwater quality
8. Aquatic natural values
9. Waste management
10. Dangerous goods and environmentally hazardous materials
11. Decommissioning
12. Rehabilitation
13. Greenhouse gas emissions, ozone depleting substances, and climate change
14. Shadow flicker
15. Fire risk
16. Socio-economic issues
17. Cumulative and interactive impacts
18. Environmental impacts of traffic
19. Electromagnetic radiation

I. Avian fauna and bats – the following information should be addressed

- I.1. Describe and map records of threatened avian fauna within the Major Project site and surrounding areas.
 - I.1.1. Provide information detailing known/recorded populations and known or potential habitat, including habitat in the development footprint, Major Project site and surrounding areas.
 - I.1.2. Provide the results of natural values surveys undertaken by a suitably qualified person(s), in accordance with [Guidelines for Natural Values Surveys related to Development Proposals](#) and other relevant guidelines.
 - I.1.2.1. Surveys for non-threatened fauna, including bats, should be conducted when it is likely that a development will have significant impact on a species listed under the [Wildlife \(General\) Regulations 2010](#).
 - I.1.3. Include details of survey effort, timing and an assessment of adequacy. It is recommended that all bird utilisation survey methodologies, results and conclusions are referred to NRE Tas and the EPA for review and advice.
- I.2. Bird utilisation surveys should be carried out across the Major Project site to determine utilisation of the area by avian fauna species.
 - I.2.1. Surveys should be undertaken by suitably qualified persons using standard bird utilisation techniques for two years (e.g., multiple experienced human observers carrying out multi-day surveys, from dawn to dusk, during all four seasons).
 - I.2.2. Surveys should be based on a clearly defined methodology that is statistically robust and representative of habitats, species (including migratory), seasons and conditions across the site.
 - I.2.3. Data collected should include direction, altitude and time of flights, and species as a minimum.
 - I.2.4. The siting of turbines, distribution/transmission lines and other infrastructure should take into account the results of the utilisation surveys in order to avoid or minimise potential impacts.
- I.3. Targeted eagle utilisation surveys should be carried out across the proposed project footprint for white-bellied sea eagle (*Haliaeetus leucogaster*) (WBSE) and the wedge tailed eagle (*Aquila audax ssp. fleayi*) (WTE) over a 2-year period, noting these species are at high risk of impact from wind farms and utilisation for these species is known to vary significantly between years. In addition to Bird Utilisation Surveys requirements above, the Targeted Eagle Utilisation Surveys should also include:
 - I.3.1. Survey methodology to determine spatial use of the site (any favoured areas, any common flight paths etc.), and are representative of the range of conditions, including the prevailing conditions.
 - I.3.2. Survey coverage sufficient for robust understanding of site utilisation and to support the application of collision risk modelling.
 - I.3.3. Survey data presented in a manner that is representative of the 3-dimensional nature of movement patterns (e.g., contour maps) for different seasonal activity periods and overlay with the development footprint for context. The siting of turbines, distribution/transmission lines and other infrastructure should take into account the results of the utilisation surveys in order to avoid or minimise potential impacts.
 - I.3.4. The use of GPS harnessed eagles (adults) should be considered to assess flight patterns and inform site utilisation. The proponent should consult with relevant specialists/researchers to design an appropriately informative study/approach.
- I.4. WTE and WBSE nest searches and activity checks of potential nesting habitat should take place to 1 km outside the Major Project site, including all areas to be disturbed as a result of the Major Project.
 - I.4.1. All eagle nest searches and activity checks should comply with:

[1.4.1.1.FPA Technical Note 1: Eagle nest searching, activity checking and nest management \(2023\).](#)

[1.4.1.2.EPA Guide to Eagle Nest Searching and Nest Activity Checks.](#)

- 1.4.2. The MPIS should discuss the potential adverse impacts of the Major Project on eagle nests and measures that will be implemented to avoid, minimise, or mitigate such impacts.
- 1.4.3. The MPIS should outline how new nests will be detected, reported, and managed post-commissioning. It is recommended that eagle nest searches should be undertaken annually until the Major Project is fully commissioned.
- 1.4.4. The MPIS should outline how eagle nest searches have been used to inform development activities and infrastructure layout.
- 1.5. A Collision Risk Model (CRM) should be provided to support the Major Project and identify potential impacts to WBSE and WTE from the proposed development.
 - 1.5.1. The CRM analysis should reference contemporary scientific literature and understanding, be supported by site utilisation data, provide an assessment of any uncertainties, assumptions or limitations, and discuss outcomes.
 - 1.5.2. Provide detail on how the CRM results have informed the planned construction/operation of the Major Project (if relevant).
 - 1.5.3. It is recommended that the proponent engages a suitably qualified person to peer review the proposed CRM methodology prior to finalisation and implementation. The results of the peer review should be shared with NRE Tas and the EPA.
- 1.6. Consideration should be given to developing and providing a CRM to identify potential impacts to other avian fauna from the proposed development, where sufficient data is available.
- 1.7. Bird and bat collision management measures within the MPIS should outline how the Major Project will avoid and mitigate collisions with wind turbine generators and associated infrastructure and include:
 - 1.7.1. An assessment of any proposed technology-based mitigation or avoidance approaches (i.e., avian detection/radar systems such as Identiflight). It is recommended that this is informed by results from their use at existing wind farms in Tasmania.
 - 1.7.2. An assessment of curtailment as a mitigation strategy to prevent significant impacts on bat population.
 - 1.7.3. Discussion on other possible mitigation and avoidance strategies such as the use of black blades on turbines.
- 1.8. A Preliminary Bird and Bat Collision Monitoring Plan should be included with the MPIS to outline how collisions (injuries and mortalities) will be detected and reported, with accompanying management responses.
 - 1.8.1. Reference should be made to the avian collision monitoring plan guidance in Schedule 3.
 - 1.8.2. The MPIS should outline how the proponent intends to account for non-detections (i.e., birds that collide with turbines but are not detected during collision monitoring).
- 1.9. Carcass management measures should detail how eagle food resources (i.e., carcasses) will be managed across the site to minimise collision risk (with wind turbine generators, infrastructure, and vehicles), including:
 - 1.9.1. Monitoring along roadsides, around wind turbine generators and beneath power distribution lines.
 - 1.9.2. The potential implications of changes to land use pre-construction, during, and post-construction, such as changes to recreational hunting activity.
- 1.10. Discuss and analyse the significance of impacts on avian fauna and bat species and habitats, including collision risk, habitat removal, and disturbance from movement, noise, or light pollution.

- 1.10.1. Discuss potential light pollution from proposed lighting infrastructure, lighting regimes, positioning and lighting type during different Major Project stages.
- 1.10.2. Consider proximity to identified nests and breeding habitat with reference to the [National Light Pollution Guidelines for Wildlife \(May 2023\)](#).
- 1.10.3. Describe how impacts to avian fauna and bats will be avoided and minimised through the Major Project design and construction methodology.
- 1.10.4. Refer to any results of surveys and studies considered in site design to avoid or minimise potential impacts.
- 1.10.5. Where impacts cannot be avoided, discuss proposed measures to mitigate adverse impacts on biodiversity and nature conservation values.
- 1.10.6. Where offsets are required, provide a strategy to offset any residual, adverse impacts on threatened species after full implementation of the avoidance and mitigation steps of the mitigation hierarchy.
- 1.10.7. The offset strategy should detail likely benefits from proposed offsets including consideration of effectiveness. Note that offset actions proposed must have a measurable and relevant benefit which would otherwise not have occurred. Include details of how the offsets were determined, and will be secured, managed and monitored. Include management actions, responsibility, timing, performance measures and the specific environmental outcomes to be achieved.
- 1.10.8. The offset strategy should be consistent with the following documents as relevant, or any amendments or substitutions to these documents:
 - 1.10.8.1.1. [Tasmanian Offset Guidelines for Impacts to Threatened Eagles from Wind Farm Developments](#)
 - 1.10.8.1.2. [Guidelines for Terrestrial Natural Values Surveys related to Development Proposals](#)
- 1.10.9. Evaluate cumulative impacts with the Cattle Hill Wind Farm, St Patricks Plains Wind Farm, Bashan Wind Farm and any associated developments such as transmission infrastructure. Other proposals for which there is sufficient information available to allow a meaningful assessment of their impacts, should also be considered in the assessment of cumulative impacts.
- 1.11. If any products of wildlife (i.e. nests) are identified and will be impacted by the Major Project, a permit to take will be required. The processing of permit applications may take up to four weeks. Information on applying for a permit, including application forms, can be found on the NRE Tas website: [Permit to Take Threatened Species Wildlife and/or Products of Wildlife \(for Consultants & Development-related Activities\)](#).

2. Non-avian fauna – the following information should be addressed:

- 2.1. Describe and map records of non-avian threatened fauna within the development footprint, Major Project site and surrounding areas
 - 2.1.1. Provide information detailing known/recorded populations and known or potential habitat, including habitat in the development footprint, Major Project site and surrounding areas.
 - 2.1.2. Provide relevant results of natural values surveys undertaken by a suitably qualified person(s), in accordance with [Guidelines for Natural Values Surveys related to Development Proposals](#) and other relevant guidelines.
 - 2.1.2.1. Surveys for non-threatened non-avian fauna should be conducted when it is likely that a development will have significant impact on a species listed under the [Wildlife \(General\) Regulations 2010](#).
 - 2.1.3. Include details of survey effort, timing and an assessment of adequacy.
- 2.2. Surveys and Management of Tasmanian devil (*Sarcophilus harrisii*) and spotted-tailed quoll (*Dasyurus maculatus subsp. maculatus*) should be carried out across the site:

- 2.2.1. Surveys for Tasmanian devils should be carried out in accordance with the [Tasmanian Devils - Devil Survey Guidelines and Management Advice](#).
- 2.2.2. In the absence of specific guidelines for the spotted-tailed quoll, the [Tasmanian Devils - Devil Survey Guidelines and Management Advice](#) can be applied, given they have similar habitat requirements and are susceptible to a similar range of threats.
- 2.2.3. Assessment of impacts and proposed management measures for Tasmanian devils and spotted-tailed quoll should address requirements of the [Tasmanian Devils - Devil Survey Guidelines and Management Advice](#) and address all potential impacts to the species. In addition, the MPIS should include:
 - 2.2.3.1. A map of suitable denning habitat overlain with development footprint (including roads and infrastructure).
 - 2.2.3.2. A summary (e.g., table) showing what new roads/tracks are proposed, and the distance(s) they cover.
 - 2.2.3.3. An analysis of the expected vehicle movements during both construction and operational phases on internal and external roads, including the time of day of these movements (daytime versus night-time) and an assessment of the relative increase in vehicle movements on external roads as a result of the Major Project.
 - 2.2.3.4. Identification of any high-risk roadkill areas.
 - 2.2.3.5. An assessment of significance of impacts from vegetation clearance, ground disturbance, increased habitat fragmentation, impacts to dens, changes to food resources, roadkill management, changes in land use and changes to fire regimes.
- 2.3. Describe how impacts on non-avian fauna will be avoided and minimised through the Major Project design and construction methodology.
 - 2.3.1. Refer to any results of surveys and studies considered in site design to avoid or minimise potential impacts.
 - 2.3.2. Where impacts cannot be avoided, discuss proposed measures to mitigate adverse impacts on biodiversity and nature conservation values, considering:
 - 2.3.2.1. [Tasmanian Guidelines for Natural Values Surveys – Terrestrial Development Proposals](#)
 - 2.3.2.2. [Tasmanian Devils - Devil Survey Guidelines and Management Advice](#).
- 2.4. Discuss and analyse the significance of impacts on non-avian species and habitats, including, habitat removal, habitat fragmentation, impacts to dens, changes to food resources, roadkill and disturbance from movement, noise, or light pollution.
 - 2.4.1.1. Discuss potential impacts and associated mitigation measures for light pollution from proposed infrastructure, lighting regimes, positioning and lighting type during different Major Project stages. Consider proximity of lighting infrastructure in relation to identified breeding/denning/foraging habitat with reference to the [National Light Pollution Guidelines for Wildlife \(May 2023\)](#).
- 2.5. Provide details of how biosecurity risks relevant to the proposal will be identified and subsequently avoided, minimised, or mitigated for all stages of the Major Project, including consideration of diseases such as frog chytrid fungus.
- 2.6. Detail measures to offset any residual, adverse impacts on threatened species after full implementation of the avoidance and mitigation steps of the mitigation hierarchy.
 - 2.6.1. Where offsets are required, provide a strategy to offset any residual, adverse impacts on threatened species after full implementation of the avoidance and mitigation steps of the mitigation hierarchy.
 - 2.6.1.1. The offset strategy should detail likely benefits from proposed offsets including consideration of effectiveness. Note that offset actions proposed must have a measurable and relevant benefit which would otherwise not have occurred. Include

details of how the offsets were determined, and will be secured, managed and monitored. Include management actions, responsibility, timing, performance measures and the specific environmental outcomes to be achieved.

2.6.1.2. The offset strategy should be consistent with the following documents as relevant, or any amendments or substitutions to these documents:

2.6.1.2.1. [Tasmanian Devils - Devil Survey Guidelines and Management Advice](#).

2.6.1.2.2. [Guidelines for Terrestrial Natural Values Surveys related to Development Proposals](#)

2.7. If any products of wildlife (i.e. dens) are identified and will be impacted by the Major Project, a permit to take under will be required. The processing of permit applications may take up to four weeks. Information on applying for a permit, including application forms, can be found on the NRE Tas website: [Permit to Take Threatened Species Wildlife and/or Products of Wildlife \(for Consultants & Development-related Activities\)](#).

3. Flora and vegetation communities – the following information should be addressed:

3.1. Describe and map known records of flora and vegetation communities including MNES, threatened species, Threatened Native Vegetation Communities (TNVC) TSPA and NCA.

3.1.1. Surveys for threatened flora and vegetation communities should be conducted in accordance with the [Guidelines for Natural Values Surveys – Terrestrial Development Proposals](#), including historical data, details of survey effort, methodology, timing, and an assessment of the adequacy of the surveys by a suitably qualified ecologist.

3.1.2. Surveys should be conducted in areas where vegetation clearance or soil disturbance is proposed and give equal consideration to areas with temporary impacts and permanent impacts.

3.1.3. Consultants undertaking vegetation surveys are encouraged to engage with NRE Tas's Natural Assets Spatial Intelligence Section (NASIS), as the mapping of vegetation communities for this area, as expressed in TASVEG 4.0 and TASVEG Live for the site, is considered to be of low reliability. Any discrepancies between field survey results and the existing TasVEG layer should be submitted directly to the Natural Values Atlas (NVA).

3.1.4. Surveys of orchids, annuals and ephemeral species should be undertaken at a suitable time to capture most of these species during their flowering season to aid identification. Some species may require targeted surveys over multiple years to compensate for seasonal variation. Information on optimal survey times is available for many species on the [Threatened Species Link](#).

3.1.5. An assessment of the likelihood of any known locally threatened plant species being present within the Major Project site, estimates of abundance of likely impacted individuals, and estimate of abundance of the local subpopulation.

3.2. Specify and map known records of weeds, pests and diseases within the Major Project site boundary, in accordance with the [Guidelines for Natural Values Surveys – Terrestrial Development Proposals](#)

3.3. Describe and map any Conservation Covenants reserved under the NCA within the Major Project site. The MPIS should demonstrate how any conservation covenants are excluded from the development footprint, or otherwise how activities proposed to take place within the covenanted area are permitted in the covenant's management plan.

3.4. Describe how impacts will be avoided, and minimised through the Major Project design and construction methodology, including:

3.4.1. Maps of all threatened flora species recorded in the surveys, overlain with the development footprint including the proposed wind turbine generator layout and associated infrastructure (including any areas to be impacted during construction).

3.4.2. Biosecurity management plan(s) as relevant, detailing how biosecurity risks will be avoided, minimised, or mitigated for all stages of the Major Project, including consideration of areas

within the Major Project site where works should be avoided, vectors for weeds, and diseases such as *Phytophthora cinnamomi*.

- 3.5. The MPIS should describe proposed rehabilitation of disturbed areas following the completion of construction activities and also once the wind farm ceases operation (entering decommissioning), including any proposed seed collection and progressive rehabilitation programs.
- 3.6. Assess residual impacts on species, communities, and habitats, including consideration of:
 - 3.6.1.1. Clearing of vegetation and habitat;
 - 3.6.1.2. Fragmentation and edge effects, including consideration of vegetation communities more vulnerable to disturbance;
 - 3.6.1.3. The potential for migration and/or introduction of pests, weeds and plant diseases as a result of the Major Project; and
- 3.7. Where impacts cannot be avoided, proposed measures to mitigate and/or offset adverse impacts on biodiversity and nature conservation values in accordance with the [Guidelines for Natural Values Surveys – Terrestrial Development Proposals](#)
- 3.8. Information on conservation significant flora in the vicinity of the Major Project site that are not currently listed under the TSP Act, including uncommon species that only occur in a few locations which have not been previously listed due to the low likelihood of threats. Consideration should also be given to the presence of new or previously unrecorded flora species that are likely to be significantly impacted by the Major Project.
- 3.9. If any threatened flora species listed under the TSPA will be impacted by the proposed development, a permit to take under that Act will be required. The processing of permit applications may take up to four weeks. Information on applying for a permit, including application forms, can be found on the NRE Tas website: [Permit to Take Threatened Species \(for Consultants & Development-related Activities\)](#).

4. Noise and vibration emissions – the following information should be addressed:

- 4.1. Discuss the potential for noise and vibration emissions from construction and operation of the Major Project to result in environmental nuisance or environmental harm to sensitive receptors, including:
 - 4.1.1. Identification, location, and description of potential sources of noise (including associated sound power levels and 1/3 octave data to assess for low frequency and tonal noise).
 - 4.1.2. Identification, location, and description of potential sources of vibration.
 - 4.1.3. Identification and location of sensitive receptors in the vicinity of the Major Project.
 - 4.1.4. Establishing the existing background noise level in the area with particular focus on sensitive receptors likely to be impacted by the Major Project.
 - 4.1.5. Based on the existing background noise level and relevant guidelines, proposing appropriate noise level criteria for the construction phase of the Major Project.
 - 4.1.6. Proposing appropriate vibration level criteria for the construction and operational phases of the Major Project.
 - 4.1.7. Predicting noise and vibration emission levels (noise modelling is required, including contour maps) at sensitive receptors for the construction phase of the Major Project.
 - 4.1.8. Predicting operational noise levels (noise modelling is required, including contour maps), and identify areas where:
 - 4.1.8.1. The levels exceed the criteria of 35 dB(A) L_{Aeq} 10 mins, or background (L_{A90}) + 5 dB(A), whichever is greater in accordance with the [EPA Board's Policy](#); and/or
 - 4.1.9. Having regard to the following as relevant:
 - 4.1.9.1. AS 2436-2010 Guide to noise and vibration control on construction, demolition and maintenance sites.

- 4.1.9.2. The [Draft construction noise guideline](#) from EPA NSW.
- 4.1.9.3. The [Tasmania Noise Measurement Procedures Manual](#).
- 4.1.9.4. Part 5 of the [Tasmanian Environment Protection Policy \(Noise\) 2009](#).
- 4.1.9.5. [Quarry Code of Practice 3rd Edition \(2017\)](#).
- 4.1.9.6. The [EPA Board's Policy](#) on noise limits for wind energy projects which sets operational design criteria and noise emission limits for wind farms at noise sensitive premises of 35 dB(A) $L_{Aeq\ 10\ mins}$, or background (L_{A90}) + 5 dB(A), whichever is greater).
- 4.1.9.7. Specification from the Tasmanian Department of Health and the National Health and Medical Research Council that significant health effects from wind turbines are unlikely beyond 1,500 m from a wind farm (refer to Attachment 1 to this notice).
- 4.1.10. Discussion of the potential for noise emissions to affect terrestrial and freshwater wildlife and livestock.
- 4.1.11. How impacts can be avoided and minimised through the Major Project design.
- 4.1.12. Discussion of proposed construction noise management and mitigation measures, including management of noise complaints and options for noise and vibration monitoring and preparation of a construction noise and vibration plan, if required.
- 4.1.13. Discussion of proposed operational noise monitoring, and operational management and mitigation strategies.

5. Air emissions – the following information should be addressed:

- 5.1. Assessment of air quality in the vicinity of the proposed construction site prior to the commencement of construction activities. Particular attention should be given to assessment of existing air quality at the location of sensitive receptors which have the potential to be impacted by emissions from nearby sources during construction.
- 5.2. Air emission constituents of concern during the construction phase. The following details should be included:
 - 5.2.1. Location of the Major Project site boundary and nearest sensitive receptors.
 - 5.2.2. Sources of air emissions and their names and locations.
 - 5.2.3. For each source – constituents of emissions that may arise from proposed activities, including but not limited to:
 - 5.2.3.1. Dust from construction phase activities including land clearing, excavation work, stockpiles, vehicle movements, concrete batch plants, quarrying activities, road construction and upgrades, and loading, unloading and transporting material.
 - 5.2.3.2. Engine exhaust from construction equipment, vehicles, and generators.
 - 5.2.3.3. Any potential odour.
- 5.3. Assessment of construction phase emissions regarding the likelihood of causing environmental nuisance or environmental harm should be undertaken, including:
 - 5.3.1. Assessment of the potential impacts of atmospheric emissions from the Major Project on nearby sensitive receptors, both within the Major Project site and beyond the boundary, and the impact on the local environment considering meteorology, terrain and land use.
 - 5.3.2. Application of appropriate dust control management and mitigation measures described in section 7.5 of the [Quarry Code of Practice 3rd Edition \(2017\)](#) (where applicable).
 - 5.3.3. Where a potential for impact on sensitive receptors is identified, deployment of suitably located dust deposition monitors should be considered to determine the extent of the impact and to inform the implementation of appropriate mitigation measures.
 - 5.3.4. Compliance with the requirements of the relevant National Environment Protection Standards (NEPM), the [Tasmanian Environment Protection Policy \(Air Quality\) 2004](#) and any

supplementary documents including the [EPA Board Update to Air Pollutant Design Criteria used in the EIA Process \(2022\)](#).

- 5.4. Develop and discuss appropriate management and mitigation strategies, if required, to address the impact of any atmospheric emissions from the site that have the potential to cause environmental nuisance or harm to sensitive receptors both within the Major Project site and beyond the boundary.

6. Surface water quality - the following information should be addressed:

- 6.1. A description and map of the activity site with respect to topography and preferential surface water flow, existing surface water and stormwater drainage of the receiving environment. The description should include:
 - 6.1.1. Surface water bodies and watercourses that may potentially be impacted by the proposal during construction and operation, consistent with the [State Policy on Water Quality Management 1997](#) with reference to:
 - 6.1.1.1. [Environment Management Goals For Tasmanian Surface Waters Upper Derwent Catchment](#)
 - 6.1.1.2. the Tasmanian Conservation of Freshwater Ecosystem Values database, any conservation listings, or survey of community uses to determine receiving water community values.
 - 6.1.2. Published or determined (site-specific) water quality guideline values for protection of receiving water bodies that may be impacted by the proposal, including:
 - 6.1.2.1. As a minimum, reference to relevant default guidelines values published by the Environment Protection Authority Tasmania, [Australian and New Zealand Guidelines for Fresh and Marine Water Quality 2018](#) (ANZ 2018).
 - 6.1.2.2. Site specific information including any historical water quality data. Where merited, monitoring programs should be developed to determine baseline, ecosystem condition, water quality and potential water quality impacts.
- 6.2. Assess the potential impacts of the Major Project on surface water quality during construction and operation, in relation to the selected water quality guideline values. This should include potential release of sediment and other pollutants or the disturbance of potential acid sulfate soils (PASS), or any sediment scouring and deposition changes post-construction.
- 6.3. Discuss how impacts will be avoided and minimised through the Major Project design and construction methodology.
- 6.4. Where impacts cannot be avoided, proposed measures to mitigate adverse impacts on surface water quality, including consideration of effectiveness, should be discussed. Justification for any proposed emission of contaminants to surface waters should be in accordance with the principles of the [State Policy on Water Quality Management 1997](#) and with application of a 'weight of evidence approach' consistent with the ANZG 2018. Refer to the [Technical Guidance for Water Quality Objectives \(WQOs\) Setting for Tasmania](#) for information regarding the water quality management framework and evaluation criteria.
- 6.5. Provide an initial erosion and sediment control plan detailing the potential for mobilisation of sediment for each significant construction element and/or environmental setting that is identified, and mitigation measures detailed in accordance with best practice erosion and sediment control principles (i.e., the International Erosion Control Association's Best Practice Erosion and Sediment Control documents at [Publications - International Erosion Control Association \(austieca.com.au\)](#)). At a minimum the plan should include:
 - 6.5.1. Classification of erosion potential for each land type and topography likely to be disturbed by construction activities. Activities may include roads, cable trenches, waterway crossings, turbine pads, laydown areas and other works yards.

- 6.5.2. Risk mitigation and detailed measures to protect water quality relating to erosion and sediment control in areas identified as potential landslide hazards. Details of measures to be employed to minimise erosion potential including, staging of works, temporary surface treatments, cut-off drains, temporary drainage controls and rehabilitation staging.
- 6.5.3. Design specification for temporary and permanent drainage control and sediment containment infrastructure i.e., design rainfall average recurrence interval and emission limits for sediment retention basins.

7. Hydrogeology and groundwater quality – the following information should be addressed:

- 7.1. The impacts of the Major Project on hydrogeology and groundwater quality should be discussed, including the release of sediment and other pollutants during construction, including the following:
 - 7.1.1. Conceptual groundwater models for the Major Project site indicating local and intermediate aquifer flow systems and how construction footprints and any proposed groundwater extraction or dewatering may interact with existing hydrogeology, including that expressing as surface water north of Bothwell.
 - 7.1.2. Identification of existing groundwater extraction bores nearest to the area impacted by the Major Project (refer to the [Groundwater Information Access Portal](#)).
 - 7.1.3. Identification of any surface water and groundwater dependant ecosystems that may receive groundwater from areas impacted by the Major Project or be impacted by hydrological changes resulting from construction and operations of the Major Project.
 - 7.1.4. Details of any baseline groundwater quality monitoring undertaken, including existing baseline groundwater quality data for the artesian “Bothwell” Statewide groundwater monitoring network bore as published in [Mineral Resources Tasmania - UR2004 4](#).
 - 7.1.5. For any groundwater extraction that may be proposed, provide the required yield, volumes, and process for bore establishment and management.
 - 7.1.6. Justification for any proposed emission of contaminants to surface waters should be 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](#).
 - 7.1.7. If necessary following consideration of the identification and analysis of the risk ratings established in the [Groundwater Risk Assessment Tool and Management Framework](#) for groundwater assessment units, mitigation should be proposed for potential impact to the groundwater recharge zones and on and off site receiving environments and receptors (including existing extraction surface water rights) from changed groundwater quality or flow.
 - 7.1.8. Controls to prevent migration of contaminants to groundwater at any storage locations for potentially contaminating materials should be detailed in relation to the management of those facilities.

8. Aquatic natural values – the following information should be addressed

- 8.1. The potential impacts of construction and operation of the Major Project and any associated infrastructure on freshwater aquatic natural values should be discussed, with particular reference to those listed under relevant Schedules of the TSP Act.
- 8.2. Aquatic natural values surveys in the vicinity of the Major Project should be undertaken and the results provided in the MPIS, including historical data, details of survey effort, timing, and an assessment of the adequacy of the surveys. The surveys should be undertaken in accordance with

the relevant [Tasmanian Guidelines for Natural Values Surveys](#) and identify potential habitat for any aquatic species listed in the Schedules of the TSP Act.

- 8.3. Information detailing known/recorded populations and known or potential habitat, including habitat in the area surrounding the proposed action.
- 8.4. Impacts on aquatic values, including consideration of:
 - 8.4.1. Habitat disturbance, waterway crossings, dams, or relocation;
 - 8.4.2. Flow alterations and changes to drainage patterns around peatlands, wetlands, creeks and drainage lines;
 - 8.4.3. Erosion;
 - 8.4.4. Mobilised sediment or pollutants, including potential acid sulfate soils;
 - 8.4.5. Potential for migration and/or introduction of pests, weeds and plant and animal diseases as a result of the Major Project; and
 - 8.4.6. Analysis of the significance of such impacts.
- 8.5. How impacts will be avoided and minimised through the Major Project design and construction methodology, including provision of biosecurity management plan(s) as relevant.
- 8.6. Where impacts cannot be avoided, proposed measures to mitigate and/or offset adverse impacts on aquatic natural values should be discussed, including consideration of effectiveness, and having regard to the relevant [Tasmanian Guidelines for Natural Values Surveys](#).
- 8.7. Rehabilitation of disturbed areas following the completion of construction activities and cessation of the activity.

9. Waste management – the following information requirements should be addressed

- 9.1. Identify the potential for the Major Project to generate waste materials and propose methods for avoiding and minimising that generation, and discuss appropriate measures to store, reuse, and dispose of waste appropriately.
- 9.2. Identify the source, nature, and quantities of all wastes, (liquid, atmospheric or solid) likely to be generated, including general refuse, treated concrete production wash waters, any other treated wastewater, decommissioned infrastructure, and by-products from the various stages of construction, operation and decommissioning of the Major Project including:
 - 9.2.1. Identification of any potential Controlled Waste as defined in EMPCA and associated regulations. Provide a description of the source, nature, quantity, and method of treatment, storage, and disposal for each potential Controlled Waste generated by the Major Project. Describe collection or other maintenance requirements where relevant.
 - 9.2.2. Identification of whether acid sulfate soils (ASS) may be present and potentially disturbed as a result of construction of the Major Project including as a minimum, a desktop assessment of the potential for disturbance of ASS which addresses the following:
 - 9.2.2.1. Soil profiles including test pit and bore log data.
 - 9.2.2.2. Geology, hydrogeology, and geomorphology.
 - 9.2.2.3. Detail of proposed construction methodology and any associated dewatering.
 - 9.2.2.4. The development footprint, depth and volume of structure footings, and extent of disturbance.
 - 9.2.2.5. The time period over which sub surface materials are likely to be exposed.
 - 9.2.2.6. Any groundwater extraction and associated drawdown.
 - 9.2.2.7. Initial geochemical testing in areas where potential ASS may be disturbed.

9.2.2.8. Having regard to the [Tasmanian Acid Sulfate Soil Management Guidelines](#) and the requirement to prepare an ASS Management Plan if significant disturbance of ASS is likely.

- 9.3. Methods and facilities proposed to collect, store, reuse, treat, or dispose of each general waste stream should be identified. Describe collection or other maintenance requirements where relevant.
- 9.4. Discuss potential options for waste management during the decommissioning of the Major Project at end-of-life, including reference to contemporary approaches and practices for managing waste wind turbine generator (WTG) components.
- 9.5. Demonstrate that all proposed waste management measures and options are in accordance with the following hierarchy of waste management, arranged in decreasing order of desirability: avoidance; reuse; treatment/stabilisation for reuse; recycling; energy recovery; repository storage (for future treatment/recovery); treatment/stabilisation for disposal; disposal/permanent containment.

10. Dangerous goods and environmentally hazardous materials – the following information should be addressed:

- 10.1. The impacts of the Major Project in relation to dangerous goods and environmentally hazardous materials (i.e., any substance or mixture of substances of a specific 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) should be discussed, including:
 - 10.1.1. 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 Major Project.
 - 10.1.2. A map showing the location of temporary and permanent storage areas for fuels, oils, and other dangerous goods or chemicals.
 - 10.1.3. Detail measures to be adopted to prevent or control any accidental releases of dangerous goods and environmentally hazardous materials. Examples include employee/contractor education, standard operating procedures, suitably designed and secure storage areas, bunding or spill trays, suitable spill kits and where relevant, appropriate disposal arrangements.
 - 10.1.4. Contingency plans for when control measures fail, equipment breaks down, or accidental releases to the environment otherwise occur. Include detail on proposed emergency and clean-up measures and notification procedures.
 - 10.1.5. Identification of any safety management requirements for the protection of human health and safety affecting the community.

11. Decommissioning – the following information should be addressed:

- 11.1. A conceptual Decommissioning and Rehabilitation Plan should be provided for the Major Project, including:
 - 11.1.1. Potential scenarios for end-of-life of the Major Project, including forecast project lifespan and potential future use of the Major Project site;
 - 11.1.2. Proposed staging and methodology for decommissioning of equipment and infrastructure within the Major Project site, with potential for re-use elsewhere (include application of the waste management hierarchy detailed at sections 9.4 and 9.5);
 - 11.1.3. Proposed methodology for rehabilitating the Major Project site following decommissioning for appropriate future re-use.

12. Rehabilitation – the following information should be addressed:

- 12.1. A discussion of proposed measures for rehabilitation of areas disturbed during construction of the Major Project, including:
 - 12.1.1. A map showing areas to be disturbed during construction, in relation to natural values, waterways, sensitive receptors, and other constraints.
 - 12.1.2. Discussion of staging of construction, measures to minimise disturbance during construction, and potential for progressive rehabilitation.
 - 12.1.3. Discussion of appropriate measures for rehabilitation, including proposed use of materials and plantings, with prioritisation of native species and enhancement of natural values. Consideration should also be given to any requirements for the rehabilitation of specific vegetation types that may be adversely impacted by the Major Project.
 - 12.1.4. Provision of a conceptual progressive rehabilitation plan, including consideration of ongoing maintenance requirements.

13. Greenhouse gas emissions, ozone depleting substances, and climate change – the following information should be addressed:

- 13.1. A discussion of the direct and indirect effects of the Major Project, including construction, on greenhouse gas production and ozone-depleting substances, as well as any associated benefits of the Major Project, including:
 - 13.1.1. An inventory of projected scope 1, scope 2, scope 3, and total greenhouse gas emissions, energy production, and energy consumption for a year of operation. Describe the methods used to develop the inventory. Discuss potential annual variation that may occur. Information on categorising and calculating emissions is available at the [Australian Government Clean Energy Regulator website](#).
 - 13.1.2. Estimation of total greenhouse gas emissions, energy production, and energy consumption of the Major Project, including both construction and operational stages and emissions associated with vegetation removal (as relevant). Include details of the methodology used.
 - 13.1.3. Demonstration that the Major Project will use cost-effective, best practice measures to achieve ongoing minimisation of greenhouse gas emissions and ozone depleting substances, including the sourcing and disposal of materials.
 - 13.1.4. Measures proposed to minimise emissions and describe the anticipated effectiveness of these measures. Where less emissions-intensive options are not adopted, provide sufficient justification and/or mechanisms to offset greenhouse gas emissions.
 - 13.1.5. Consideration of the evolving national response to climate change and greenhouse gas emissions and the target set in the *Climate Change (State Action) Act 2008* (Tas), [Tasmania's Climate Change Action Plan 2023-25](#), and the *Climate Change Act 2022* (Cth).
 - 13.1.6. Potential impacts of climate change on the Major Project. For example, it may be appropriate to plan for more intense storm events, severe fire weather, and/or long-term sea level rise.

14. Shadow flicker – the following information should be addressed:

- 14.1. Assessment of the potential for intermittent shading of the sun by the blades of turbines to cause environmental nuisance or environmental harm to sensitive receptors, including:
 - 14.1.1. Siting of turbines and consideration of turbine parameters (i.e., height and rotor diameter).
 - 14.1.2. Shadow flicker modelling to determine the likelihood of impact to identified sensitive receptors in the vicinity of the Major Project.
 - 14.1.3. Discussion of proposed management and mitigation strategies, if required.
- 14.2. Having regard to the following as relevant:
 - 14.2.1. [Australian Energy Infrastructure Commissioner 2022 Annual Report](#);

14.2.2. [Appendix 5 of the Clean Energy Council Best Practice Guidelines for Implementation of Wind Energy Projects in Australia, June 2018](#); and

14.2.3. Attachment I to this notice.

15. Fire risk – the following information should be addressed:

15.1. A discussion of the potential fire risk associated with the Major Project, including the following:

15.1.1. Consideration of fire within the Major Project site, fire escaping from the site, and the impact of wildfire originating outside the development, and the environmental impacts that could result from such events.

15.1.2. The objectives and management principles to be adopted to prevent and respond to potential fire events.

15.2. Where a fire response plan is appropriate, it should be fully integrated with other relevant documents, such as a Tasmanian Fire Service Local Area Fire Management Plan, a Sustainable Timber Tasmania Fire Management Plan and a Parks and Wildlife Service Fire Action Plan for relevant districts.

16. Socio-economic impacts – the following information should be addressed:

16.1. Assessment of the potential social and economic impacts that may result from the Major Project, with a specific focus on those that may cause environmental nuisance or environmental harm and/or adverse impacts to human and ecosystem health, including:

16.1.1. Discussion of each of the potential social and economic impacts of the Major Project and whether they are likely to be significant.

16.1.2. Describe the measures to be implemented to avoid, minimise, or mitigate potential adverse social and economic impacts and how these impacts will be monitored and reported.

17. Cumulative and interactive impacts – the following information should be addressed:

17.1. Assessment of potential cumulative and interactive impacts of the Major Project, with consideration of all relevant environmental issues specified in this notice and any associated developments, including:

17.1.1. Identification of potential incremental adverse effects from all stages of the Major Project, including during construction and operational stages.

17.1.2. Consideration of past, present, and reasonably foreseeable future changes and/or developments, including wind farms, within both the local and wider region and what this means for the Major Project.

17.1.3. Discussion of the cumulative and interactive nature of the identified effects of those developments and of the Major Project and whether any potential impacts are likely to be significant (e.g. cumulative impact on avian species).

17.1.4. Describe the measures to be implemented to avoid, minimise, or mitigate potential adverse cumulative and interactive impacts and how these impacts will be monitored and reported.

18. Environmental impacts of traffic – the following information should be addressed:

18.1. Assessment of the potential for impacts of traffic from construction and operation of the Major Project to result in environmental nuisance or environmental harm, including:

18.1.1. Identification of traffic routes for the Major Project during the construction and operational stages, including the estimated volume, nature, and timing of traffic, and details of the current use of proposed routes. Consideration should be given to roads within the Major Project site and indirect impacts on public roads.

18.1.2. Discussion of the potential environmental impacts of altered traffic flows generated by the Major Project on nearby sensitive receptors, native fauna species, other road users, and residences located adjacent to roads.

18.1.3. Proposed measures to avoid and minimise identified impacts. Where impacts cannot be avoided, proposed measures to mitigate and/or offset residual adverse impacts should be detailed.

19. Electromagnetic radiation – the following information should be addressed:

19.1. Assessment of extremely low-frequency (ELF) electromagnetic radiation against reference levels to determine whether mitigation measures are required, assist with the determination of the position of WTGs to reduce interference with communications and to mitigate any other adverse health effects.

19.2. Having regard to the following as relevant:

19.2.1. A comparison against levels recommended by the Australian Radiation Protection and Nuclear Safety Agency and the general public exposure guideline limits recommended by the International Commission on Non-Ionizing Radiation Protection.

19.2.2. The [*Environmental Health Criteria No.238 on Extremely Low Frequency Fields \(2007\)*](#), as published by the World Health Organisation.

Schedule 3: Bird and Bat Collision Monitoring Plan Guidance

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

Department of Health

Public Health Services

GPO Box 125, HOBART TAS 7001

Australia

Ph: 1300 135 513

Web: www.health.tas.gov.au



Environmental Impact Assessment

Public Health Services comments

Proponent:	Cellars Hill Wind Farm Pty Ltd
Proposal/Application:	Construction and use of Cellars Hill Wind Farm
Type of Assessment:	Notice of Declaration – Major Project
Document title:	<i>Major Project Proposal Cellars Hill Wind Farm for Cellars Hill Wind Farm Pty Ltd 13 November 2024</i>
Agency/Division/Branch:	Department of Health, Public Health Services

Overview

This Major Project Proposal (MPP) details the proposed development and use of the Cellars Hill Wind Farm (the Project) by Cellars Hill Wind Farm Pty Ltd (the Proponent). The Project includes the construction of a 350 MW wind farm on an 8,460 hectares site, situated 10kms north-west of Bothwell. It consists of up to 56 turbines and a battery energy storage system (BESS) connecting to an existing 220kV transmission line, along with associated infrastructure. The Project is proposed as part of the Highlands Renewable Energy Hub and will be collocated with the Weasel Solar Farm and the Renewable Energy Business Park.

The proposal has been declared a Major Project under the *Land Use Planning and Approvals Act 1993* (LUPAA). Following the issue of assessment guidelines, a Major Project Impact Statement (MPIS) is planned to provide a comprehensive assessment of the impacts of the Project.

According to the MPP, the project site and its surrounding area are remote and sparsely populated, featuring hilly terrain with a mix of grazing lands, forestry plantations, and native vegetation. Nearby towns include Bothwell, approximately 10km to the south-east, Osterley, approximately 7km to the west, and Ouse, approximately 15km to the south-west. MPP states:

“Of the involved landowners to the Project, seven dwellings reside within the site, and approximately 17 involved dwellings are sited surrounding the site. There are two non involved landowners dwellings within 3km of the turbines and an additional three within 5km of the turbines. This compares favourably to other wind farms in the region and elsewhere in Tasmania.”

Below is a summary of the key potential health issues associated with the Project.

Noise

The MPP (p. 29) states that a major health outcome considered as a potential impact of the construction and operation of wind farms is noise impact, with wind turbines potentially generating disruptive noise pollution for residents and other sensitive receptors in close proximity. It adds (p.31) that surrounding dwellings may be impacted by noise generated from the construction and operational phase of the Project. The MPP notes that:

“...all landowners within and immediately surrounding the site are involved in the Project, and only five dwellings of non-involved landowners are within 5km of the Project. At this distance, noise standards are expected to be easily met.”

Public Health Services (PHS) notes that noise pollution may affect both involved and non-involved sensitive receptors, including current and future residents of nearby residences.

According to the MPP, to mitigate disruptive noise pollution and support the MPIS, a Noise Impact Assessment (NIA) will be conducted by a specialist consultant. This assessment aims to ensure nearby residents are minimally affected and standards are met. It will consider ambient and background noise for a relative comparison and provide an overall impact of additional wind turbines in the area. The NIA will determine the location and characteristics of assessable sound sources, including both the wind farm and Battery Energy Storage System, and compare background noise levels to the noise emissions from the introduced sources. Mitigation strategies will be developed and implemented to minimize unreasonable impacts.

Upon project completion, ongoing noise monitoring is proposed to ensure compliance with applicable noise standards, such as the *Environmental Management and Pollution Control Act 1994* (EMPC Act), *Environment Protection Policy (Noise) 2009* (EPP), and Tasmanian Environment Protection Authority (EPA) *Noise Measurement Procedures Manual 2008* (NMPM). The NIA will address construction and operational noise impacts, including:

- Identifying sensitive receptors (residences)

- Baseline noise monitoring
- Predictive noise modelling
- Mitigation measures where required

PHS requests to review the NIA and MPIS and recommends the assessment of potential health effects for sensitive receptors associated with both 'involved' and 'non-involved' residences. The Project should comply with the noise limits in the *New Zealand Standard NZS 6808:2010 Acoustics – Wind Farm Noise*.

Air quality

The MPP (p. 29) states that a major health outcome considered as a potential impact of the construction and operation of wind farms is air quality, with a reduction in local air pollution and harmful greenhouse emissions from traditional thermal energy generation such as coal and gas. It adds that the Project will include temporary on-site quarries to supply rock for wind farm foundations and access tracks, and a temporary concrete batching plant for construction. It adds that specialist input will be sought to investigate potential emissions produced during the construction and operational phases of the Project.

PHS recommends that an air quality and dust assessment, inclusive of mitigation and management measures, be included in the MPIS. This should comply with, but not be limited to, the acceptable environmental guidelines for quarrying as set out in the *Tasmanian EPA Quarry Code of Practice, 3rd Edition, May 2017 (QCoP, 2017)*.

Shadow flicker

A Shadow Flicker Assessment (SFA) will be undertaken to assess the potential for shadow flicker occurrence resulting from the proposed development at the nearest receptors and will be included in the MPIS. No further details on the content of the SFA were provided.

PHS recommends the SFA outline and evaluate any potential design and siting options that could avoid and minimise potential effects on landscape and visual amenity of sensitive receptors, and additional management strategies that may further minimise potential effects. PHS recommends that blade glint also be included in the visual amenity assessment. PHS requests to review the SFA.

Electromagnetic radiation

The MPP discusses the potential for wind turbines to obstruct or otherwise interfere with electromagnetic waves used in communications. It proposes an Electromagnetic Interference (EMI) Assessment to be undertaken as part of the MPIS to consider potential electromagnetic emissions that may result from the Project. The EMI Assessment will consider the placement of the wind turbines as well as other characteristics such as the rotor blades, in conjunction with radio systems and point-to-point links that cross the site. This will aim to minimise any impacts to critical communications such as wireless internet, broadcast radio, and meteorological radars that may result from the wind turbines. However, no reference was made to potential human health impacts associated with electromagnetic radiation.

PHS notes that that extremely low-frequency (ELF) electromagnetic radiation is a potentially important electromagnetic emission from wind farms relevant to public health. ELF levels can be high near high-voltage power lines transmitting electricity generated by wind farms.

PHS recommends the MPIS include an assessment of ELF electronic radiation against reference levels to determine whether mitigation measures are required and assist with the determination of the position of the wind turbine generators (WTGs) to reduce interference with communications and mitigate any other adverse health effects.

The *International Commission on Non-Ionizing Radiation Protection* (ICNIRP) has issued Guidelines for Limiting Exposure to Time-Varying Electric and Magnetic Fields (1 Hz - 100 kHz). Reference levels for exposure of members of the public and occupational exposures are available from the ICNIRP guideline. The ICNIRP ELF guidelines are consistent with Australian Radiation Protection and Nuclear Safety Agency (ARPANSA) understanding of the scientific basis for the protection of the general public (including the foetus) and workers from exposure to ELF EMF.

The World Health Organisation (WHO) has also published Environmental Health Criteria 238, *EXTREMELY LOW FREQUENCY FIELDS* (2007), which may be informative in the preparation of any reports.

Community consultation

According to the MPP (p. 27), the Proponent will:

“engage respectfully with the local community, including Traditional Owners of the land, to seek their views and input before submitting the MPIS and finalising the design of the project”

and

“...consult the community on the potential visual, noise, traffic, and other impacts of the project, and on the mitigation options”.

The Proponent has prepared an Engagement Strategy, informed by guidelines including *ReCFIT Draft Guideline for Community Engagement and Benefit Sharing in Renewable Energy Projects (2022)*, the *CEC Practice Charter for Renewable Energy Projects (2018)*, Department of Environment, Land, Water and Planning (DELWP) *Community Engagement and Benefit Sharing in Renewable Energy Development Guideline (2019)*, and the International Association for Public Participation's (IAP2) *Public Participation Spectrum (2018)*.

Summary of key public health Issues

PHS wants to review the MPIS, and recommends it include the following assessments:

- Noise Impact Assessment (NIA) of noise from construction and operation of the Project
- Shadow Flicker Assessment, including an assessment of blade glint
- Electromagnetic Interference Assessment, including an assessment of extremely low-frequency (ELF) electromagnetic radiation
- An air quality and dust assessment, inclusive of mitigation and management measures. This assessment should address quarrying activities in accordance the Tasmanian EPA QCoP, 2017.

PHS recommends that these assessments evaluate potential health effects for both 'involved' and 'non-involved' dwellings. Additionally, PHS suggests that the NIA and air quality assessments be reviewed by EPA specialists in noise and air quality.

Reviewed By



Stewart Quinn
Environmental Health Manager
03 March 2025