



AMEND PLANNING PERMIT PA1600131 TO INCLUDE A PERMANENT ANEMOMETER

PLANNING ASSESSMENT

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PREPARED FOR EPIC ENERGY

Prepared for
Epic Energy

Version	Author	Date	Description of changes
1	Tim Doolan	27/05/20	First draft
2	Fi Cotter	27/05/20	Review
3	Tim Doolan	03/06/20	Final

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1 OVERVIEW

This application seeks approval under Section 72 of the *Planning and Environment Act 1987* for a permanent anemometer and associated infrastructure (met mast) associated with the Timboon West Wind Farm.

The 41m high anemometer was constructed in 2017 for the purpose of wind monitoring activities associated with the two turbine facility, which was approved under planning permit PA1600131 and commissioned in December 2018. The anemometer is existing and will remain at the same location.

Condition 1.e) of the permit states that the endorsed plans must show:

The location, elevations and dimensions of any permanent anemometers.

Two additional plans are submitted for endorsement under the permit, showing this information. Aviation safety measures include an orange marker ball delineating the top of the tower.

Comments were sought from aviation facilities within the vicinity of the anemometer tower and no objections were raised.

The amendment to the permit has been assessed against the relevant sections of the Corangamite Planning Scheme and found to comply with the balance of policies that promote renewable energy generation, seek to retain agricultural land and protect significant landscapes and residential amenity. There will be no adverse impacts on aviation safety.

It is respectfully submitted that the application satisfies the relevant provisions of the Corangamite Planning Scheme, aligns with all requirements of the planning permit and warrants approval.

2 PROPOSED AMENDMENT

2.1 PERMANENT MET MAST

It is proposed to amend planning permit PA1600131A to include a permanent met mast. This primarily includes amending the endorsed plans to show the location, elevations and dimensions of the mast in accordance with Condition 1.e).

The met mast is 41m high to the top of the anemometer, and includes the following features:

- Permanent cup anemometer
- Lightning finial
- Solar panel
- Temperature and humidity sensor
- Enclosure and data logger
- Orange marker ball
- Guy wires

The orange marker ball is installed for aviation safety and is 30cm in diameter, clamped to the south-eastern guy wire at approximately 35m in height.

The structure was installed on 15 and 16 June 2017 at the location shown on the Met Mast Plan at Appendix A. Elevations of the met mast, including dimensions, are also included under Appendix A.

Further details including photographs and Anemometer Installation Report are included at Appendices B - C.

2.2 TIMBOON WEST WIND FARM

The met mast is located on the site of the Timboon West Wind Farm, approved by the Minister for Planning under permit PA1600131 on 28 April 2017.

Development plans were endorsed under Condition 1 of the permit on 4 April 2018, and construction began in March 2018. The facility commenced operations in December 2018, with Epic Energy acquiring the project from BayWa r.e. in April 2019.

The wind farm has a capacity of 7.2 MW, comprising two Vestas V126 3.6MW turbines each with a hub height of 87m and a maximum tip height of 150m. The wind turbines can provide the equivalent energy usage of around 4500 households, and connects to the existing 22 kV power line that runs adjacent to the site.

The met mast is located directly south-west of the southernmost turbine, as shown on the Met Mast Plan at Appendix A.

3 SITE AND SURROUNDS

3.1 SUBJECT SITE AND SURROUNDS

The subject site is a single parcel at 464 Boundary Road, Timboon, approximately 8 km north of Peterborough, 6.5km south-west of Timboon and 11.5km north-west of Port Campbell in south-western Victoria. The local government area is Corangamite Shire.

The site is generally rectangular in shape measuring 1364m x 857m with an irregular northern boundary. The site is approximately 132 ha in area.

This site is bounded by East and West Road to the north, Boundary Road to the east, and farmland to the south and west. Topography of the site and immediate vicinity is generally flat to slightly undulating.

3.2 PROXIMITY TO ADJOINING PROPERTIES AND ROADS

Dwellings within proximity to the met mast are shown on the Met Mast Plan at Appendix A. All dwellings are further than 1km from the mast, at the following distances:

- 1363m dwelling at 464 Boundary Road
- 1338m dwelling at 497 Boundary Road
- 1240m dwelling at 531 Boundary Road
- 1181m dwelling at 536 Boundary Road

East and West Road to the north of the structure is the nearest road at 943m.

Adjoining properties are currently open paddocks under agricultural use, with boundaries approximately 30m to the south and 230m to the west of the anemometer.

3.3 PROXIMITY TO AVIATION FACILITIES

Aerodromes within 30km of the subject site include:

- Uncertified aerodrome at Peterborough approximately 7.8km to south
- Uncertified aerodrome at Cobden approximately 26km to the north

Under the CASA Manual of Standards Part 139 – Aerodromes, Chapter 7.1.3.1 an aerodrome operator must establish the OLS applicable to the aerodrome. The OLS for these aerodromes does not exceed 5km.

Both aerodrome operators were consulted. The closer of the two facilities, Peterborough Airstrip, responded that the 41m tower will have no impacts on aviation activities given its low height and proximity to existing wind towers 150m in height. Consultation correspondence is contained at Appendix D.

4 PLANNING ASSESSMENT

The following assessment is provided against the relevant provisions of the Corangamite Planning Scheme.

4.1 ZONING AND PLANNING POLICY FRAMEWORK

The Farming Zone at Clause 35.07 seeks to protect ensure non-agricultural uses to not interfere with agricultural use of land.

The met mast is consistent with the purposes of the Farming Zone because:

- The impact of the wind farm on agriculture in general was considered to be acceptable under the original permit. The met mast is generally consistent with the operations of the approved facility and will not have any notable additional impacts on agriculture.

The balance of policies under the Corangamite Planning Scheme support a wind energy facility and associated infrastructure at the location, as evidenced by the approved planning permit.

The anemometer has been operating as a temporary structure without need for planning approval for some time. It is a negligible addition to the primary land use, with potential impacts on aviation and amenity considered below.

4.2 WIND ENERGY FACILITIES (CLAUSE 52.32)

Clause 52.32 (Wind Energy Facility) provides the relevant policy framework in relation to wind energy facilities, including anemometers.

Reference document *Development of Wind Energy Facilities in Victoria, Policy and Planning Guidelines March 2019* provides further direction in relation to anemometers:

- The RAAF AIS should be notified of all tall structures meeting the following criteria:
 - o 30 metres or more above ground level for structures within 30km of an aerodrome; or
 - o 45 metres or more above ground level for structures located elsewhere

The structure is 41m tall and within 30km of Cobden and Peterborough aerodromes, therefore RAAF AIS has been notified in accordance with Clause 52.32. Correspondence is contained at Appendix D.

Further assessment in relation to aviation safety is provided below.

4.3 AVIATION SAFETY

An assessment against the relevant aviation policies/guidelines outlining safety considerations for anemometers are detailed below.

4.3.1 NATIONAL AIRPORTS SAFEGUARDING FRAMEWORK (NASF) - GUIDELINE D – MANAGING THE RISK TO AVIATION SAFETY OF WIND TURBINE INSTALLATIONS (WIND FARMS) WIND MONITORING TOWERS

The relevant sections of the NASF Guideline D are:

Section 25e

Consultation with aviation stakeholders is strongly encouraged in the early stages of planning for wind turbine developments. This should include:

- e) registration of all wind monitoring towers on the RAAF AIS database;*

Section 39

Marking and lighting of wind monitoring towers

Before developing a wind farm, it is common for wind monitoring towers to be erected for anemometers and other meteorological sensing instruments to evaluate the suitability or

otherwise of a site. These towers are often retained after the wind farm commences operations to provide the relevant meteorological readings. These structures are very difficult to see from the air due to their slender construction and guy wires. This is a particular problem for low flying aircraft including aerial agricultural operations. Wind farm proponents should take appropriate steps to minimise such hazards, particularly in areas where aerial agricultural operations occur.

Measures to be considered should include:

- a) the top 1/3 of wind monitoring towers to be painted in alternating contrasting bands of colour. Examples of effective measures can be found in the Manual of Standards for Part 139 of the Civil Aviation Safety Regulations 1998. In areas where aerial agriculture operations take place, marker balls or high visibility flags can be used to increase the visibility of the towers;
- b) marker balls or high visibility flags or high visibility sleeves placed on the outside guy wires;
- c) ensuring the guy wire ground attachment points have contrasting colours to the surrounding ground/vegetation; or
- d) a flashing strobe light during daylight hours.

There is no requirement for CASA to be notified if a proposed wind turbine or wind monitoring tower is less than 150m in height and does not infringe the OLS of an aerodrome. However, they should still be reported for inclusion in the national database of tall structures maintained by the Royal Australian Air Force (RAAF). Information on reporting of tall structures may be found in an advisory circular issued by CASA 'AC 139-08(O) Reporting of Tall Structures'.

The permanent anemometer accords with the above policy for the following reasons:

- It is not within the OLS of an aerodrome and is not taller than 150m, therefore CASA is not required to be notified.
- The structure has been reported to RAAF for inclusion in the AIS database of tall structures.
- Peterborough and Cobden aerodromes within 30km of the site have been consulted with no issues raised.
- Relevant safety features have been included on the tower, including a 30cm diameter orange marker ball fitted to top portion of the tower. Other measures such as flashing strobes, high visibility flags or alternating contrasting bands of colour are not considered appropriate for the tower given its relative low height, close proximity to an existing tall structure (the southernmost turbine) and distance from aerodromes. No objections were raised by aviation facilities in the area to the prescribed safety measures. Aerial agricultural operations are not common in this area given it is primarily used for low productivity grazing.

4.3.2 REPORTING OF TALL STRUCTURES AND HAZARDOUS PLUME SOURCES AC 139-08 CASA MARCH 2018

This document is published by CASA and outlines the following relevant information:

Section 2.2.2

...RAAF requires information on structures that are 30 m or more above ground level—within 30 km of an aerodrome or 45 m or more above ground level elsewhere which may pose a specific hazard for their operations.

The structure is taller than 30m therefore has been reported to RAAF for the AIS database.

4.3.3 GUIDELINES FOR RENEWABLE ENERGY –INSTALLATIONS (CFA 2019)

The purpose of the guidelines is to provide information and standard measures and processes for renewable energy facilities, such as solar, wind and batteries and possible emerging technologies.

Specifically, in relation to wind energy facilities, the guidelines suggest that wind energy facilities should be sited on open grassed areas such as grazed paddocks. Specific measures for siting are outlined below:

5.1 Siting for Wind Facilities

...

5.1.3 Installed weather monitoring stations can be high and difficult to see and are hazardous to CFA flight operations during fires. CFA requires the following in relation to the installation of these monitoring stations:

Monitoring towers higher than 100 feet must be clearly marked and guy wires fitted with markers

The installation must be notified to CFA and Geoscience Australia (for inclusion in the Vertical Obstruction Database). (Page 12)

The structure is in accordance with the CFA guidelines for following reasons:

- Given the structure exceeds 100 feet (30.48m) CFA and Geoscience Australia have been notified. Correspondence is included at Appendix D.
- The structure is marked with an orange marker ball as outlined above.
- A temporary met mast has operated at the site without issue since 2017.

4.4 LANDSCAPE AND VISUAL IMPACT

There are no significant amenity impacts outside of those approved under the wind farm, particularly in relation to visual amenity. The mast is located within the vicinity of the southern-most turbine, is only 4.1m and is a discrete feature in the landscape.

The orange marker ball is a visible for safety purposes yet discrete addition to the landscape and is of negligible significance in relation to affecting views or amenity.

Closest dwellings are further than 1km from the met mast and will not be significantly impacted.

The addition of the met mast will not have any adverse impact on the significance of the landscape.

4.5 ECOLOGY

Under the Wind Energy Facility Guidelines the following is outlined in relation to ecology impacts of wind monitoring towers:

- *Lighting may disorient birds at night, increasing collision risk;*
- *Fences, wires and transmission lines can be difficult for many species to avoid, resulting in fatalities;*
- *Transmission lines pose a well-documented hazard for many species of large birds.*

The Biodiversity Assessment completed by Ecology and Heritage Partners under the original planning permit application outlines the following in relation to aerial fauna:

*Twenty-three fauna species were recorded within the study area during the field assessment, including: one introduced mammal, 20 birds (17 native, three introduced) and two native frogs. No significant fauna species were recorded in the study area during the field assessment. There is suitable habitat within the site for species of national (Southern Bent-wing Bat), State (Grey Goshawk *Accipiter novaehollandiae novaehollandiae*, Eastern Great Egret *Ardea modesta*, White-throated Needletail *Hirundapus caudacutus*) and regional (Royal Spoonbill *Platalea regia*, Glossy Ibis *Plegadis falcinellus*, Spotted Harrier *Circus assimilis* and Latham's Snipe *Gallinago hardwickii*) conservation significance.*

A level one assessment of impacts to Brolga was undertaken, which concluded that the proposed wind farm presents a low risk to the local Brolga population. Targeted surveys for

Southern Bent-wing Bat did not record the species and determined that it is unlikely to be significantly impacted by the construction or operation of the proposed wind farm.

No significant ecological communities occur within the study area.

There is suitable habitat within the study area for one fauna species (Southern Bent-wing Bat) listed under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999(EPBC Act). As the proposed construction and operation of the wind farm will not significantly impact this species, a referral under the Act regarding this matter is considered unwarranted.

The impacts of the wind farm were considered acceptable in light of these ecological characteristics of the site. Any additional impact presented by a permanent wind monitoring mast will be negligible, noting that the tower has operated at the site without issue for several years.

Lighting has not been fitted to the structure and any impacts on aerial species are able to be captured and addressed by the Bat and Avifauna Management Plan implemented under Condition 49 of the permit.

5 CONCLUSION

This report has provided an assessment against all relevant sections of the Corangamite Planning Scheme, including the Municipal Planning Strategy, the Planning Policy Framework, the decision guidelines at Clause 65, and any other relevant matter under Section 72 of the Act.

The amendment to the permit is supported for the following reasons:

- There is no significant change to existing approval under the permit.
- The permanent anemometer supports the use of the land as a wind energy facility under the Farming Zone and Planning Policy Framework.
- The proposal responds to the NASF Guideline D and CFA guidelines for anemometer installations and includes suitable safety measures.
- The application responds to the provisions of Clause 52.32 and reference document Wind Energy Facility Guidelines.

On balance, the proposal is supported by the suite of policies that seek to facilitate renewable energy and accords with the relevant aviation safety requirements.

It is respectfully submitted that the application warrants approval, amending the permit as follows:

- Endorse the additional plans under Appendix A, to form part of the permit and show the permanent anemometer in accordance with Condition 1.e).