



# Palmer Wind Farm

## Bushfire Management Plan

8 May 2026



# Document Control

## Palmer Wind Farm

Bushfire Management Plan

## Revision

Revision Number C

## Revisions

| Rev | Date            | Details             | Prepared By         | Reviewed By         | Approved By        |
|-----|-----------------|---------------------|---------------------|---------------------|--------------------|
| A   | 3 February 2026 | Issued for Review   | Micala Witton (BMD) | Micala Witton (BMD) | Trent Dunoon (BMD) |
| B   | 31 March 2026   | Issued for Review   | Ruth Smith          | James Beckett       | Corneli van Rooyen |
| C   | 8 May 2026      | Issued for Approval | Sia Niakolas        | James Beckett       | Corneli van Rooyen |

## Tilt Renewables Australia Pty Ltd

ACN 101 038 331

Level 24, 600 Bourke  
Street, Melbourne, VIC,  
3000

Phone: 1300 660 623

**tiltrenewables.com**

# Contents

|          |                                                            |           |
|----------|------------------------------------------------------------|-----------|
| <b>1</b> | <b>Introduction</b>                                        | <b>1</b>  |
| 1.1      | Background                                                 | 1         |
| 1.2      | Purpose and Scope                                          | 1         |
| 1.3      | Project Area                                               | 3         |
| 1.4      | Consultation Requirements                                  | 3         |
| <b>2</b> | <b>Legislative Requirements and Compliance Obligations</b> | <b>4</b>  |
| 2.1      | Legislative Requirements                                   | 4         |
| 2.2      | Compliance Obligations                                     | 4         |
| 2.3      | Environmental Management System                            | 5         |
| 2.4      | Renewable Energy Facilities Guideline                      | 5         |
| 2.5      | Other Requirements                                         | 6         |
| <b>3</b> | <b>Bushfire Environment</b>                                | <b>7</b>  |
| 3.1      | Location                                                   | 7         |
| 3.2      | Vegetation                                                 | 7         |
| 3.3      | Fire Weather                                               | 7         |
| 3.4      | Fire History                                               | 8         |
| <b>4</b> | <b>Infrastructure</b>                                      | <b>11</b> |
| 4.1      | Wind Turbines                                              | 11        |
| 4.2      | Underground Reticulation System                            | 12        |
| 4.3      | Substations and Switchrooms                                | 12        |
| 4.4      | Overhead Transmission Lines                                | 12        |
| 4.5      | Access Roads                                               | 13        |
| 4.6      | Facilities                                                 | 13        |
| 4.7      | Access and Emergency Information                           | 14        |
| 4.8      | Building Standards                                         | 15        |
| <b>5</b> | <b>Objectives and Targets</b>                              | <b>16</b> |
| <b>6</b> | <b>Roles and Responsibilities</b>                          | <b>17</b> |
| <b>7</b> | <b>Risk Identification and Assessment</b>                  | <b>19</b> |
| 7.1      | Environmental Risk Assessment                              | 19        |

|           |                                                |           |
|-----------|------------------------------------------------|-----------|
| 7.2       | Ongoing Risk Assessment                        | 19        |
| 7.3       | Impact Identification                          | 20        |
| <b>8</b>  | <b>Bushfire Risk Management and Mitigation</b> | <b>21</b> |
| 8.1       | Consultation with CFS                          | 21        |
| 8.2       | Vegetation Management Zones                    | 21        |
| 8.3       | Fire Danger Ratings                            | 22        |
| 8.4       | Ignition Risk                                  | 23        |
| 8.5       | Firefighting Equipment                         | 24        |
| 8.6       | Vehicles and Mobile Plant                      | 24        |
| 8.7       | Operational Shutdown Procedures                | 24        |
| <b>9</b>  | <b>Emergency Response</b>                      | <b>26</b> |
| <b>10</b> | <b>Compliance Management</b>                   | <b>27</b> |
| 10.1      | Training and Awareness                         | 27        |
| 10.2      | Monitoring, Inspections and Auditing           | 27        |
| 10.2.1    | Monitoring and Inspection                      | 27        |
| 10.2.2    | Auditing                                       | 27        |
| 10.3      | Incidents                                      | 27        |
| 10.4      | Non-Conformance Reports (NCRs)                 | 28        |
| 10.5      | Environmental Complaints                       | 28        |
| <b>11</b> | <b>Review and Improvement</b>                  | <b>29</b> |
| 11.1      | Minor Amendments to the BMP                    | 29        |
| <b>12</b> | <b>References</b>                              | <b>30</b> |

## Tables

|                                                                 |    |
|-----------------------------------------------------------------|----|
| Table 1: Key Compliance Obligations                             | 4  |
| Table 2: Fire history of Project Area and surrounds (DEW, 2026) | 8  |
| Table 3: Objectives and targets of this BMP                     | 16 |
| Table 4: Roles and Responsibilities – Bushfire management       | 17 |
| Table 5: Significant Environmental Risks – Bushfire             | 19 |
| Table 6: Emergency Site Contacts                                | 26 |

## Figures

|                                                                  |    |
|------------------------------------------------------------------|----|
| Figure 1: Site Layout                                            | 2  |
| Figure 2: Project's Environmental Management Framework           | 5  |
| Figure 3: Climate averages for Palmer, SA (Elders Weather, 2026) | 8  |
| Figure 4: Bushfire management areas                              | 10 |
| Figure 5: Fire water tank location                               | 14 |
| Figure 5: Australian Fire Danger Rating System                   | 23 |

## Appendices

|            |                                                 |    |
|------------|-------------------------------------------------|----|
| Appendix A | Compliance Matrix                               | 31 |
| Appendix B | Renewable Energy Facilities Guideline Checklist | 34 |

# Abbreviations

| Abbreviation             | Meaning                                                                                                                                                      |
|--------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| AFAC                     | Australasian Fire and Emergency Service Authorities Council                                                                                                  |
| AS/NZSB                  | Australian / New Zealand Standard                                                                                                                            |
| BAL                      | Bushfire Attack Level                                                                                                                                        |
| BCA                      | Building Code of Australia                                                                                                                                   |
| BMA                      | Bushfire Management Area                                                                                                                                     |
| BMP                      | Bushfire Management Plan (this document)                                                                                                                     |
| CFS                      | South Australia Country Fire Service                                                                                                                         |
| COEMP                    | Construction and Operational Environmental Management Plan                                                                                                   |
| The Contractor           | BMD Constructions and Vestas – Australian Wind Technology Pty Limited                                                                                        |
| Development Plan Consent | Palmer Wind Farm Development Plan Consent issued under the <i>Planning, Development and Infrastructure Act 2016</i> (PDI Act) in February 2025 (SA 24005571) |
| DEW                      | Department for Environment and Water                                                                                                                         |
| EMS                      | Environmental Management System                                                                                                                              |
| MMC                      | Mid Murray Council                                                                                                                                           |
| Murray Mallee BMAP       | <i>Murray Mallee Bushfire Management Area Plan 2017</i>                                                                                                      |
| MW                       | Megawatt                                                                                                                                                     |
| NCC                      | National Construction Code                                                                                                                                   |
| NCR                      | Non-Conformance Report                                                                                                                                       |
| O&M                      | Operations and Maintenance                                                                                                                                   |
| OTR                      | Office of the Technical Regulator                                                                                                                            |
| PDI Act                  | <i>Planning, Development and Infrastructure Act 2016</i>                                                                                                     |
| Project                  | Palmer Wind Farm Project                                                                                                                                     |
| The Proponent            | Palmer Wind Farm Pty Ltd as trustee for Palmer Wind Farm Trust                                                                                               |
| SA                       | South Australia                                                                                                                                              |
| SBCC                     | State Bushfire Coordination Committee                                                                                                                        |
| SCADA                    | Supervisory Control and Data Acquisition                                                                                                                     |
| VMZ                      | Vegetation Management Zone                                                                                                                                   |
| WHS                      | Work Health and Safety                                                                                                                                       |
| WMS                      | Work Method Statement                                                                                                                                        |



# 1 Introduction

## 1.1 Background

The Palmer Wind Farm Project (the Project) is located approximately 50 km east of Adelaide, near the townships of Palmer and Tungkillo, and wholly contained within the Mid Murray Council (MMC) Local Government Area and on the lands of the Peramangk People (refer to Figure 1).

The Project will comprise of 40 wind turbine generators totalling approximately 288 megawatts (MW) of installed generation capacity and will connect to the national electricity grid via the existing Tungkillo Switchyard owned and operated by ElectraNet.

Development Authorisation by way of Development Plan Consent under the *Development Act 1993* was granted for the Project by MMC in December 2015 (DA 711/072/14). Subsequent variation to the Development Plan Consent was approved by the State Commission Assessment Panel under the *Planning, Development and Infrastructure Act 2016* (PDI Act) in February 2025 (SA 24005571) (Development Plan Consent).

The Project will be constructed and operated by Palmer Wind Farm Pty Ltd (the Proponent) as trustee for Palmer Wind Farm Trust. The Proponent has engaged both BMD Constructions as the Balance of Plant Contractor and Vestas – Australian Wind Technology Pty Limited as the wind turbine generator supplier, installer and operator for the Project (hereafter referred to as the Contractor(s)).

A Construction and Operational Environmental Management Plan (COEMP) has been prepared for the Project to address legislative and approval requirements and to define the environmental management framework for the Project. A suite of aspect-specific management plans, including this Bushfire Management Plan (BMP), provides further detail on the implementation of mitigation measures and has been developed to specifically meet relevant approval conditions.

## 1.2 Purpose and Scope

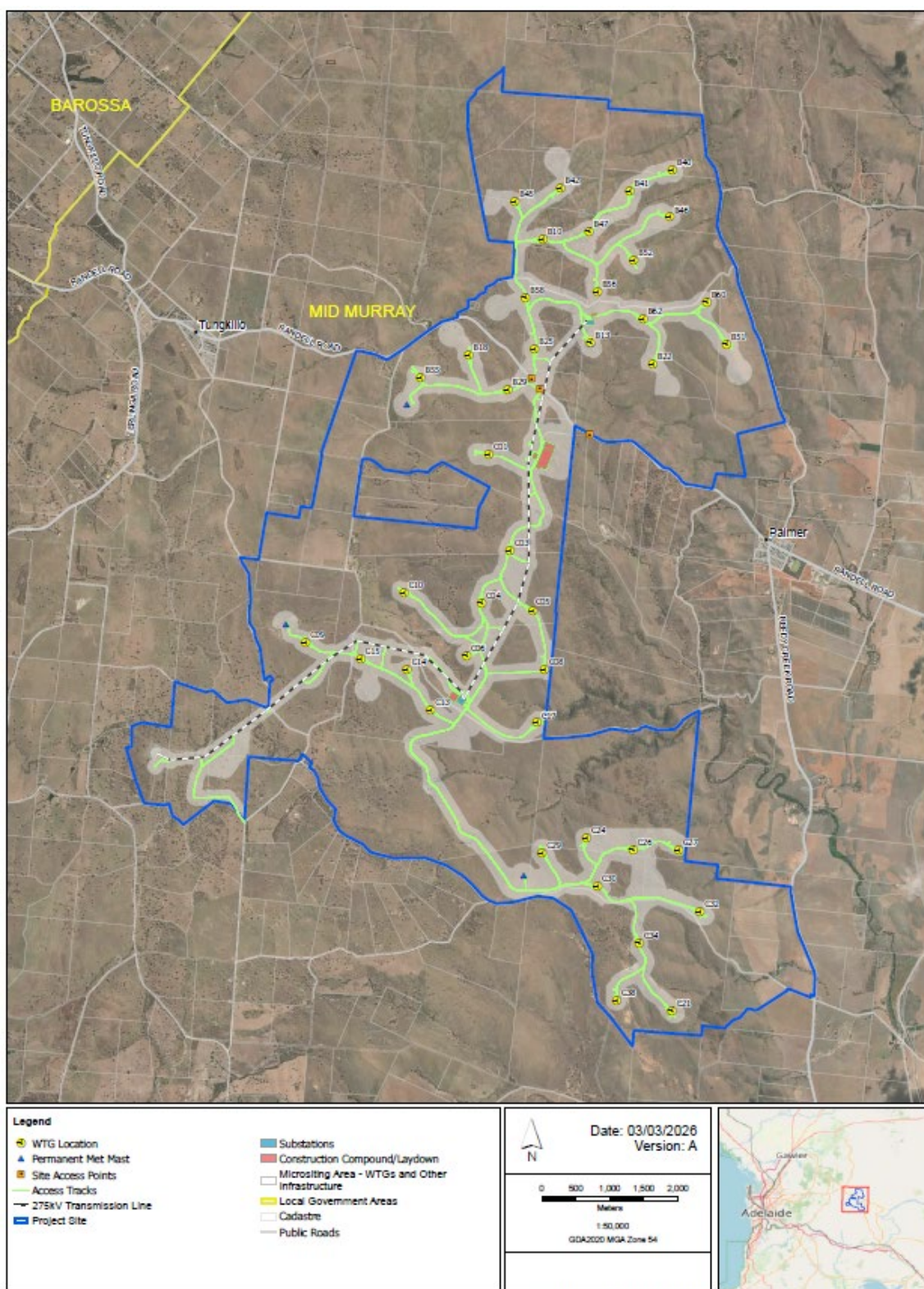
This BMP provides the framework for the identification, assessment and management of bushfire risk associated with the Project.

Its primary purpose is to describe the management systems, procedures and controls that will be implemented to meet Project regulatory requirements, prevent the ignition of bushfires, reduce bushfire risk, and ensure preparedness and effective response during construction and operation of the Project. To this purpose, the BMP seeks to address both the risks generated by the Project and external bushfire events that may impact the safe and ongoing operation of the Project.

This BMP has been prepared in accordance with the Development Plan Consent, in particular Reserved Matter 3 which states:

*“A final Bushfire Management Plan detailing the management of fire risks shall be prepared in consultation with the South Australian Country Fire Service and submitted to the satisfaction of the State Planning Commission.”*

This BMP is the overarching project reference for bushfire risk management to be implemented and enforced by the relevant Principal Contractor as appointed under *Work Health and Safety Regulations 2012* (SA).



**Palmer Wind Farm**  
Project Map

Figure 1: Site Layout



### 1.3 Project Area

The Project Area is located within the eastern Mount Lofty Ranges in South Australia, approximately 50 kilometres east of the Adelaide CBD. The nearest localities include Palmer, Tungkillo, Cambrai, Sanderston and Milendella. The closest township is Palmer with an estimated population of 75 people and includes a general store, hotel and a primary school with approximately 25 students.

The Project will be situated across multiple privately owned properties that are predominantly used for agricultural purposes. The surrounding landscape is largely rural in character, with a low density of residential dwellings.

A further description of the Project Area in relation to the environmental and fire risk settings are provided in Section 3.

### 1.4 Consultation Requirements

Reserved Matter 3 requires that consultation is undertaken with the South Australian Country Fire Service (CFS) for the preparation of this BMP. Comments from the CFS were received on 9 April 2026. The BMP was updated following receipt of comments.

Further consultation and ongoing engagement with the CFS through the operation of the BMP is further discussed in Section 8.1.

## 2 Legislative Requirements and Compliance Obligations

### 2.1 Legislative Requirements

The following legislation and regulatory guidelines apply directly to Project works.

#### Commonwealth

- *Environment Protection and Biodiversity Conservation Act 1999*

#### State

- *Fire and Emergency Services Act 2005*
- *Fire and Emergency Services Regulations 2021*
- *Planning, Development and Infrastructure Act 2016*
- *Hydrogen and Renewable Energy Act 2023*
- *State Emergency Management Act 2004*
- *Native Vegetation Act 1991*
- *National Parks and Wildlife Act 1972*
- *Wilderness Protection Act 1992*
- *Work Health and Safety Act 2012*
- *Work Health and Safety Regulations 2012*
- *Crown Land Management Act 2009*

### 2.2 Compliance Obligations

The Project will ensure all environmental compliance obligations are identified prior to the commencement of works onsite. These requirements shall be included in Project documentation and communicated to the Project team. Key project compliance obligations are summarised in Table 1 and further detailed in Appendix A. Where relevant, compliance obligations have been incorporated within this BMP.

Table 1: Key Compliance Obligations

| Item Name                                                                  | Legislation                                                  | Responsibility         | Timing                | Requirement                                                                |
|----------------------------------------------------------------------------|--------------------------------------------------------------|------------------------|-----------------------|----------------------------------------------------------------------------|
| <b>Development Authorisation / Renewable Energy Infrastructure Licence</b> | PDI Act / <i>Hydrogen and Renewable Energy Act 2023</i>      | Proponent / Contractor | All phases            | Comply with all conditions of Consent/Approval, including Reserved Matters |
| <b>Statement of Commitments (SoC)</b>                                      | PDI Act (Enforced under Condition 1 of the Planning Consent) | Proponent / Contractor | All phases            | Implement commitments relating to bushfire risk management                 |
| <b>South Australian Country Fire Service</b>                               | PDI Act                                                      | Proponent              | Prior to construction | Review of this BMP                                                         |

## 2.3 Environmental Management System

This BMP incorporates the Environmental Management Framework set out in the Project's COEMP to ensure compliance with the Planning Consent. The BMP forms part of the suite of aspect specific management plans, as illustrated in Figure 2 below. This BMP should be read in conjunction with the Project COEMP and other relevant plans.

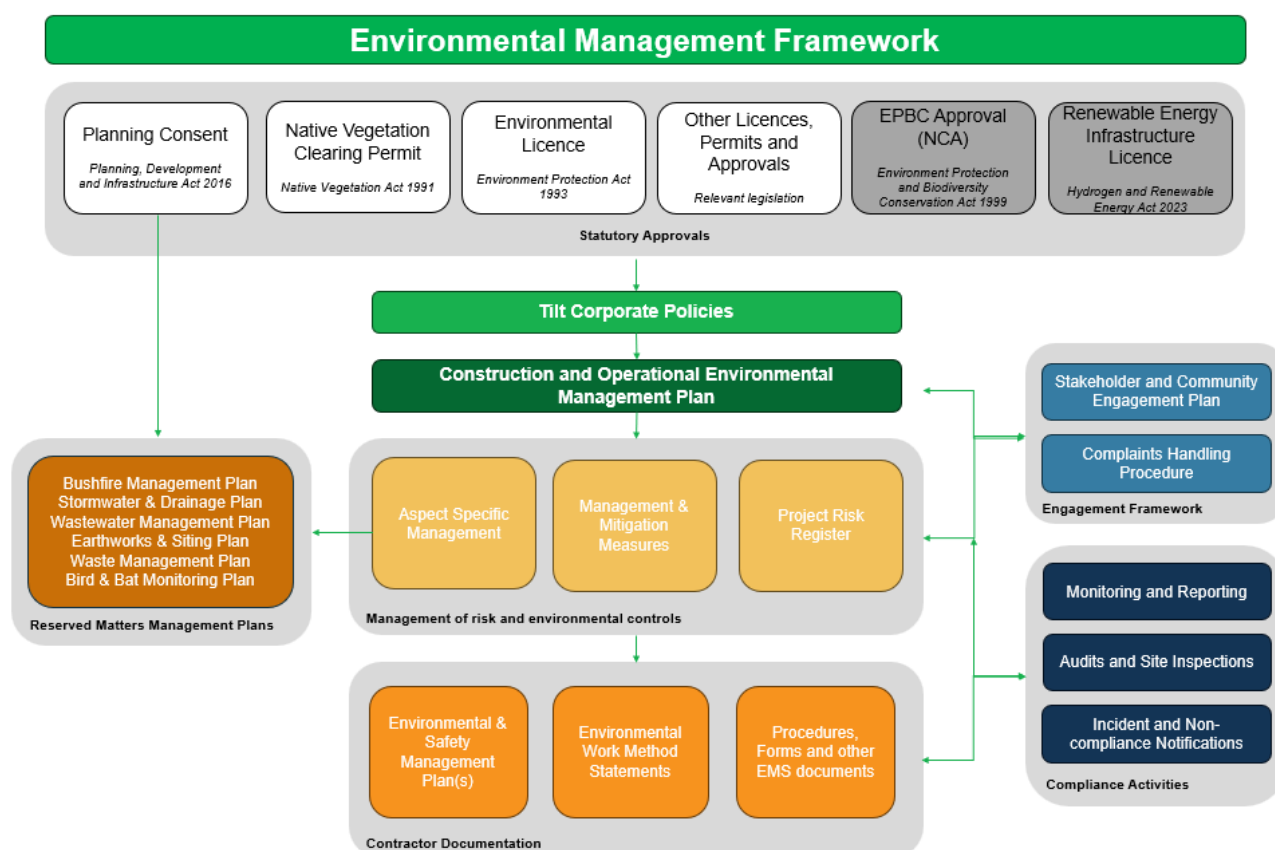


Figure 2: Project's Environmental Management Framework

To achieve the intended environmental objectives and goals, Contractors are required to implement their own corporate environmental management systems that align with both regulatory requirements and management frameworks of the Project.

## 2.4 Renewable Energy Facilities Guideline

The CFS have prepared the *Renewable Energy Facilities: Solar, Battery Storage Systems & Wind Generation Guideline* (the Renewable Energy Facilities Guideline), which sets out considerations and measures in relation to fire safety risk and bushfire planning and emergency management to be considered during design, construction and operation of renewable energy facilities. This guideline is in the form of a checklist to be addressed by renewable energy facility proponents to the extent practicable.

A checklist of items from the Renewable Energy Facilities Guideline of relevance to the Project are set out in Appendix B.

## 2.5 Other Requirements

Additional to the requirements identified above, the following standards, specifications, publications and codes of practice relating to bushfire management (or most recent version) will be implemented or referenced across all phases of the Project as relevant.

### **Australian Standards**

- AS 3959:2018 – Construction in bushfire-prone areas
- AS ISO 31000 – Risk Management
- AS1674.2 – Safety in welding and allied processes Part 2: Electrical
- AS 3745 – Planning for Emergencies in Facilities

### **Government Publications and Guidelines**

- Murray Mallee Bushfire Management Area Plan (2017)
- Fire Management Zone Standard and Guidance for Use (2020)
- Firebreaks, Fire Access Track and Sign Standards Guidelines (2015)
- Renewable Energy Facilities Guideline
- Environmental Assets and Assessment Standard (2017)
- South Australia State Bushfire Management Plan (2021)
- Code of Practice for Fire Management on Public Land in South Australia (2012-2016)
- Bushfire Safety Guide for Business (2022)
- Mowing and Slashing – CFS Code of Practice (2016)
- Ministerial Building Standards 002 – Maintaining the performance of essential safety provisions (2023)



## 3 Bushfire Environment

### 3.1 Location

The Project Area occupies approximately 6,057 ha in the eastern Mount Lofty Ranges, between the townships of Palmer and Tungkillo. The project infrastructure stretches approximately 14 km in a north to south direction. The Project Area is generally divided into two areas with primary ingress and egress to the north and south from Randell Road, which is a primary thoroughfare for local and regional road movements.

The Project is in the Murray Mallee Bushfire Management Area (BMA). Bushfire management within the BMA is governed by the Murray Mallee Bushfire Management Committee which prepared the *Murray Mallee Bushfire Management Area Plan 2017* (Murray Mallee BMAP). The contents of the Murray Mallee BMAP have been considered and incorporated in this BMP where appropriate.

The Hazards (Bushfire – Medium Risk) Overlay under the Planning and Design Code applies to the entire Project Area (refer to Figure 4), which necessitates consideration of development requirements, construction standards and specific controls (refer to Section 4.8).

### 3.2 Vegetation

The topography of the area comprises undulating hills of the eastern Mount Lofty Ranges, with steep escarpments present along geological fault zones, particularly at the eastern extent of the ranges. Steep sided valleys occur where ephemeral watercourses cross the escarpments. Rocky outcrops are common across the generally cleared landscape.

The Project Area has historically and continues to be almost exclusively used for agricultural purposes. The land is subject to continuous grazing practices mainly by sheep but also mixed livestock grazing (free range pigs, horses, goats and cattle).

The landscape within the Project Area has been extensively cleared, with approximately 94 percent of the disturbance associated with the Project occurring in vegetation associations that are poor or very poor quality. Approximately 86 percent of the disturbance associated with the Project occurs in very poor-quality grassland habitat, which are predominantly *Austrostipa* sp. grasslands with mixed exotic forbs and grasses that have been assessed to be in very poor condition. Due to the agricultural nature of the landscape and predominant grassland vegetation associations, grass fire risk presents the most likely source of risk for the Project.

Remnant open-woodland habitat is generally restricted within smaller patches in the southern extent of the Project Area and is generally in declining condition, with no evidence of regeneration likely due to ongoing agricultural grazing pressure.

### 3.3 Fire Weather

The Project Area is located in a medium risk bushfire area, as identified in the Murray Mallee BMAP. The region experiences a Mediterranean climate characterised by wet, mild winters and hot, dry summers, with average annual rainfall generally ranging between approximately 230–450 mm, most of which occurs between April and October (Elders Weather, 2026).

Bushfire risk is typically highest during the summer and early autumn months, when vegetation is dry, temperatures are high and strong winds are common (refer to Figure 3). The Fire Danger Season, which relates to high-risk fire periods, generally occurs between December and April (refer to Section 8.3).

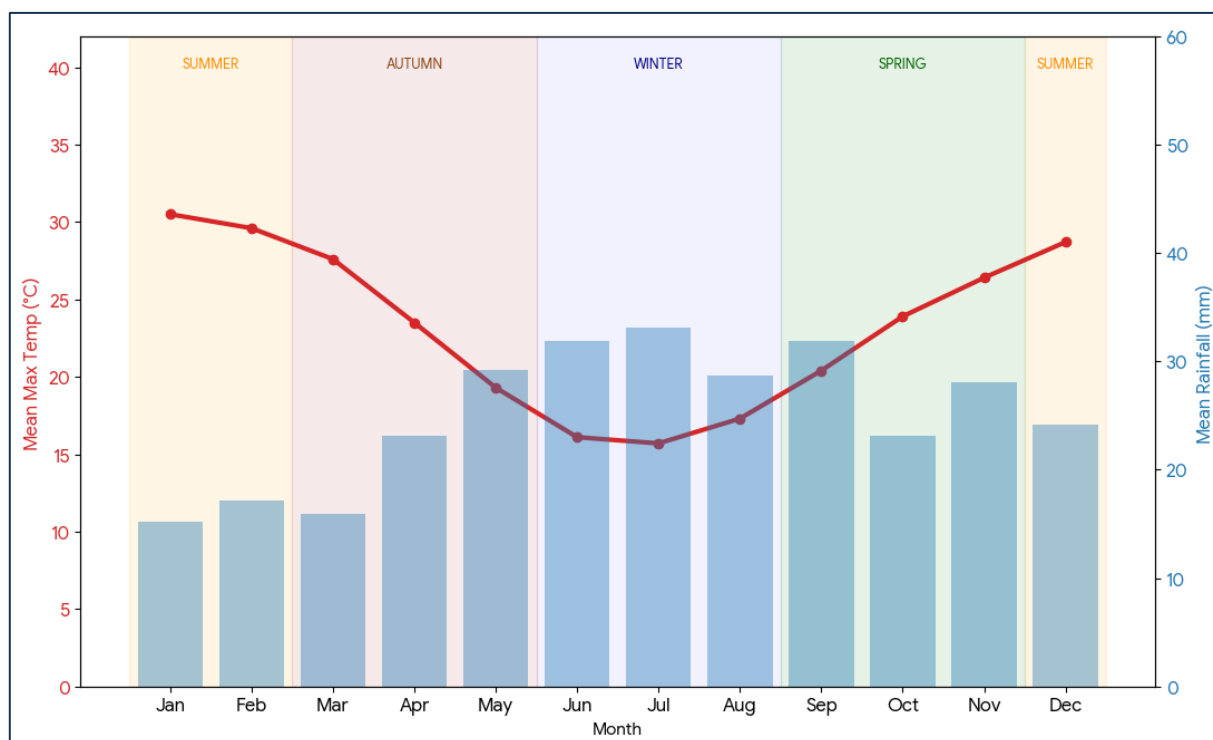


Figure 3: Climate averages for Palmer, SA (Elders Weather, 2026)

### 3.4 Fire History

Consistent with much of the Eastern Mount Lofty Ranges, the surrounding landscape is dominated by cleared agricultural land and interspersed native vegetation, which is generally smaller patches in private land and roadsides, which can provide fuel loads during dry periods.

Since 1966, 13 bushfire incidents have been either recorded within the Project Area and the immediate 5 km surrounds (DEW, 2026) with these events being summarised in Table 2. Of these recorded events, two incidents have been within the Project Area, namely the Mount Pleasant Fire in 2023 (346 ha) and Mount Torrens Fire in 1996 (3,155 ha).

Table 2: Fire history of Project Area and surrounds (DEW, 2026)

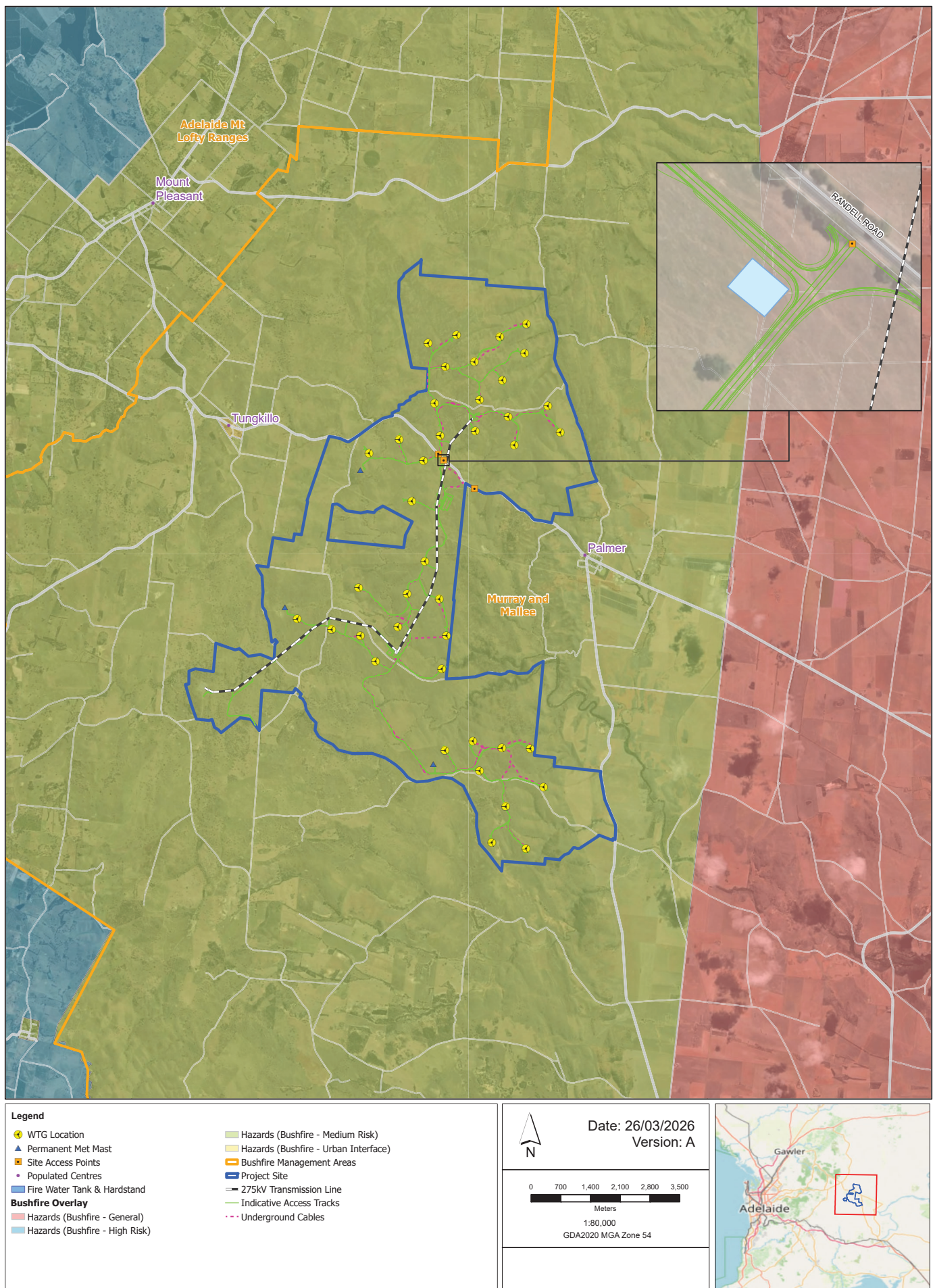
| Incident Name              | Date of Incident | Relevant Season | Impacted Area (ha) |
|----------------------------|------------------|-----------------|--------------------|
| Palmer                     | 21/02/2024       | Summer          | 58                 |
| Mount Pleasant             | 23/01/2024       | Summer          | 2                  |
| Mount Pleasant (1558961)   | 27/11/2023       | Spring          | 346                |
| Tungkillo                  | 11/11/2023       | Spring          | 80                 |
| Tungkillo                  | 18/11/2021       | Spring          | 7                  |
| Mount Pleasant             | 13/11/2017       | Spring          | 17                 |
| Rockleigh Fire (201303179) | 26/03/2013       | Autumn          | 1,548              |
| Mt Pleasant                | 11/01/2010       | Summer          | 78                 |

| Incident Name        | Date of Incident | Relevant Season | Impacted Area (ha) |
|----------------------|------------------|-----------------|--------------------|
| <b>Tungkillo</b>     | 29/12/2009       | Summer          | 52                 |
| <b>Mount Beevor</b>  | 4/01/2007        | Summer          | 129                |
| <b>Mount Torrens</b> | 5/02/1996        | Summer          | 3,155              |
| -                    | 3/02/1984        | Summer          | 178                |
| -                    | 31/12/1965       | Summer          | 1,798              |

It is likely that smaller fires are not mapped within this database and therefore the actual number of incidents is likely to be greater. Review of the bushfire history of the Project Area and surrounds has identified based on the environment and landscape of these past events, faster moving grass fires are the likely risk that requires management as part of the implementation of this BMP.

The Project Area has no records of prescribed burns, which are generally applied for fuel hazard management, and consultation with relevant groups representing the Peramangk People has not identified traditional burning practices in this region.





## Palmer Wind Farm

Figure 4: Bushfire management areas

## 4 Infrastructure

The following sections provide an overview of the Project components as they relate to bushfire risk and the hierarchy of controls relevant to the reduction of risk of fires and power interruptions, protection of the health and safety of the local community and minimisation of environmental impacts of the Project.

The key assets proposed as part of the Project include:

- 40 Vestas V172-7.2 MW wind turbine generators, with a nacelle height of 126 m and a rotor diameter of 172 m;
- 33 kV medium voltage underground collection system to the relevant project substations;
- Two 33/275 kV collector substations in the northern and southern aspects of the Project Area;
- Approximately 11.5 km of 275 kV overhead transmission line connecting the project substations to the point of connection at the existing ElectraNet operated Tungkillio Switching Station;
- Approximately 54 km of internal access roads connecting key infrastructure to the public road network;
- Three permanent meteorological monitoring masts (126 m in height); and
- A temporary construction compound and permanent operations and maintenance (O&M) facility located approximately 600 m to the south of Randell Road.

The Project is designed to include extensive fire mitigation measures by risk-based design, and these aspects of the Project are further described below where relevant and are illustrated in Figure 1.

### 4.1 Wind Turbines

The wind turbines comprise a rotor and nacelle mounted on tall, tapered steel towers, 126 m above the ground. The electrical generator itself is located within the nacelle at the top of the tower and the stator operates at 800 Volts. Other control and utility circuits also operate within the nacelle at lower voltages. A large mechanical gearbox and associated hydraulic fluids and lubricating greases and oils, are also located within the nacelle.

Automatic shutdown and isolation systems installed within the wind turbines detect any deviation from normal operating temperatures and will automatically slow or shut down the turbine if the temperature or wind speed exceeds an assigned threshold.

The likelihood of fire ignition from the wind turbine is minimal. In the unlikely event of a fire within the wind turbine tower, the fire would be contained within the main nacelle housing itself, though fire risk requires management from fallen debris that has the potential to start spot fires.

The wind turbines blades are fitted with a lightning protection system that ensures the energy from the lightning is safely transmitted to earth without causing structural damage. The system acts as a passive, low-impedance path that "captures" the lightning and guides it away from sensitive components like fibre composites of the wind turbine blades and internal electronics.

Wind turbines will be constructed on cleared and compacted aggregate hardstand areas, which will be maintained during the operation of the Project to provide a fuel reduced zone consistent with the fire management zones proposed around critical project infrastructure (refer to Section 8.2).

All wind turbines are fitted with fire extinguishers, one located in the nacelle, and another located at ground level door entry.



## 4.2 Underground Reticulation System

The 33 kV power cables are buried in underground trenches with a minimum depth of cover of 750 mm. Warning marker tape will be laid at various depths to protect the collection system and warn any ground disturbance activities of the presence of the cabling. The cables themselves are heavily insulated, armoured and shielded. The likelihood of fire ignition from the underground power cables is unlikely as only a mechanical break into a live conductor (e.g. accidental excavation) could present as a fire ignition source.

## 4.3 Substations and Switchrooms

Electrical substations within the Project are purpose-built facilities designed to safely manage and distribute electrical power generated by the wind turbines. These substations are equipped with transformers, which are securely banded to contain any potential oil leaks and prevent environmental contamination. The transformer oil used has a high ignition point, reducing the risk of fire under normal operating conditions. Substations are fitted with dedicated fire suppression systems to quickly address any fire incidents that may arise.

The immediate area surrounding the substations consists of gravel and concrete surfaces that are kept clear of vegetation, minimising the likelihood of external fire spread. For enhanced safety and emergency response, all fenced compounds enclosing substations feature secondary access points. These combined measures ensure the substations operate reliably while effectively managing fire risks and supporting the overall safety of the Project.

## 4.4 Overhead Transmission Lines

The 275 kV overhead transmission line from the Project substations to the point of connection is designed to efficiently and safely transmit electricity from the Project to the existing transmission system operated by ElectraNet. The design and configuration of the transmission line is similar to several other high-capacity transmission lines that are operating in the local landscape and converge at the Tungkillio Switching Station.

The transmission line support structures are generally positioned approximately 400-600 m apart and in addition to the conductors, have shielding, comprising of an optical ground wire and earth wire, which protects the phase conductors from direct lightning strikes.

The transmission line will be positioned centrally in a 60 m wide easement, which affords the Proponent controls of land use activities and planting of vegetation that could impede the safe operation of the transmission line.

Under the *South Australian Electricity (Principles of Vegetation Clearance) Regulations 2021*, vegetation clearance obligations are overseen by the Office of the Technical Regulator to ensure public safety, prevent bushfires, and maintain power reliability. The Proponent has legal duties and will inspect and maintain vegetation within the clearance zone of the overhead transmission line that could impede network safety and reliability of the transmission line.

During operation of the Project, a regular inspection and maintenance program will be implemented in consultation with the OTR, with this program to be at maximum every three years. The interval of the program will be determined by the operator of the transmission line and will be determined based on specific risk and regrowth assessments.



## 4.5 Access Roads

The Project includes an internal system of formed all-weather surface access roads and laydown areas to facilitate the construction and ongoing operation of the Project. The access road network generally consists of a spine road with branches ending at wind turbine hardstands. The access roads cross several public roads, with the main access points and site access being available from Randell Road to the northern and southern aspects of the Project.

The roads have a carriageway / formed width of 5.5 m and provide for considerably greater fire response access within the Project Area than what is achievable prior to the construction of the Project. Hardstand areas of the wind turbines, in addition to other areas laydown areas, provide ample opportunity for safe passage and turning requirements of fire fighting vehicles. The gradients of the access tracks for the Project do not exceed 18 percent.

The Project's access track design specifications meet the performance requirements of the CFS Renewable Energy Facilities Guideline (CFS, 2016) and the requirements for access tracks under the South Australian Firebreaks, Fire Access Track and Sign Standards Guidelines (State Bushfire Coordination Committee, 2015).

Access tracks will be regularly maintained during the operation of the Project to ensure that they remain a standard fit for use by project personnel and by emergency services should it be required.

## 4.6 Facilities

Relevant facilities for both the construction and operational phases of the Project are proposed, which will comprise a central hub for the workforce of each phase of the Project to coordinate and perform their relevant functions. These facilities will have adequate provision for buildings (office space, control rooms, staff facilities, car parking areas, workshop and storage of components/spares and laydown spaces).

The facilities are a logistical base for the construction and maintenance activities for the Project and will include consideration of both office based and maintenance activities. The construction compound will have an allowance for specialised infrastructure relevant to this phase of the Project, including larger laydown and storage and material processing/concrete batching.

The O&M facility acts as a central control room, housing supervisory control and data acquisition (SCADA) systems that monitor turbine performance in real-time, allowing for immediate detection of anomalies, faults, or performance drops. The Proponent is able to also review and interact with wind turbine operations through remote access to the SCADA systems from corporate offices. Direction is able to be made from either the O&M facility or corporate offices to manage operational shut-down procedures in the event of a bushfire incident (refer to Section 8.7).

The relevant facilities will be built and operated in accordance with relevant building and Australian Standards (refer to Section 4.8) and include consideration of relevant fire protection systems. Due to the siting of the facilities in a rural context access to reticulated mains supply for fire protection is not feasible. Fire water will be made available at the main site access point for bushfire management, with a minimum tank capacity of 22,000 litres and meeting the following specifications of the Renewable Energy Facilities Guideline (for non-battery energy storage facilities):

- Installation and signage meeting the requirements of *AS2419.1:2021: Fire hydrant installations, Part 1: System design, installation and commissioning*;
- Incorporation of a 65 mm Storz (small-bore suction outlet);
- Location identified with suitable signage and referred to in relevant bushfire plans (refer to Section 4.7);

- Provision be made for all-weather access with a minimum formed surface of 3 m to the water supply point; and
- A level crushed rock hardstand area adjacent to the water outlet supply capable of supporting vehicles with a gross vehicle mass of 21 tonnes that is a distance equal to or less than 6 m from the water supply outlet.

The location of the fire water tank that will be made available for emergency services during both the construction and operation of the Project is illustrated in Figure 4 and Figure 5. The fire water tank will be made of non-combustible materials and will be refilled via a water tanker as required. This location will be communicated and included in emergency information as described in Section 4.7.

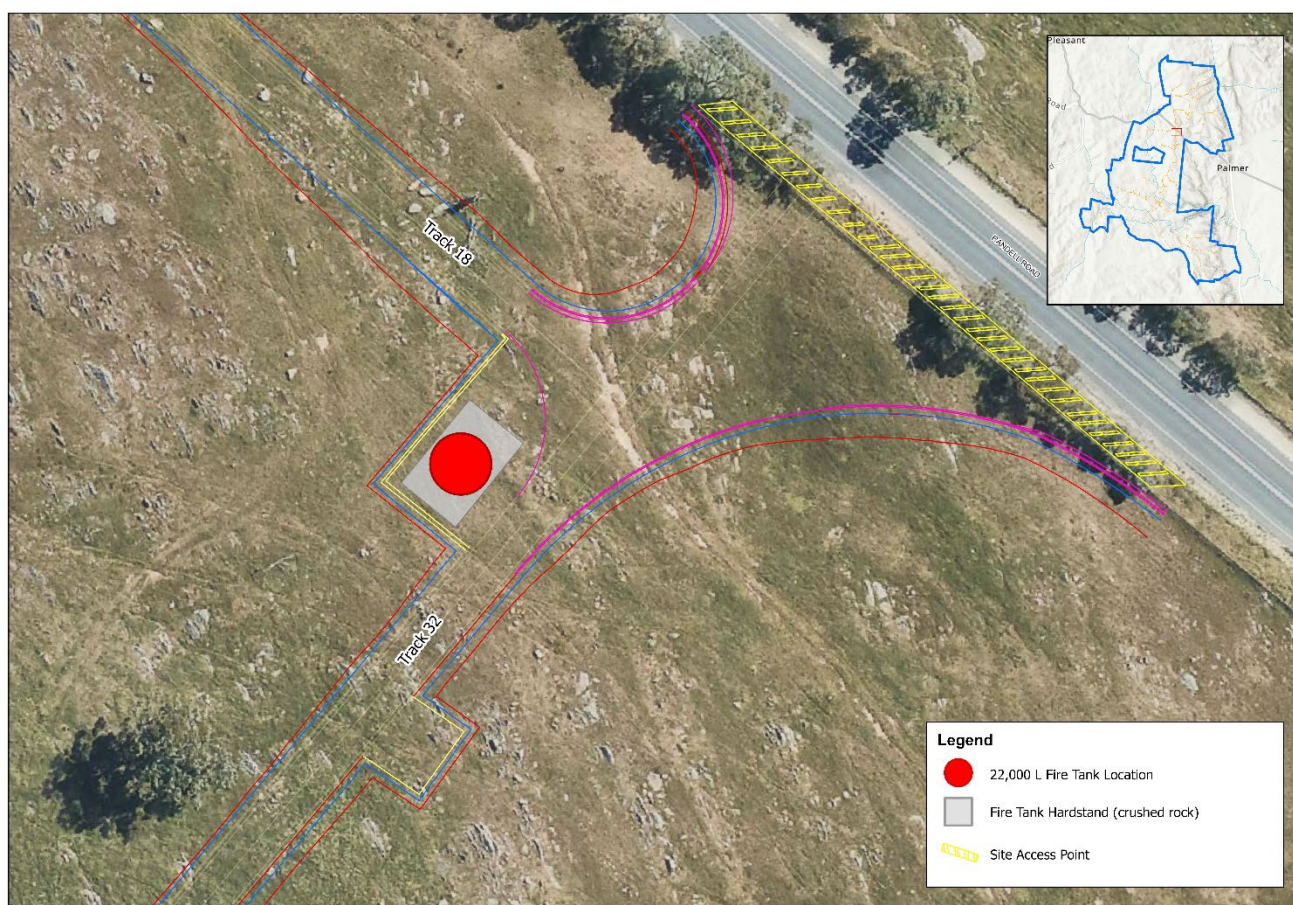


Figure 5: Fire water tank location

## 4.7 Access and Emergency Information

To aid emergency services in the event of an emergency, a manifest box will be installed at the main site entrance point (to the south of Randell Road). The manifest box will be located within private property immediately adjacent to the site access point / fire water tank and will be clearly identifiable with red colouring and white writing identifying it as the 'Fire Protection Manifest'.

Information contained within the manifest box will include, but will not be limited to:

- A list of emergency contact phone numbers;

- A site plan highlighting relevant fire vehicle access paths, buildings and infrastructure locations, fire water and on-site hazards or storage of hazardous materials
- Safety data sheets relevant to the storage and handling of hazardous materials.

## 4.8 Building Standards

The Building Code of Australia (BCA), in the National Construction Code (NCC) series, contains technical provisions for the design and construction of buildings and other structures. Where applicable structures form part of the project infrastructure, such as wind turbine foundations, substation buildings and construction and operational facilities, they are required to meet the minimum technical standards outlined in the NCC and relevant Australian Standards.

The BCA generally addresses the following matters:

- structural adequacy;
- fire resistance;
- access and egress;
- services and equipment;
- energy efficiency and sustainability; and
- provisions for the health and amenity of occupants.

In relation to fire resistance and key construction requirements, the Australian Standards for bushfire prone areas require protection of buildings and structures from ember attack and radiant heat up to and including 12.5 kW/m<sup>2</sup>. This measure of measuring a structure's potential exposure to fire incidents is referred to as a bushfire attack level (BAL), with relevant structures and infrastructure proposed as part of the Project being designed to meet a minimum BAL-12.5.

As the Project is located within the Hazards (Bushfire – Medium Risk) Overlay under the Planning and Design Code (see Figure 4), the CFS is referred to under Regulation 45 of the *Planning, Development and Infrastructure (General) Regulations 2017* for the purposes of Building Rules Consent where a building design does not meet the deemed-to-satisfy provisions of the NCC and a performance based solution that impacts fire service operations is proposed or development that involves specific fire safety systems.

## 5 Objectives and Targets

The key objective of this BMP is to minimise the risk of bushfire to human health, the environment, project infrastructure and the surrounding community through the identification, management and control of bushfire hazards, ignition sources and fuel loads, and by ensuring effective preparedness and response measures are in place.

As a means of assessing environmental performance, environmental objectives, targets and performance indicators have been established for the Project and are provided in Table 3. These objectives and targets have been developed in consideration of legislative requirements, relevant approvals, contractual requirements and significant environmental aspects and impacts.

Exceedances of the proposed targets will be investigated and reported to the relevant Principal Contractor Project Manager. Any exceedances which result in a non-compliance with the Planning Consent will be reported in accordance with Section 10.4 of this BMP.

Table 3: Objectives and targets of this BMP

| Objectives                                                                                                                                                                                          | Targets                                                                                                                                                                                                                                                                                           | Performance Indicators                                                                                                           |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>Minimise the risk of bushfire to the Project area as a result of project activities</b>                                                                                                          | <ul style="list-style-type: none"> <li>Zero fires as a result of project activities.</li> </ul>                                                                                                                                                                                                   | <ul style="list-style-type: none"> <li>Incident records</li> </ul>                                                               |
| <b>Ensure all personnel, subcontractors and visitors are inducted, consulted and receive regular updates and information on project environmental aspects and impacts for the duration of works</b> | <ul style="list-style-type: none"> <li>100% completion of site induction prior to site access.</li> <li>Bushfire-related topics included in toolbox talks and awareness meetings during elevated fire risk periods.</li> <li>Toolbox talks addressing bushfire awareness and controls.</li> </ul> | <ul style="list-style-type: none"> <li>Project induction and training register</li> <li>Pre-start and toolbox records</li> </ul> |
| <b>Ensure project personnel are aware of bushfires risks, protocols and competent in their responsibilities in relation to a bushfire incident</b>                                                  | <ul style="list-style-type: none"> <li>100% of project personnel aware of responsibilities under this BMP</li> <li>Targeted training is undertaken for specific personnel with emergency responsibilities.</li> </ul>                                                                             | <ul style="list-style-type: none"> <li>Project induction and training register</li> <li>Evacuation training records</li> </ul>   |
| <b>Implementation of performance outcomes, commitments and mitigation measures specified in planning approval documents</b>                                                                         | <ul style="list-style-type: none"> <li>Full compliance</li> </ul>                                                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>Monitoring, reporting and assurance records</li> </ul>                                    |



## 6 Roles and Responsibilities

Responsibilities specific to bushfire management across both the construction and operation of the Project are detailed in Table 4. The implementation of the BMP primarily is the responsibility of the relevant Contractor, however the Proponent maintains oversight of the relevant activities through the assurance processes outlined in the COEMP.

Table 4: Roles and Responsibilities – Bushfire management

| Role                                                   | Responsibility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Contractor Project Manager</b>                      | <ul style="list-style-type: none"> <li>Familiarising themselves with their responsibilities within this BMP and the Project's environmental management system.</li> <li>Ensuring the Project is compliant with the requirements detailed in this BMP and relevant legislation.</li> <li>Ensuring bushfire risk management requirements are fully implemented.</li> <li>Providing adequate resources (personnel, financial and equipment) to support effective bushfire prevention and response measures.</li> <li>Monitoring compliance with site bushfire management requirements, schedules and targets.</li> <li>Ensuring bushfire-related risks are identified, assessed and managed in accordance with the Project risk management framework.</li> <li>Ensuring subcontractors submit appropriate Work Method Statements (WMS) and environmental documentation addressing bushfire risks prior to commencement.</li> <li>Ensuring subcontractor compliance with the requirements of this BMP and other relevant documentation.</li> <li>Reviewing bushfire-related incidents, hazards and near misses and ensuring corrective actions are implemented within agreed timeframes.</li> <li>Reporting bushfire management performance and statistics as required.</li> <li>Upholding an active interest in workplace environmental and bushfire management issues.</li> </ul> |
| <b>Contractor Field Supervisor / Site Manager</b>      | <ul style="list-style-type: none"> <li>Implementing bushfire management requirements and control measures in accordance with this BMP.</li> <li>Ensuring fuel management, ignition source controls and access requirements are in place and maintained.</li> <li>Conducting routine inspections of work areas, access tracks, compounds and asset protection zones and coordinating corrective actions as required.</li> <li>Ensuring all site personnel and subcontractors are aware of bushfire risk management requirements and controls.</li> <li>Ensuring required approvals are in place prior to commencing activities with potential bushfire risk.</li> <li>Ensuring subcontractors comply with bushfire management requirements and taking immediate action where non-compliance is identified.</li> <li>Reporting bushfire-related incidents, near misses or non-conformances to the Environmental Representative or Project Manager.</li> <li>Participating in toolbox talks and pre-start meetings to communicate bushfire risk management requirements.</li> <li>Upholding an active interest in workplace bushfire safety and preparedness.</li> </ul>                                                                                                                                                                                                           |
| <b>Contractor Project Engineer (construction role)</b> | <ul style="list-style-type: none"> <li>Familiarising themselves with their responsibilities under this BMP and the Project's Environmental Management System.</li> <li>Ensuring bushfire risk management requirements are considered in construction planning and sequencing of works.</li> <li>Developing, reviewing and approving WMS that address bushfire ignition sources, fuel management and emergency response measures.</li> <li>Reviewing subcontractor WMS to ensure bushfire risks and controls are adequately addressed.</li> <li>Undertaking risk assessments where changes to activities may affect bushfire risk.</li> <li>Liaising with the Environmental Representative on bushfire-related matters, including fuel management and high-risk activities.</li> <li>Conducting inspections to identify bushfire-related environmental risks or non-conformances.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |



| Role                                                                    | Responsibility                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                         | <ul style="list-style-type: none"> <li>Raising bushfire management issues or concerns with the Environmental Representative or Project Manager.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Contractor's Environmental Representative (or delegate)</b>          | <ul style="list-style-type: none"> <li>Establishing, maintaining and reviewing this BMP and associated bushfire management documentation.</li> <li>Implementing bushfire-related monitoring, inspection and reporting requirements.</li> <li>Providing bushfire management training and awareness to personnel, subcontractors and visitors.</li> <li>Coordinating approvals, permits and consultations relevant to bushfire management.</li> <li>Liaising with the CFS, regulators and landowners on bushfire-related matters, including fuel level management.</li> <li>Maintaining records of bushfire-related incidents, complaints and corrective actions.</li> <li>Monitoring compliance with bushfire legislation, policies and standards and updating this BMP as required.</li> <li>Assisting subcontractors with understanding and applying bushfire management requirements.</li> <li>Participating in audits, inspections and reviews related to bushfire management.</li> <li>Advising the Project Manager of any bushfire management issues that may pose a risk to personnel, assets, the environment or compliance obligations.</li> </ul> |
| <b>Proponent's Project/Asset Manager</b>                                | <ul style="list-style-type: none"> <li>Reviewing and authorising bushfire management procedures and revisions to this BMP.</li> <li>Reporting of bushfire-related incidents, hazards and near misses and ensuring the Contractor is implementing corrective actions within agreed timeframes.</li> <li>Undertaking consultation with the Contractor and key external regulators, including the CFS.</li> <li>Upholding an active interest in workplace environmental and bushfire management issues.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>All Site Personnel (including the Proponent and sub-contractors)</b> | <ul style="list-style-type: none"> <li>Familiarising themselves with the requirements of this BMP and site bushfire management procedures.</li> <li>Attending site inductions, pre-start meetings and toolbox talks addressing bushfire risks and controls.</li> <li>Complying with site bushfire prevention, fuel management and ignition source control requirements.</li> <li>Using bushfire controls identified in WMS, procedures and work instructions.</li> <li>Preventing activities that may increase bushfire risk and maintaining tidy, low-fuel work areas.</li> <li>Stopping work and notifying supervision if activities pose a bushfire risk.</li> <li>Reporting bushfire-related hazards, incidents and near misses immediately.</li> <li>Actively participating in bushfire preparedness reviews and continuous improvement initiatives.</li> <li>Upholding an active interest in workplace bushfire safety and environmental management.</li> </ul>                                                                                                                                                                                      |

## 7 Risk Identification and Assessment

### 7.1 Environmental Risk Assessment

Potential environmental risks associated with Project have been identified during the environmental assessment process. Additional risks will be considered and updated as part of the Contractor's risk management standard and maintained in the Project's Risk Register. In accordance with the COEMP for the Project, the Project Risk Register is routinely reviewed and updated by relevant project management personnel.

Potential environmental and social impacts from bushfire include, but are not limited to, those set out in Table 5.

Table 5: Significant Environmental Risks – Bushfire

| Aspect                           | Potential Impact                                                                                                                                                                                                                                                                                                       |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Biodiversity</b>              | <ul style="list-style-type: none"> <li>Loss or degradation of native vegetation due to bushfire ignition or spread.</li> <li>Injury or mortality of native fauna from bushfire incident.</li> <li>Impact on threatened species or ecological communities from vegetation management and bushfire incidents.</li> </ul> |
| <b>Air quality</b>               | <ul style="list-style-type: none"> <li>Smoke emissions affecting local air quality, visibility, and health.</li> </ul>                                                                                                                                                                                                 |
| <b>Soil</b>                      | <ul style="list-style-type: none"> <li>Increased erosion, loss of soil stability, and nutrient depletion following bushfire incident.</li> </ul>                                                                                                                                                                       |
| <b>Water quality</b>             | <ul style="list-style-type: none"> <li>Ash, sediment, and debris entering waterways following bushfire incident.</li> </ul>                                                                                                                                                                                            |
| <b>Community</b>                 | <ul style="list-style-type: none"> <li>Risk to neighbouring landholders, infrastructure, and public safety from a bushfire incident.</li> <li>Impacts to aerial firefighting operations due to vertical obstructions.</li> </ul>                                                                                       |
| <b>Project assets</b>            | <ul style="list-style-type: none"> <li>Damage to turbines, substations, access tracks, and ancillary infrastructure from a bushfire incident.</li> </ul>                                                                                                                                                               |
| <b>Agriculture and livestock</b> | <ul style="list-style-type: none"> <li>Loss of pasture, crops, or fodder and injury or mortality of livestock due to bushfire incidents.</li> </ul>                                                                                                                                                                    |

### 7.2 Ongoing Risk Assessment

Environmental risk assessment will be ongoing during construction and operation. Particular emphasis will be placed on identifying and managing changes that may influence bushfire risk, including changes to construction methodology, work sequencing, site conditions, weather, or the type and intensity of activities being undertaken. All staff are responsible for identifying risks and managing assessments in consultation with the construction / operation project team. Forums for facilitation of risk identification include:

- Project meetings;
- Toolbox meetings; and
- Informal site discussions.

### 7.3 Impact Identification

Potential impacts are identified through the risk identification processes in Table 3. Bushfire-related impacts to environmental values, project assets, and the wider rural community may arise from:

- Sparks or heat from machinery, hot works, or vehicles;
- Accumulated grass, shrubs, leaf litter, or cleared vegetation acting as fire fuel;
- Overgrown or unmanaged bushland near project assets;
- Vehicle movements over dry or combustible material;
- Stockpiling of materials that could ignite; or
- Improper use or disposal of flammable materials.

The potential impacts outlined in Table 5 are typical of large-scale infrastructure projects in a rural setting and are manageable through the implementation of management controls and mitigation measures detailed in this BMP.

## 8 Bushfire Risk Management and Mitigation

Construction of the Project will involve the installation of wind turbines and related ancillary infrastructure with this phase of the Project generally representing a higher risk of ignition sources and a substantially greater peak workforce. No construction activities are proposed as part of the ongoing operation of the Project, however both general maintenance activities and the operation of the project infrastructure represent risks that require management to prevent and minimise risks of bushfire ignition.

As recognised by the CFS and the Australasian Fire and Emergency Service Authorities Council (AFAC) wind farms do not present a heightened ignition or fire behaviour risk compared to typical rural land uses (CFS, 2016; AFAC, 2018). Accordingly, the increased bushfire risk on the surrounding areas during the construction and operation of the Project is not considered to be more prevalent than any other form of development or existing general activity.

The potential for increased risk from the development of the Project can be effectively mitigated provided appropriate training, communication and management practices are put into place in accordance with the requirements identified in this BMP and the Project's COEMP.

### 8.1 Consultation with CFS

The CFS will be engaged in all phases of the Project, including in development of the BMP (refer to Section 1.4) and ongoing review of the procedures and management measures to mitigate bushfire risks (refer to Section 11).

In addition, consultation and engagement will occur with relevant CFS personnel throughout the life of the Project at a frequency proportionate to bushfire risk. This engagement at a minimum will occur prior to the commencement of construction and at the commencement of bushfire season annually (nominally 1 December, though on occasion mid-late November) thereafter to confirm risk management measures and emergency response procedures remain appropriate.

The Proponent will provide CFS personnel an opportunity to inspect the Project, including the location of bushfire fighting equipment, if requested by CFS. Where appropriate, the Contractors may seek to engage CFS personnel to participate in site emergency exercises pertaining to bushfire events as outlined in the relevant Contractor's Emergency Management Plan (refer to Section 9).

### 8.2 Vegetation Management Zones

Under Division 3 of the *South Australian Fire and Emergency Service Act 2005*, all landowners have a responsibility to take reasonable steps to prevent outbreak of fire on land or the spread of fire to neighbouring properties. The Proponent leases a portion of land for the construction and operation of the Project, with limited abilities to provide direction to landowners with respect to property and fuel load management.

Regardless of land access arrangements, bushfire management is a landscape scale issue, and the Proponent will work collaboratively with landowners to manage bushfire risk within the Project Area to meet the relevant regulatory requirements.

Consistent with the Renewable Energy Facilities Guideline and the CFS *Guidelines for Wind Farms* (CFS, 2016) critical wind farm infrastructure, including wind turbines, electrical substations, control buildings and permanent and temporary facilities will be surrounded by a minimum 20 m Vegetation Management Zone (VMZ)<sup>1</sup>. The VMZ is intended to both minimise the impact of bushfire attack on this infrastructure and provide a defensible space for fire-fighters to operate.

Vegetation inspections and fuel management strategies to reduce bushfire risk, including grass trimming, leaf litter removal, and pruning around infrastructure will be scheduled and where possible undertaken prior to any declared Fire Danger Season (refer to Section 8.3).

All VMZs will be maintained to ensure that at a minimum:

- Understorey plants within the VMZ are maintained such that when considered overall a maximum coverage of 30 percent is attained, and so that the leaf area of shrubs is not continuous;
- No understorey vegetation is established within 10 m of a substation / control buildings (understorey is defined as plants and bushes up to 2 m in height);
- Grasses within the VMZ are maintained at a maximum height of 10 cm during the fire danger season<sup>2</sup>; and
- Dead vegetation does not accumulate in the VMZ during the fire danger season.

Wind turbines and electrical infrastructure within substations will be located within gravel hardstand areas clear of vegetation and free of weeds / grass cover. Within the defined VMZ's these hardstand areas will be designed and maintained to be a minimum of 10 m in width, however will be far greater than this minimum depending on the final hardstand design and arrangements.

The Project's northern and southern substations will be surrounded by VMZ to include a perimeter access road and fencing. The Project's approvals require the planting and maintenance of screening vegetation around the substations. Consistent with the requirements of Renewable Energy Facilities Guideline, screening vegetation will be:

- A single row of trees or shrubs (no shrubs to be planted under trees);
- Located no less than 10 m from infrastructure;
- Located no less than 10 m from substation main access track;
- Pruned regularly and dead vegetation removed.

Overhead power line easements and surrounding vegetation will be periodically inspected to maintain safe clearances and reduce fire risk in accordance with the processes outlined in Section 4.4.

### 8.3 Fire Danger Ratings

Each day during the Fire Danger Season the Bureau of Meteorology forecasts a Fire Danger Rating for each Fire District, with the Project being located in Fire District 6 – Murraylands. The Fire Danger Rating has corresponding actions that should be taken depending on the level of fire danger, and describe the predicted fire behaviour (in the event of a fire) and level of fire suppression effort that may be required as illustrated in Figure 5.

<sup>1</sup> VMZ's are measured from the electrical infrastructure within substations, the external walls or supporting posts/columns of buildings and wind turbines, and otherwise the perimeter of facilities.

<sup>2</sup> The time and duration of the fire danger season will be determined in reference to the relevant CFS website: [Fire Danger Season dates & permits - CFS](#).



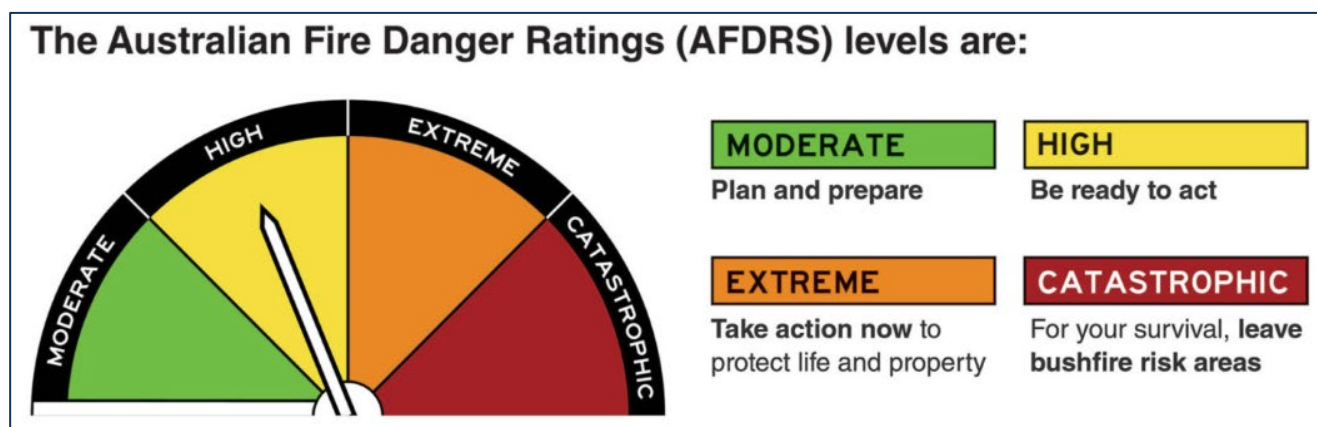


Figure 6: Australian Fire Danger Rating System

Site personnel will utilise the relevant Fire Danger Rating to provide guidance for proposed activities during the construction and operation of the Project, including but not limited to site preparedness, hot works and other activities that have the potential to cause accidental ignition (refer to Section 8.4).

If Total Fire Ban is declared by the CFS, no hot works will occur without first obtaining a permit under Schedule 10 Permit under the *Fire and Emergency Services Regulations 2021* from the Mid Murray Council (commonly referred to as Schedule 10 Permit).

Fire weather warnings and restrictions imposed by the CFS will be observed and reiterated to site personnel through project meetings and toolbox sessions.

## 8.4 Ignition Risk

Ignition risks are a foundational component of bushfire management, focusing on where, when, and how fires start, with the aim of preventing, detecting, or rapidly suppressing them before they become unmanageable. In relation to the Project, ignition risks will be managed by:

- All flammable materials and ignition sources brought onto the site, such as hydrocarbons, will be handled and stored as per manufacturer's instructions;
- Hot works (e.g. welding, grinding, arc or flame cutting) to be undertaken as per requirements of Hot Works Permits, which will include consideration of:
  - Precautions to be taken and if any further precautions are required
  - The nature, duration, and frequency of firewatch (if any)
  - Total fire ban restrictions and requirements to obtain a Schedule 10 Permit
  - Weather conditions and proximity to vegetation/sources of ignition
  - The availability of firefighting equipment and supervision requirements
  - Emergency considerations including exit points
- A maintenance and service program will be implemented to ensure that all electrical systems are serviced in accordance with required specifications and industry standards;
- The substation facilities will be regularly inspected and maintained so they do not present a fire hazard, and to ensure any bunded areas are clear (including removing any rainwater); and
- Smoking will not be permitted outside of designated smoking areas.

## 8.5 Firefighting Equipment

Essential fire safety measures provided and maintained, these include fire extinguishers, fire blankets, water storage tanks for fire protection and fire detection and alarm systems. All plant and heavy equipment will have easy access to minimum 9 L Water Fire Extinguisher (minimum fire rating 3A).

It is the Contractors Project Manager's responsibility to ensure that adequate numbers and types of essential fire management equipment are located and easily identified throughout the Project Area. The Contractors' will also be responsible to ensure equipment, including fire extinguishers, will be inspected and maintained in line with *Ministerial Building Standards 002 – Maintaining the performance of essential safety provisions* and *AS1851-2012: Routine service of fire protection systems and equipment*.

The provision and maintenance of fire equipment will be subject to internal and external audits throughout construction and operation of the Project.

## 8.6 Vehicles and Mobile Plant

Vehicle and mobile plant operations have the potential to act as ignition sources during construction and operation, particularly during periods of elevated fire danger when dry grasses and other fine fuels are present across the site. Potential ignition sources include hot exhaust systems, sparks, mechanical faults, and vehicle contact with combustible material.

To minimise this risk:

- Vehicle movements will be restricted to designated access tracks and cleared areas where practicable;
- Vehicles will not be parked over dry vegetation or combustible material, only in cleared areas such as firebreaks or vehicle tracks;
- Vehicles and plant operating in areas with combustible vegetation will be maintained in a safe condition, including exhaust systems designed to prevent contact with flammable material or the release of sparks; and
- All site vehicles and heavy plant would be fitted with fire extinguishers.

Additional controls and restrictions on vehicle use may be implemented during periods of high fire danger or Total Fire Ban, in accordance with site procedures and CFS requirements.

## 8.7 Operational Shutdown Procedures

The use of firefighting aircraft may be considered by the CFS as part of a planned response to an incident with such resources included as part of an integrated plan to support the efforts of ground-based resources. CFS fire suppression aircraft operate under Visual Flight Rules and as such, these aircraft only operate in areas during daylight hours where there is clear visibility.

Aircraft operators undertake a dynamic risk assessment of all risks to aircraft safety during an incident. The presence of wind turbines, high towers and voltage transmission lines, on or near a fire ground would be considered in the incident action plan, however, do not prevent aerial firefighting activities. Aerial personnel should assess risks posed by aerial obstacles, wake turbulence and moving blades in accordance with routine procedures.

Spacing of wind turbines proposed as part of the Project is generally between 700 – 800 m, which provides for adequate separation for aerial fire suppression activities between the turbines. In addition, rotors are typically orientated in the same direction, which provides a predictable environment for pilots.

All turbines can be operated remotely via the Supervisory Control and Data Acquisition system and in case of extreme weather, shutdown in a timely manner. On request by the CFS (or other emergency services agency), wind turbines will be remotely shut down immediately during emergency operations, yaw into the low-risk wind direction and placed into idle mode. From contact to the Proponet to turbine shutdown, it is estimated that this process will take approximately 10 minutes.

The emergency contact details for relevant operational staff are listed in Section 9.

Electrical isolation of infrastructure and the Project is also able to occur in consultation with the wind farm operator, or the Transmission Network Service Provider (ElectraNet), to prevent electrical faults. Shut down turbines may still rotate slowly depending on wind conditions and be a hazard to any aerial operations, with risks to be assessed by aircraft operators. Stopping blades in a 'Y' or 'rabbit ear' position requires specialised technicians and is impractical during emergencies. Safety for fire suppression aircraft near wind turbines depends on coordination between wind farm operators, emergency personnel, and pilots, but prior incidents have shown it can be done safely.

Remobilisation of personnel, commencement of turbine operations and energisation of electrical equipment will not occur until directed by the CFS (or other emergency services agency).

## 9 Emergency Response

The Project's Contractors<sup>3</sup> will maintain an Emergency Management Plans relevant to their works that establishes roles, responsibilities, communications and emergency response procedures for various emergency events, including bushfires. The Emergency Management Plans will outline emergency procedures and guidelines for the management of an event, and to ensure that trained resources are allocated to manage emergency events.

In the event a bushfire occurs in proximity to the Project or as a result of project activities, all response actions are coordinated in accordance with the Emergency Management Plan. This involves the prompt activation of emergency services, systematic implementation of evacuation procedures, and strict adherence to instructions issued by emergency authorities, thereby ensuring the safety of all personnel and the effective management of the incident.

The emergency contact details for relevant construction and operational staff are listed in Table 6.

Table 6: Emergency Site Contacts

| Phase        | Position                                  | Contact Details           |
|--------------|-------------------------------------------|---------------------------|
| Construction | Contractor Site Manager                   | TBC (BMD)<br>TBC (Vestas) |
|              | Contractor's Environmental Representative | TBC (BMD)<br>TBC (Vestas) |
|              | Proponent's Site Manager                  | TBC                       |
| Operation    | Contractor Site Manager                   | TBC (Vestas)              |
|              | Proponent's Asset Manager                 | TBC                       |

\*Note: Contact details to be populated and provided prior to the commencement of construction and updated in accordance with Section 11.

Emergency Management Plans will be reviewed and as required updated every 12 months to ensure they remain to be accurate, up to date and capable of being effectively implemented. The Emergency Response Plan, including any revisions or updates, will be provided to CFS prior to commencement of the annual bushfire season.

<sup>3</sup> Implementation of the Emergency Management Plans will be dictated by the relevant Principal Contractor in accordance with the *Work Health and Safety Regulations 2012* and contracting arrangements for the operational phase of the Project.

## 10 Compliance Management

### 10.1 Training and Awareness

All personnel will receive training appropriate to their role related to fire management during construction and operation of the Project.

Site inductions will brief all personnel, subcontractors and visitors regarding emergency response procedures, emergency contact details, the use of emergency response procedures and expected conduct of all persons onsite (e.g. smoking restrictions, etc.).

Regular toolbox talks will be used to raise awareness regarding Fire Danger Ratings and/or adverse bushfire weather conditions.

A more general description of staff induction and training is outlined in Section 5 of the COEMP.

### 10.2 Monitoring, Inspections and Auditing

#### 10.2.1 Monitoring and Inspection

Regular site inspections and visual monitoring will be undertaken to ensure the controls detailed within this BMP are being implemented.

#### 10.2.2 Auditing

The environmental performance of construction and maintenance activities will be monitored through compliance audits to assess the overall implementation and effectiveness of relevant management plans, mitigation measures and work method statements.

Audits will be undertaken on a quarterly basis during construction and an annual basis during operations. Depending on the outcome of the audits, additional follow up audits may be conducted where significant non-conformances are identified or in response to environmental incidents. The areas to be covered in the audit include:

- Compliance of requirements of this BMP, relevant approvals, and statutory requirements; and
- Review of effectiveness of the environmental management of the Project including mitigation measures and where necessary, the level, scope and timing of inspections.

The proposed audit schedule may be modified or discontinued by the Proponent based on the outcome of previous audit findings (i.e. compliance and risk effectively managed through existing environmental controls) or the risk assessments not identifying any new or increased risk of potential environmental harm from the infrastructure activities.

### 10.3 Incidents

Where an actual fire, smoke, or an unattended ignition source is identified, this must be reported without delay to emergency services via Triple Zero (000) consistent with the statutory duty to notify authorities of unattended fires under the *Fire and Emergency Services Act 2005* (SA).



All other fire-related incidents, near misses, hazards will be immediately investigated and internally reported through established incident management and safety systems to ensure corrective actions are identified and implemented. This includes documenting the circumstances, immediate controls applied, and any contributing factors such as weather conditions, activities undertaken, or procedural failures. Lessons learned are to be used to review work practices, training and controls and relevant management plans.

## 10.4 Non-Conformance Reports (NCRs)

Where a non-conformance is identified through inspections, internal audits or external audits, a non-conformance will be raised. The non-conformance will be investigated and corrective actions entered into a Corrective Actions Register. The information collected in the register will include:

- Date the issue was identified;
- Type of non-conformance (e.g. failure to maintain fire extinguisher in line with *AS1851-2012*);
- Means of identification (audit, inspection etc.); Corrective actions to be undertaken;
- Any relevant photographs or other evidence; and
- Close-out date.

The non-conformance is considered closed when the investigation is complete, and all corrective actions identified have been implemented and verified. The Contractor Site Supervisor / Site Manager is responsible for ensuring corrective actions are completed by the persons delegated.

## 10.5 Environmental Complaints

All complaints made by the community and stakeholders will be managed in accordance with the Complaints Management Plan and Section 9.2 of the COEMP.

## 11 Review and Improvement

This BMP, its operation and implementation will be periodically reviewed throughout the life of the Project to ensure it remains current, effective and responsive to bushfire risk. A formal review of the BMP will be undertaken at least once every 12 months prior to commencement of the fire danger season (November – April).

Other triggers for review may include:

- Corrective or preventative actions arising from bushfire incidents, near misses or hazard reporting;
- Changes to relevant bushfire-related legislation, standards or compliance obligations;
- Significant changes to construction activities or staging;
- Requests from CFS, Mid Murray Council or other regulatory authorities;
- Significant changes to site conditions, fuel loads or surrounding land use;
- Updates to recognised bushfire management best practice; or
- The identification of new or increased bushfire risks.

Where this review leads to a revision of the BMP, the revised BMP will be submitted to the SPC and/or the CFS for approval if required.

### 11.1 Minor Amendments to the BMP

The Contractors' Environmental Representative / Project Manager may consider minor amendments to be made to the BMP, which will be approved by the Proponent. This responsibility will pass to the Proponent's asset managers during operation.

'Minor amendments' are defined as those that involve updating a document or are of an administrative nature and do not increase impacts to the environment or nearby dwellings, and may typically include those that:

- Are editorial in nature e.g. staff and agency/authority name changes;
- Do not increase the magnitude of impacts on the environment when considered individually or cumulatively;
- Do not compromise the ability of the Project to meet approval conditions or legislative requirements;
- Are required as a result of monitoring, inspection and audit results;
- Result from consideration of recent and relevant incidents and any lessons learnt;
- Are required because of any new regulatory obligations;
- Are identified as needed based on a review of the effectiveness of environmental controls;
- Are required because of changes in operational needs such as resourcing; and/or
- Are required because of feedback from regulators and other relevant stakeholders.

Where the BMP is revised, the updated BMP will be provided to all relevant site personnel and stakeholders and provided to the relevant authorities, such as the CFS, as appropriate.

Any amendments will be implemented promptly to ensure ongoing compliance with regulatory requirements and the effective management of bushfire risk during construction and operation of the Project.

## 12 References

Australasian Fire and Emergency Service Authorities Council (AFAC) (2018) Wind farms and bushfire operations. AFAC, Melbourne. Available at: [https://www.energy.nsw.gov.au/sites/default/files/2022-08/2018\\_10\\_AFAC\\_windfarmsbushfiresoperations.pdf](https://www.energy.nsw.gov.au/sites/default/files/2022-08/2018_10_AFAC_windfarmsbushfiresoperations.pdf) (accessed 25 March 2026).

Department for Environment and Water (DEW) (2026), Bushfires and prescribed burns history (fire history spatial dataset), Government of South Australia, Adelaide. Available at: <https://data.sa.gov.au/data/dataset/fire-history> (accessed 29 March 2026).

Elders Weather (2026), Australian weather forecasts and observations, Elders Rural Services Australia, Adelaide. Available at: <https://www.eldersweather.com.au/> (accessed 29 April 2026).

South Australian Country Fire Service (CFS) (2016) Guidelines for Wind Farms. Government of South Australia, Adelaide. Available at: <https://www.aeic.gov.au/sites/default/files/documents/2022-06/cfs-guidelines-wind-farms.pdf> (accessed 25 March 2026).

State Bushfire Coordination Committee (SBCC) (2015), South Australian firebreaks, fire access track and sign standards guidelines (Version 4), Government of South Australia, Adelaide. Available at: <https://sbcc.sa.gov.au/resources/> (accessed 23 March 2026).

# Appendix A

## Compliance Matrix

## Planning Consent Requirements – DA#24005571

| Number                  | Condition                                                                                                                                                                                                                                                  | Document Reference | How addressed                                                                                                                                                                                                     |
|-------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reserved Matters</b> |                                                                                                                                                                                                                                                            |                    |                                                                                                                                                                                                                   |
| RM3                     | A final Bushfire Management Plan detailing the management of fire risks shall be prepared in consultation with the South Australian Country Fire Service and submitted to the satisfaction of the State Planning Commission.                               | This plan          | Management of bushfire risks has been detailed in this Plan. Summary of consultation with CFS is included in Section 1.4.                                                                                         |
| <b>Conditions</b>       |                                                                                                                                                                                                                                                            |                    |                                                                                                                                                                                                                   |
| C1                      | The development authorisation granted herein shall be undertaken in accordance with the stamped approved plans, drawings, specifications and other documents submitted to the State Planning Commission, except where varied by conditions below (if any). | This Plan          | This BMP has been prepared to align with the approved project documentation, including the Statement of Commitments and Project Approval conditions. Compliance is addressed through implementation of this plan. |

## Statement of Commitments

| Number                                   | Commitments                                                                                                                                                                                                                                                                                                                                              | Document Reference                  | How addressed                                                                                                                                                                                                                                            |
|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>4.14 Fire and Bushfire Management</b> |                                                                                                                                                                                                                                                                                                                                                          |                                     |                                                                                                                                                                                                                                                          |
| 1                                        | All project components will be designed, constructed and operated to minimise ignition risks.                                                                                                                                                                                                                                                            | Section 4<br>Section 7<br>Section 8 | All project components will be designed, constructed and operated to minimise ignition risks.<br>The risk assessment process (Section 7) will identify and suitably mitigate risks to complement those measures that are already described in Section 8. |
| 2                                        | Asset protection consistent with relevant CFS design will be provided.                                                                                                                                                                                                                                                                                   | Section 8.2                         | Asset protection / vegetation management zones will be implemented in accordance with Section 8.2                                                                                                                                                        |
| 3                                        | Necessary emergency management will be provided, including appropriate fire-fighting equipment and water supplies on site to respond to a bushfire.                                                                                                                                                                                                      | Section 4<br>Section 8<br>Section 9 | Description of infrastructure and relevant fire management is identified in Section 4, with mitigation and fire preparedness further detailed in Section 8. Emergency procedures are referenced in Section 9.                                            |
| 4                                        | Regular consultation with the local CFS will be undertaken to ensure familiarity with the project, including the construction timetable and the final location of the entire infrastructure on the site. The operator will comply with any reasonable requests of the local CFS to reduce the risk of bushfire and to enable fast access in emergencies. | Section 8.1                         | Consultation requirements to be implemented are outlined in Section 8.1.                                                                                                                                                                                 |
| 5                                        | A Bushfire Management Plan will be prepared in consultation with the CFS, as part of the development of                                                                                                                                                                                                                                                  | Section 1.4                         | Consultation requirements are outlined in Section 1.4. Hot-work procedures, asset                                                                                                                                                                        |

| Number | Commitments                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Document Reference         | How addressed                                                                                                                                                                                                       |
|--------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|        | the Construction Environment Management Plan and the Operational Management Plan. As a minimum the plans will address hot-work procedures, asset protection zones, safety, communication and site access and response protocols in the event of a fire originating in the wind farm infrastructure. All flammable materials and ignition sources brought onto the site, such as hydrocarbons, will be handled and stored as per manufacturer's instructions. | Section 8<br>Section 9     | protection zones, safety, and site access are addressed in Section 8.<br><br>Communication and response protocols are outlined in Section 8 and further detailed within the Emergency Management Plans (Section 9). |
| 6      | Appropriate firefighting equipment will be held on site during the construction phase, and training in its use will be provided to staff as necessary. Fire extinguishers will be stored onsite in the control building and within any substations.                                                                                                                                                                                                          | Section 8<br>Section 10.1  | Firefighting equipment will be installed, inspected, and maintained as outlined in Section 8.<br><br>Training will be provided in accordance with Section 10.1.                                                     |
| 7      | Appropriate bunding will be installed in the substation with a capacity exceeding the volume of the transformer oil to contain the oil in the event of a major leak or fire. The facilities will be regularly inspected and maintained to ensure leaks do not present a fire hazard, and to ensure the bunded area is clear (including removing any rainwater).                                                                                              | Section 4.3<br>Section 8.4 | Included as part of the description of the infrastructure design parameters (Section 4.3) and operational bushfire management (Section 8.4).                                                                        |
| 8      | Turbines will be shut down if the components reach critical temperatures or if directed by the CFS in the case of a wildfire being declared within the wind farm site or immediate vicinity (all hours contact points will be made available to the CFS).                                                                                                                                                                                                    | Section 8.1<br>Section 8.7 | Consultation requirements outlined in Section 8.1 and shut-down parameters detailed in Section 8.7.                                                                                                                 |
| 9      | Overhead power line easements will be periodically inspected to monitor and maintain regrowth of encroaching vegetation.                                                                                                                                                                                                                                                                                                                                     | Section 4.4                | Description of the overhead transmission lines detailed in Section 4.4, including operational maintenance requirements.                                                                                             |





renewables

# Appendix B      Renewable Energy Facilities Guideline Checklist





SACFS Guide

# Renewable Energy Facilities

## Solar, Battery Storage Systems & Wind Generation.

---

### Contact us

Development Assessment Service  
Address 37 Richmond Road, Keswick  
Phone 08 8115 3372  
Postal GPO Box 2468  
Adelaide SA 5001  
Email [cfs.dascommercial@eso.sa.gov.au](mailto:cfs.dascommercial@eso.sa.gov.au)



## History

| Version | Revision Description    | Date       | Officer                           |
|---------|-------------------------|------------|-----------------------------------|
| 1       | Draft                   | 18 06 2025 | J Page (SACFS)<br>C Paton (SACFS) |
| 1       | Draft - Internal Review | 20 10 2025 | C Paton (SACFS)                   |
| 1       | Draft - Internal Review | 24 11 2025 | C Paton (SACFS)                   |
| 1       | Internal Review         | 03 12 2025 | C Paton (SACFS)                   |

## ACKNOWLEDGEMENT

South Australian Country Fire Service (SACFS) – Community Risk and Resilience  
Country Fire Authority (CFA)  
Australasian Fire and Emergency Services Authorities Council (AFAC)

## Definitions

For this document, the following definitions apply.

### **Australian Standard (AS)**

A set of documents that set out specifications, procedures and guidelines that aim to ensure products, services, and systems are safe, consistent, and reliable.

### **Battery Energy Storage System (BESS)**

BESS technology is based on the use of electrochemical batteries, which can store the energy produced by renewable energy plants. This power bank can return the stored energy on demand. They are also known as electrochemical energy systems.

### **Bushfire Attack Level (BAL)**

The BAL takes into consideration a number of factors, including the Fire Danger Index, the slope of the land, types of surrounding vegetation and its proximity to any building.

### **Bushfire Water Tanks** (referred to in SA Ministers Building Standard MBS 008)

Fire water tanks suitable to meet the requirements of MBS 008

### **Designated bushfire-prone area**

An area identified as such in this Standard where the construction requirements for buildings in bushfire-prone areas under the Building Code apply and the additional requirements in this standard for protecting buildings during a bushfire apply.

### **Domestic fittings**

A standard household tap that enables an occupant to access the water supply with domestic hoses or buckets for extinguishing minor fires.

### **Dual Response Areas** (referred to as Mutual Aid Areas)

Any defined area adjacent to the South Australian Metropolitan Fire Service (SAMFS) or the South Australian Country Fire Service (SACFS) boundary that is mutually agreed and documented for Mutual Aid purposes and that may initiate a response from either fire service.

### **Australasian Fire and Emergency Service Authorities Council (AFAC)**

AFAC National Council comprises member organisations spanning fire, emergency service and land management organisations, who lead a paid and volunteer workforce of more than 288,000 people, supporting communities to be safer and more resilient. AFAC also works in partnership with the Commonwealth Government and other domestic and international organisations supporting response, risk reduction and community resilience.

**Fire Authority**

This means the South Australian Metropolitan Fire Service (SAMFS) or the South Australian Country Fire Service (SACFS).

**Fire Brigade**

This means an operational unit of the South Australian Metropolitan Fire Service (SAMFS) or the South Australian Country Fire Service (SACFS) that will be attending a fire in the relevant area where a site is located.

**Fire Fittings**

This means specialised fittings that enable the fire brigade to access and use the water supply for fire-fighting purposes.

**Fire Water Tanks for Hydrant systems** (referred to in the National Construction Code of Australia Volume One Section E). Fire water tanks to meet the requirements of AS2419 and AS2118.

**Hardstand** (as per AS 2419.1)

An identifiable and clearly marked trafficable all-weather, self-draining pavement providing access and capable of supporting a fire brigade pumping appliance during firefighting operations in the order of 21T GVM. Note: Examples of acceptable pavements include bituminous concrete, compacted aggregate, concrete or similar surfaces.

**Large Scale Battery Energy Storage System**

A large-scale BESS facility is typically 2MWh or larger.

**National Construction Code / Building Code of Australia (NCC)**

The National Construction Code is Australia's primary set of technical design and construction provisions for buildings. As a performance-based code, it sets the minimum required level for the safety, health, amenity, accessibility and sustainability of certain buildings.

**South Australian Country Fire Service (SACFS)**

Serves communities through dedicated volunteers delivering professional fire and rescue services to outer metropolitan, regional and rural South Australia. SACFS is an all-hazards agency responding to bushfire, building fire, road crash rescue and hazardous material spills.

**South Australian Metropolitan Fire Service (SAMFS) –**

Responsible for protecting the community from the effects of fires, road crashes, dangerous substances and other emergencies within the inter metropolitan areas and within the larger South Australian regional centres.

### Thermal Runaway

It is a term used for the rapid, uncontrolled release of heat energy from a battery cell; it is a condition when a battery creates more heat than it can effectively dissipate. Thermal runaway in a single cell can result in a chain reaction that heats up neighbouring cells. As this process continues, it can result in a battery fire or explosion. This can often be the ignition source for larger battery fires. (NFPA, 2022).

### Vegetated Management Zone (VMZ)

Vegetation management is the targeted control or removal of unwanted vegetation. It involves various control methods to reduce the risks of overgrown or invasive plants, hazardous trees, weeds and other vegetation. For the purpose of this document, the VMZ is related to fire spread mitigation.

### Wind Turbine Generators

A wind turbine turns wind energy into electricity using the aerodynamic force from the rotor blades.

## Referenced standards

| Australian (and other) Standards referred to in this schedule: |                                                                                                                                                           |
|----------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
| National Construction Code (NCC)                               | Volume 1 – 2022                                                                                                                                           |
| AS 1851                                                        | Australian Standard 1851 – Maintenance of fire protection systems and equipment                                                                           |
| AS 2419                                                        | Australian Standard 2419 – Fire hydrant installations                                                                                                     |
| AS 3500 (set)                                                  | Australian/New Zealand Standard 3500 Set – Plumbing and drainage                                                                                          |
| AS 4428.17                                                     | Australian Standard 4428.17 - Fire detection, warning, control and intercom systems - Control and indicating equipment 003 key - Fire services key system |
| Ministerial Building Standard MBS 002                          | Maintaining the performance of essential safety provisions                                                                                                |
| Ministerial Building Standard MBS 008                          | Designated bushfire-prone area – additional requirements.                                                                                                 |



## Purpose

This SACFS Checklist applies to large-scale BESS installations with a capacity of 2MWh or greater, situated externally and not housed within a building. BESS installed within a building poses additional hazards that are outside the scope of this Document due to their elevated risk profile.

This Checklist provides standard considerations and measures in relation to fire safety, risk, bushfire planning requirements and emergency management to be considered when designing, constructing and operating new renewable energy facilities, and upgrading existing facilities.

Facilities that support the generation of electricity in South Australia include wind energy, solar energy and Battery Energy Storage Systems (BESS). These facilities are the main focus of this Checklist, for information on other forms of generation, please contact the SACFS Risk and Resilience Team.

The principles and model requirements within this document may be applied to emerging renewable technologies such as geothermal and biomass, where applicable.

This Checklist is designed to assist the applicant in ensuring all aspects of the proposed design meet the expectations of the SACFS and the resilience of the local community, by:

- i. Reduce the occurrence and consequences of fire at renewable energy facilities through risk-based design, and enable safe and effective emergency response through the provision of fire protection systems.
- ii. Inform fire and risk management processes for all phases of a facility's lifespan, through the preparation of Risk Management Plans and Fire Management Plans by facility operators.
- iii. Support operators to prepare Emergency Management Plans that effectively consider bushfires.
- iv. Support the preparation of planning applications and their assessment by authorities.

## Principles

While this Checklist has been developed based on the latest information available, it has not been possible to capture every possible renewable energy facility configuration or battery chemistry due to the rapid evolution of the technology. This Checklist is general advice and does not address a specific arrangement or technology; however, these principles can still be applied.

- i. Effective identification and management of hazards and risks specific to the siting, infrastructure, layout, and operations at the facility.
- ii. Siting of renewable energy infrastructure to eliminate or reduce hazards to emergency responders.
- iii. Safer access for emergency responders in and around the facility, including to renewable energy and firefighting infrastructure.
- iv. Provision of adequate water supply and firefighting infrastructure to allow safe and effective emergency response.
- v. Consideration should be given that all infrastructure be built away from hazardous vegetation to remain compliant with the recommended vegetation management guidelines provided in this document, thus reducing bushfire and grassfire risk. Reduce the risk of fire ignition on-site.
- vi. Reduce the risk of fire spread between site infrastructure (solar panel banks, wind turbines, battery containers/enclosures).
- vii. Reduce the risk of external fire impacting and igniting site infrastructure.
- viii. Provision of accurate, current and timely information for emergency responders during emergencies.
- ix. Effective emergency planning and management, specific to the site, infrastructure and operations.
- x. Effective bushfire emergency planning and response, which prioritises the absence of personnel on days of elevated fire danger rating.

## How to use this checklist and seek a comment from the SACFS.

The Checklist is laid out into relevant sections and includes the minimum requirements and expectations by the SACFS for any proposed design and installation.

At the end of each requirement, there is a check box for the reader to confirm that the proposed design has met these requirements.

Any submission made to the SACFS must include a statement of each of these relevant sections confirming compliance. If compliance has not been met, then a detailed submission showing how the proposed design will meet the SACFS requirements.

To ensure a SACFS comment is returned in a timely manner, all submissions made to the SACFS must include a statement of conformity with each section; alternatively, identify any variation from this Checklist.

The Applicant must return this document (fully completed) with copies of the proposed site plan showing all aspects of the requirements identified in this Checklist and any justification of any variations.

SACFS may charge a fee for reviewing your submission under the SA Fire and Emergency Services Act.

## Facility Design

Renewable energy facilities must be located in low-risk areas and designed to eliminate or reduce the risk of fire occurring, and if it does occur, its consequences. These requirements can be addressed through the means of siting, access/egress, vegetation management, fire water supply, and emergency management provisions. Further information on how these requirements can be met is addressed.

### Siting

Where a reticulated mains supply is available, automatic inflow and manual quick-fill facilities are required to be provided in accordance with AS 2419.1. All tank infill facilities must be located such that they are visible from the suction connection location(s).

The SACFS recommends establishing and maintaining a Vegetation Management Zone (VMZ) to create a setback/buffer to any infrastructure using mineral earth breaks, roadways and/or areas of managed vegetation to prevent or prohibit the spread of bushfires to and from the site, minimising the risk to life, and or damage to buildings and property and maintain a fuel reduced zone for safe movement of occupants and firefighters.

SACFS recommends all buildings and infrastructure, such as Substation, Inverter Stations, Solar Panels, BESS and Control Buildings or alike, should be located away from the property boundaries or existing remnant vegetation being retained, for the purposes of maintaining a VMZ and to achieve maximum exposure of no more than BAL 12.5 kW/m2\*.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

As a guideline, the SACFS recommends a minimum clearance consideration for all fixed and non-fixed infrastructure no less than 20 metres from the property boundaries or existing remnant vegetation being retained, for the purposes of maintaining an VMZ.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

\*The siting distance to achieve maximum exposure of no more than a BAL 12.5 kW/m2 will be based on the separation distance of the infrastructure to the property boundaries or existing remnant vegetation being retained, the classified vegetation, and effective slope under the classified vegetation in accordance with AS3959 FDI 80.

The siting of Wind Turbine Generators (WTG), will be required to be assessed at the time of the development application process and determined by the surrounding vegetation and effective slopes.

## Access/Egress

Any internal road networks should be designed to achieve compliance with the 'Roads' Performance Outcome as detailed below.

Perimeter roads with a minimum formed road width of 6 metres should be incorporated to achieve adequate separation between infrastructure and areas of bushfire hazard to support safer access for the purposes of firefighting or provide mineral earth breaks for passive protection from the spread of fire to and from the site.

A minimum of two (2) access/egress gates located opposite each other should be included. This is to mitigate the risk of fire crews being trapped inside a fenced compound and to have options of entry or escape if one (1) gate is impacted by environmental conditions.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

All access/egress roads on the project site :

- Shall be constructed with a formed, compacted, self-draining, all-weather surface.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

- Roads shall have a minimum formed road width of 6 meters, or if constructed less than 6 metres wide, access shall include appropriately sized passing bays or turning areas, spaced no more than 200 meters apart to support safer access for firefighting activities:
  - Passing bays with a minimum width of 6 metres and a length of 17 metres, or
  - 'T' or 'Y' shaped turning area with a minimum formed length of 11 metres and minimum internal radii of 9.5 metres.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

- Incorporating cul-de-sac endings or dead-end roads has either:
  - A turning area with a minimum formed surface radius of 12.5m, or
  - 'T' or 'Y' shaped turning area with a minimum formed length of 11 metres and minimum internal radii of 9.5 metres.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

- Shall be constructed with a minimum external radius of 12.5m for all road curves.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

- Shall not exceed a gradient of 16 degrees (29%).

**Compliance / Performance Requirement met**

☒ Yes

☐ No

- Shall incorporate solid all-weather crossings over any water-course capable of supporting fire-fighting vehicles with a gross vehicle mass (GVM) of 21 tonnes.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

- Vegetation overhanging the access road shall be pruned to achieve a minimum vehicular clearance of not less than 4 metres in width and a vertical height clearance of 4 metres.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

- All access gates to be readily accessible to attending fire service units, this may be with the use of a 003 type padlocks in accordance with AS4428.17.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

Buildings and infrastructure such as Substation, Inverter stations, BESS, Solar Panels and Control Buildings the following will also apply (including the above provisions):

- Perimeter roads shall be incorporated to achieve adequate separation between infrastructure and areas of bushfire hazard, including areas of remnant vegetation being retained within the boundaries of the allotments to support safer access for the purposes of firefighting or provide mineral earth breaks for passive protection from the spread of fire to and from the site.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

- Shall include two (2) separate and safe exit points located on opposite ends of the road network to enable multiple avenues of entry and evacuation in the event of a bushfire.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

- Shall allow fire-fighting vehicles to safely enter and exit the site in a forward direction by incorporating a loop road around the site.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

Note: Additional fire safety measures pertaining to access roads may be prescribed by the National Construction Code (NCC).

## Vegetation Management

Under the South Australian Fire and Emergency Service Act – 2005 - Division 3 “*Duty to prevent fires*” sections 105F, 105G and 105H, it is the landowner’s responsibility to take reasonable steps to prevent any outbreak of fire on the land or to spread into neighbouring properties. Vegetation management is one of the ways to mitigate this risk.

Vegetation Management adjacent (buildings and infrastructure such as Substation, Inverter stations, BESS and Control Buildings):

- Vegetation management shall be established and maintained within each Substation/Control Building and BESS or alike as follows:
  - i. The understorey plants within the Vegetation Management Zone (VMZ) shall be maintained such that when considered overall a maximum coverage of 30% is attained, and so that the leaf area of shrubs is not continuous.
  - ii. No understorey vegetation shall be established within 10m of the Substation/Control Building site (Understorey is defined as plants and bushes up to 2m in height).
  - iii. Grasses within the zone shall be reduced to a maximum height of 10cm during the fire danger season (e.g. by grazing, slashing or chemical treatment)
  - iv. The VMZ shall be maintained to prevent the accumulation of dead vegetation during the fire danger season.

As a guideline, the SACFS recommends that vegetation management shall be established and maintained within 20 metres of all infrastructure as a minimum in accordance with the above conditions.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

The size of the VMZ will be based on the separation distances to achieve no more than a BAL 12.5 kW/m<sup>2</sup> exposure in accordance with AS3959 FDI 80.

- A single row of trees and/or shrubs are permitted for screening purposes, in accordance with the below:
  - i. Located no less than 10 metres from all infrastructure and not connected to other hazardous vegetation.
  - ii. Located no less than 10 metres from the access road.
  - iii. Shrubs shall not be planted under trees. Species, with a single stem habit are preferred, with the lower limbs removed to prevent them connecting with grassy understorey.
  - iv. Screening plants should have low flammability characteristics, be kept in optimum health, pruned regularly, and any dead vegetation removed.

**Compliance / Performance Requirement met**

☒ Yes

☐ No



## Fire water supply

A Fire water supply is required to assist in normalising any fire-related incident. For sites with no BESS systems, this is primarily used as a resource to suppress, hold or redirect any environmental fire on, near or impacting the property. For sites with a BESS system installed, the fire water is additionally used to cool the nearby BESS enclosures to reduce the risk of heat transfer from the fire-affected battery cells in the nearby BESS container.

Fire water tank details with the proposed location and sizes need to be confirmed and endorsed by the SACFS before being installed for suitability, and must meet the below specifications.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

### For non-BESS sites:

SACFS requires a minimum supply of water for bushfire fighting be supplied in addition to or in conjunction with other firefighting water that is accessible to the Fire Service as follows:

- i. Water supply capacity of 22 000 litres with a 65mm Storz (small-bore suction outlet).
- ii. The dedicated water supply and its location should be identified with suitable signage (i.e. blue sign with white lettering "FIRE WATER").
- iii. Access to the water supply shall be constructed of all-weather construction, with a minimum formed road surface width of 3 metres.
- iv. Provision shall be made adjacent the water supply for a nominally level hardstand area (capable of supporting fire-fighting vehicles with a gross vehicle mass (GVM) of 21 tonnes) that is a distance equal to or less than 6 metres from the water supply outlet.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

### For BESS located in a SACFS Response Area:

- i. Fire tank (1x 72,000L) to be made available in accordance with AS 2419.1. and include both large and small-bore suction outlets to SACFS requirements.
- ii. Located at the main entrance to the site. If unable to achieve this, then clear signage is to be provided to clearly and quickly identify the location of the fire tank/s.
- iii. Access to the water supply shall be constructed of all-weather construction, with a minimum formed road surface width of 6 metres.
- iv. Fire tanks shall be identified with signage in accordance with AS 2419.1.
- v. Provision shall be made adjacent the water supply for a nominally level hardstand area (capable of supporting fire-fighting vehicles with a gross vehicle mass (GVM) of 21 tonnes) that is a distance equal to or less than 5 metres from the water supply outlet.
- vi. The water supply is required to be available to all BESS system pod/containers within 90 metres of hose lay of the static fire water tank. If this cannot be achieved, then additional static fire water tanks or a dry hydrant system may be required.

**Compliance / Performance Requirement met**

☐ Yes

☒ No

For sites located within a South Australian Metropolitan Fire Service (SAMFS) Response Area, the configuration of the water supply will be determined in consultation with SAMFS.

## Emergency Response Planning

A Bushfire Management Plan and the Emergency Management Plan will need to be established, reviewed, and updated every 12 months by the company and/or its operators. Revised versions to be forwarded to the relevant SACFS Regional Office to use as a reference.

The safety of first responders must be a priority, and emergency response plans will not require firefighters to open or enter the BESS compartment at any time.

The SACFS requires the company and/or its operator to remotely monitor the installed systems and be able to remotely shut down any live systems.

A representative of the company/ or its operator must be on site within 60 minutes of the 000 call to support fire service attendance.

During the construction and decommissioning phases and whilst undertaking maintenance, proponents should provide basic firefighting equipment at each site, including fire extinguishers, knapsacks, and other equipment suitable for initial response actions.

The Company and/or its operators will be required to engage with the Regional SACFS representative on a regular basis, regarding regular on-site training and site inductions for emergency service personnel.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

## Manifest Box (or similar)

Given the complexities that the subject site presents, SACFS further require the installation of a Manifest Box at the main entrance of the site.

This box (which looks a bit like a small meter box), should be red with white writing 'Fire Protection system' or similar, and be clearly visible to fire crews as they approach the site.

Information contained should include, but is not limited to, a list of emergency contact phone numbers and a site plan highlighting vehicle access, turning ability, buildings and infrastructure locations, fire water i.e., fill locations, all fire protection equipment, and any on-site hazards or storage of dangerous materials i.e., LPG, fuels or chemicals.

Access to the Manifest Box, if locked, must be readily accessible using a Lockwood 003-type padlock, in accordance with AS 4428.17

**Compliance / Performance Requirement met**

☒ Yes

☐ No

## Aerial Firefighting Operations (WINDFARM)

In the event of a bushfire in and around a wind farm facility, wind turbines are required to be shut down immediately in a 'rabbit ears' configuration to facilitate safe aerial firefighting operations. This is to reduce and standardise operational flying risks.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

(Partial - See s8.7 of BMP)

Meteorological monitoring towers, associated with pre-construction investigative activities as well as operating wind farms may pose a risk to pilots as they are not easily visible structures. For these structures, the Company and/or its operators should record these towers in the Tall Structures Database maintained by Air Services Australia (Civil Aviation Safety Authority 2018) and install warning lights or visible markers on all masts.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

Wind farm developers and operators should have regard for the Australasian Fire and Emergency Service Authorities Council 2018, Wind Farms and Bushfire Operations (AFAC Publication No. 2053) when developing their Emergency Management Plan.

## Building considerations and BESS

All class 2 – 9 buildings will need to comply with the National Construction Code (NCC) and include all the minimum *Deemed to Satisfy* fire and life safety provisions. Depending on the number of BESS installed within a building, it may be an option of the SACFS to deem this a building of specific hazard and require a referral under SA Development Regulation 43(3).

**Compliance / Performance Requirement met**

☒ Yes

☐ No

## Additional Requirements

- Access and working clearances for large emergency service vehicles to the "Electrical Transmission Area/ control room area" need to be incorporated. This includes a reasonably clear and safe working environment.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

- Servicing of the detection and suppression system (if installed) within the racks will be maintained to the manufacturer's and to SA Ministerial Building Standard MBS 002 "Maintaining the performance of essential safety provisions" requirements and be recorded.

**Compliance / Performance Requirement met**

☒ Yes

☐ No

## Other considerations

- i. The SACFS will not accept BESS container fire detection system monitoring requests unless required by the NCC.
- ii. If a battery rack is required to be open at any time (including during an emergency event), this will be done by the Company and/or its operator's staff and not the Fire Service.
- iii. Developers and operators should have regard for the Australasian Fire and Emergency Services Authorities Council (AFAC) Large-scale battery energy storage system installations (AFAC Publication No. 3105), AFAC, Melbourne, Australia Council 2025.
- iv. SACFS makes this information available on the understanding that you take reasonable care when using it. If you have any uncertainty about the application of the information to your particular circumstances, you should obtain professional advice.
- v. SACFS does not accept responsibility for how you apply or rely on the information in this publication.
- vi. SACFS, as the referral agency, reserves the right to request additional information and provide further comment, under the Planning Development and Infrastructure Act and Regulations, in particular, but not limited to South Australian Development Regulation 45 (3), during the Building Rules approval process.

Considered

☒ Yes

☐ No

Checklist completed by: Sia Niakolas

Date: 09/02/2026

Email: Sia.Niakolas@tiltrenewables.com

Phone Number: 0460 325 196

## SACFS Development Assessment Services ALTERNATIVE ENERGY DEVELOPMENT PROPOSAL

### Request for Comment Application.

|                                                                        |                                                                                                                                                                                         |
|------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Applicant Name</b>                                                  | Tilt Renewables Australia Pty Ltd as Trustee for Palmer Wind Farm Project Trust                                                                                                         |
| <b>Nature of Development</b>                                           | Wind Farm and associated infrastructure                                                                                                                                                 |
| <b>Development Number</b>                                              | 24005571                                                                                                                                                                                |
| <b>Status of Development Approvals</b>                                 | Development Consent obtained from State Commission Assessment Panel in February 2025.<br>Native Vegetation Clearance Approval obtained from Native Vegetation Council in November 2025. |
| <b>Development/Property Name</b>                                       | Palmer Wind Farm                                                                                                                                                                        |
| <b>Location</b>                                                        | 50kms east of Adelaide, to the west of Palmer                                                                                                                                           |
| <b>Main Entrance Location</b>                                          | Randell Road                                                                                                                                                                            |
| <b>Operator</b>                                                        | Tilt Renewables Australia Pty Ltd as Trustee for Palmer Wind Farm Project Trust                                                                                                         |
| <b>Owner</b>                                                           | Tilt Renewables Australia Pty Ltd as Trustee for Palmer Wind Farm Project Trust                                                                                                         |
| <b>Responsible Person and address to invoice for any SACFS charges</b> | Sia Niakolas<br>Environment and Development Planner<br>E: sia.niakolas@tiltrenewables.com<br>M: 0460 325 196                                                                            |

To submit, please return this form with details of the proposed development, the completed checklist, site plan and any other informative documents in relation to your project.