

2020

Bushfire Emergency Response Plan



Note: This section is intended for the purpose of demonstrating compliance with the planning permit conditions and will be moved to an Appendix in the approved plan for operational efficiency purposes.

Introduction Note

This Bushfire Emergency Response Plan (**BERP**) has been designed to be a practical *bushfire* operational plan to meet the needs of the people working at the Berrybank Wind Farm (**BWF**) with their input, to ensure it is a practical easy to use document by those who will rely upon it, potentially under emergency conditions and for training purposes whilst meeting / exceeding the planning permit conditions.

This will assist with achieving compliance with the Occupational Health & Safety Act 2004 which requires development of any emergency response plan to be practical, risk based and achievable.

The following is an abstract from section 21 of the OH&S Act - duties of employers to employees:

‘must provide such information, instruction, training or supervision to employees of the employer as is necessary to enable those persons to perform their work in a way that is safe and without risks to health’.

An important part of achieving this requirement is to ensure employees who work at the windfarm have been involved in development of the BERP.

Berrybank Wind Farm Site

The BWF, located in Berrybank, will comprise of up to 79 wind turbines over the site area of 5,034 h. and will generate up to 302 MW of electricity per annum, refer Site Plan on page 8.

Planning Permits 20092821 (Corangamite Shire) and 20092820 (Golden Plains Shire) (the planning permits) were issued on 24 August 2010 to allow for:

“Use and development of land for a wind energy facility, including anemometers, business identification signage including access roads, sub-station, water storage tanks and removal of native vegetation subject to conditions.”

Amendments to Planning Permits 20092820 and 20092821 (as amended) were made on 1 September 2016, 4 February 2018 and 06 July 2020 to allow a time extension to the permit, increase in height of turbines 180 metres, reduce the maximum number of turbines and amend some of the planning permit conditions.

A summary of the BWF site is provided in **Table 1**.

Table 1: BWF Summary

Infrastructure	Detail
Number of Turbines	Up to 79 in total: <ul style="list-style-type: none">• 38 – Corangamite Shire Council• 41 – Golden Plains Shire Council
Maximum Height	180 m above natural ground level
Capacity	302 MW
Other infrastructure	<ul style="list-style-type: none">• Water storage tanks• Anemometers• Underground cables• Temporary concrete batching plant• Switchyard

On-site substation	<ul style="list-style-type: none"> Refer Sub-station layout – Appendix D
Batching Plant	<ul style="list-style-type: none"> Refer batching plant layout – Appendix E
Site Compound	<ul style="list-style-type: none"> Refer site compound layout – Appendix F

Construction will be undertaken in accordance with the **Endorsed Construction and Worksite Management Plan**, and Condition 12 of the planning permits, and will occur between the hours outlined in **Table 2**. Where work occurs outside of these hours, this will be undertaken in accordance with relevant management plans and in consultation with relevant stakeholders.

Table 2: Construction Hours

Day	Time
Monday to Friday	7.00 am – 7.00 pm
Saturday	7.00 am – 7.00 pm
Sunday and Public Holidays	Closed

Bushfire prevention

Bushfire prevention is defined as strategies and tactics directed towards the prevention and suppression of *bushfires* within the skills, training and capabilities of employees working at the wind farm during the declared *fire danger period*.

A goal of *bushfire* prevention is to educate windfarm employees to take precautions to prevent potentially harmful *bushfires*, have readiness strategies in place so they are prepared in case of a *bushfire* and response tactics if a *bushfire* occurs from within or external to the windfarm to ensure their safety and wellbeing.

An important fire prevention strategy is to have an emergency management structure in place. This will ensure *bushfire* prevention, readiness and response strategies / tactics are continually tested through exercises, training and improvements made from lessons learnt. The result is windfarm employees working together effectively as possible to contribute towards achieving a safe workplace.

Bushfire prevention also involves providing firefighting capability to responding fire brigades which have a regulatory responsibility (*section 20 under the CFA Act 1958*) for the prevention and suppression of fire and for the protection of life and property in case of fire in the country area of Victoria. To assist the fire brigades to achieve these statutory obligations, the windfarm has provided CFA's preferred safety measures as detailed in the planning permit conditions listed below.

Bushfire Prevention and readiness works

The following *bushfire* prevention and readiness conditions as listed in section 12 e) of the planning permits will be implemented. Where they have changed or exceeded the current Wildfire Prevention & Emergency Response Plan (**WP&EMP**) dated February 2019, details have been provided as a **Note** against each relevant condition.

To assist with doing a comparison between the current WP&EMP and proposed new BERP, the relevant section from the WP&EMP have been referenced in blue. It is important to also read sections 1.1,1.2,1.3, 2.3 and Appendices A and B of this BERP to see how all *bushfire* risk mitigation and controls are interdependent, provide a holistic approach to *bushfire* management to fully understand how they will meet / exceed the planning permit conditions within a practical operational context.

- I. The provision of strategic fire suppression and access areas through the wind energy facility clear of raised crops. **Note – raised crops only occupy 5 – 7% of the windfarm site footprint. It is not possible, necessary nor safe for a direct fire attack of fires on raised crops. The fire suppression strategy would be an indirect attack, i.e. wait for the fire to reach an access area / track / road and suppress. Refer site plan on page 8 of this BERP for details on access tracks [4.4].**

- II. Constructed roads should be minimum of 4 metres trafficable width, with a 4 metre vertical clearance for the width of the formed road. **Note – road width will be minimum 5m [3.2.1, 4.4].**
- III. Roads should be constructed to a standard so that they are accessible in all weather conditions and capable of accommodating a vehicle of 15 tonnes for the for the trafficable road width. **Note – the road network will be constructed to be fit for purpose for over-dimensional vehicles with axle loadings up to 20T/axle [4.4].**
- IV. The average grade should be no more than 1 in 7 (14.4%) (8.1°) with a maximum of no more than 1 in 5 (20%) (11.3°) for no more than 50 metres. **Note – the landscape is mainly flat with some low-lying undulation and therefore below the required average road grade [4.4].**
- V. Dips in the road should have no more than a 1 in 8 (12.5%) (7.1°) entry and exit angle. **Note - all entry and exits will be relatively flat [4.4].**
- VI. Water access points shall be located in safe easily identifiable areas, accessible in all weather conditions. **Note – refer to windfarm site plan on page 8 of this BERP showing all water storage areas [4.5].**
- VII. Water access points should be designed, constructed and maintained for a load limit of at least 15 tonnes. **Note – the road network which includes water access points will be constructed to be fit for purpose for over-dimensional vehicles with axle loadings up to 20T/axle [4.5].**
- VIII. A turning point with a minimum radius of 10metres is required for fire appliances at all water access points [4.5].
- IX. Fire brigade should be able to park within 4 metres of the water supply outlet on a hard-standing area [4.5].
- X. Bulk static water storages (22500 Litres) should be provided adjacent to main access tracks for firefighting. **Note – 25,000L water tanks will be installed, refer to windfarm site plan on page 8 of this BERP [4.5 & Figure 4].**
- XI. All tanks should be manufactured with at least one (preferably 2) 64mm, 3 thread/25mm x 60mm nominal bore British Standard pipe (BSP) round male coupling 50mm from their based. Outlets should be minimum of 2m apart [4.5].
- XII. Water access are to be marked by appropriate signage as per CFA's Guidelines for identification of street hydrants for firefighting purposes [4.5.2].
- XIII. Grass should be no more than 100mm in height and leaf litter no more than 10mm deep for a distance of 30m around constructed buildings and viewing platform. **Note – In addition to this condition, all unnecessary fuel and combustible materials around buildings, storage containers, will be managed (i.e. grass is cut (100mm), overgrown vegetation trimmed, fine fuels / leaf litter removed when more than 10mm deep, rubbish is disposed, etc) and maintained to a minimum distance of 4 metres [4.6.1].**
- XIV. A fuel reduced area of 4 metres should be maintained around the perimeter of electricity compounds and substation type facilities. **Note - In addition to this condition, all unnecessary fuel and combustible materials around electricity compounds and substations will be managed (i.e. grass is cut (100mm), overgrown vegetation trimmed,**

fine fuels / leaf litter removed when more than 10mm deep, rubbish is disposed, etc) and maintained to a minimum distance of 4 metres [4.6.1].

- XV. There should be no long grass or deep leaf litter in areas where plant and heavy equipment will be working. **Note – plant and equipment will be restricted to travel and work from roads and crane pads which will be 36metres x 36metres. The following points differ from the current WP&EMP [4.1.1]:**
- **Ensure the exhaust of all vehicles likely to be driven near or in contact with any vegetation, passes through a silencing device / spark arrestor and are carrying a 1 x 9 litre water stored pressure fire extinguisher with a minimum rating of 3A;**
 - **All plant and heavy equipment will be accompanied by a vehicle carrying minimum 1 x 9 litre water stored pressure fire extinguisher with a minimum rating of 3A and must remain in the vicinity of any operating machinery at all times.**
- XVI. All plant and heavy equipment should be accompanied by a vehicle carrying minimum 1 x 9 litre water stored pressure fire extinguisher with a minimum rating of 3A and must remain in the vicinity of any operating machinery at all times [4.1, 4.2].
- XVII. Internal fire protection, where appropriate, installed at the wind energy facility [4.2].
- XVIII. Lightning protection devices, where appropriate, installed at the wind energy facility [4.2].
- XIX. Dedicated monitoring systems within each wind turbine that detect temperatures increases in turbines and then shuts down when threshold temperature is reached [4.2].
- XX. Construction of the wind farm energy facility outside the fire season where possible [4.1].
- XXI. A program of training of volunteers and paid CFA personal in fire suppression in and around the wind energy facility [4.7].

Table of Contents

POLICY AIM AND AUTHORITY	7
1 Responsibilities of the <i>Emergency Controller</i>	10
1.1 Prevention	10
1.2 Readiness	12
1.3 Response.....	13
2 Emergency Response Procedures.....	14
2.1 Minor Fires / Incidents	14
2.3 Bushfire	15
2.6 Dangerous Goods Incident	16
3 Definitions	18
Appendix A - Emergency Management Planning	20
Appendix B - Training and Exercising Requirements	23
Appendix C – Fire Danger Rating & Potential Fire Behaviour	24
Appendix D – Subsubstation.....	25
Appendix E – Batching plant.....	26
Appendix F – Site compound	27

POLICY AIM AND AUTHORITY

POLICY FOR EMERGENCIES

The management of Berrybank Windfarm have commissioned the production of this bushfire emergency response plan (**BERP**) as part of our commitment to the health, safety and well-being of all staff, contractors and persons who enter the Berrybank Windfarm for any legitimate purpose and for the welfare and general good of the surrounding community and environment.

AIM OF THIS PLAN

The aim of this plan is to reduce the potential for loss or injury to life, property and the environment which could occur at the windfarm and adjoining properties. The plan is based on the application of sound risk management principles and using risk and evidence-based bushfire procedures that have been approved by Berrybank Windfarm management supported by fire protection equipment, systems and training as part of the windfarms development and ongoing management.

The plan will be reviewed annually by the windfarm emergency management committee or as additional bushfire risk mitigation treatments and controls are implemented to ensure relevance, and so all staff and contractors are both comfortable and informed on their respective roles and responsibilities during a bushfire emergency.

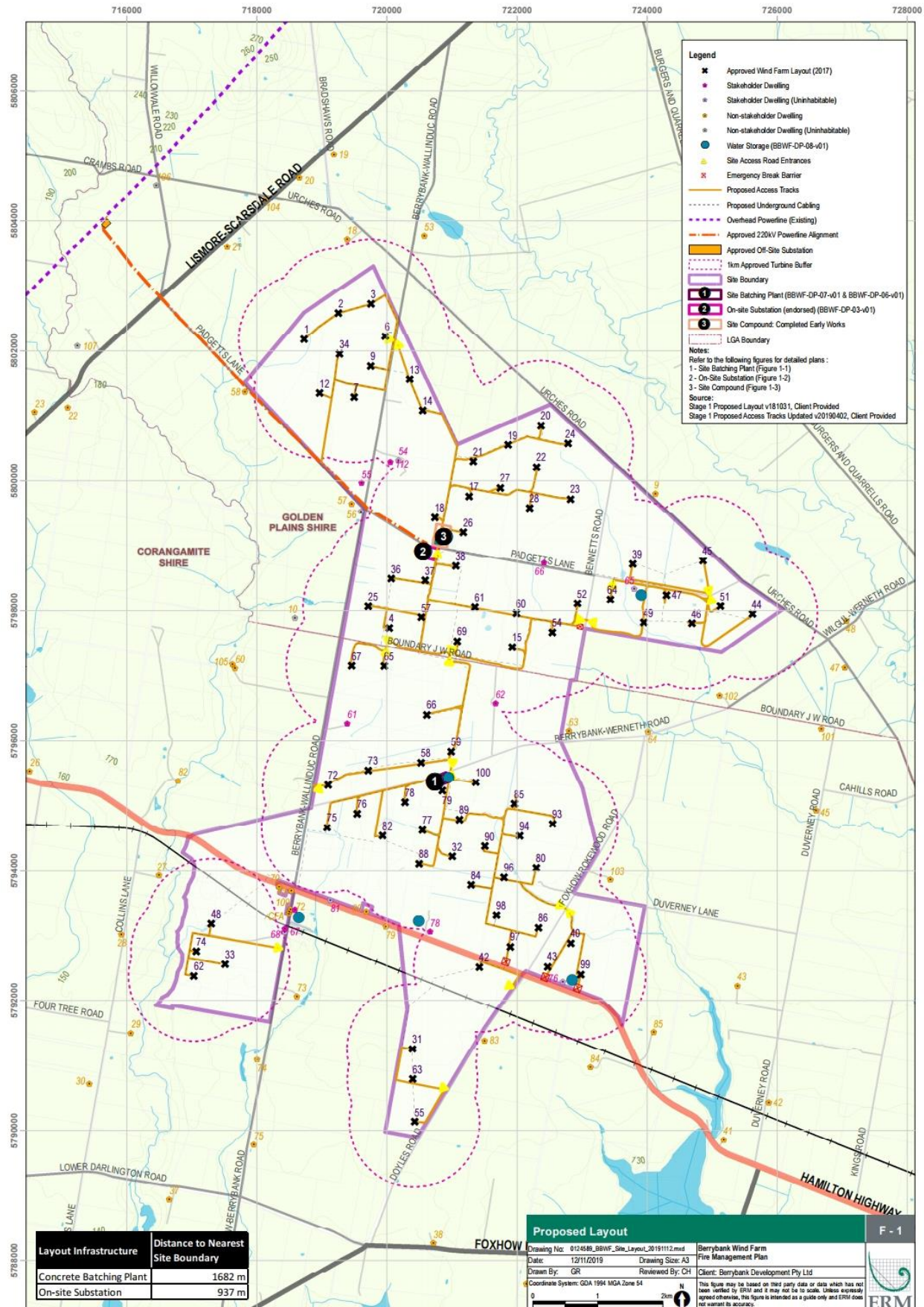
BERRYBANK WINDFARM MANAGEMENT APPROVAL

This BERP is a subplan of the Berrybank Windfarm Emergency Response Plan (BBWF-PM_PLN-007) and is consistent with Berrybank Windfarm occupational health and safety policy and overall windfarm site management plan and has been developed with the assistance of a person qualified and experienced in fire and emergency management.

Authorised by:
David Santo Tomas Menocal

Implementation date

Windfarm Site Plan



Emergency Contact Numbers

Fire Brigade	000
Police	000
Ambulance	000
State Emergency Service (Storms etc)	000
Worksafe Victoria (Hotline)	1800 136 089
Vic Roads – Report a Hazards (24 hours)	131 170
Powercor (24 hours)	13 24 12
South West Healthcare Camperdown Hospital	5593 7300

Non-Emergency Contact Numbers

Berrybank Fire Brigade (CFA)	5596 4239
CFA District 6 Headquarters	5232 1923
Corangamite Shire Council	5593 7100

Emergency Response Team Mobile Numbers

Name	Company	Ph.
Anton Viljoen (ERT LEAD)	Vestas	0436 698 230
Beau Broadbent (ERT DEPUTY)	Vestas	0401 371 777
Ashenafi Woldehawariat	Vestas	0436 817 922
Craig Mahar	Vestas	0436 938 138
Heath Berry	Vestas	0436 938 136
Rui Cruz	Vestas	0436 853 108
Tony Mee	RJE	0419 839 440
Carl Oloffson	RJE	0487 477 453
Cameron Wakefield	BMS	0457 067 203
Amanda Menabue	PWS	0477 898 710
Adam Dodd	PWS	0407 722 427
Michelle Housego	Vestas	0436 921 153
Mohammad Obeidat	RJE	0455 469 870
Ben Bowering	RJE	0437 416 692
Mohammad Fahad	Vestas	0436 805 512
Kym Dodd	PWS	0429 369 994

IMPORTANT NOTE

- This BERP uses defined terms which are shown in *italic* and their definition can be found in section 3.
- Appendix A provides information on the Emergency Management Committee, Emergency Response Team and their responsibilities' in relation to *bushfire*.
- Appendix B provides information on staff training and exercising requirements.
- Appendix C provides information of Fire Danger Ratings and potential fire behaviour

1 Responsibilities of the *Emergency Controller*

Prevention, Readiness and Response Responsibilities

It is the responsibility of the *emergency controller* to ensure all of the following duties are undertaken. The *emergency controller* can delegate some or all his/her roles and responsibilities to a *deputy emergency controller* as required.

1.1 PREVENTION

During the *fire danger period*

- Ensure all flammable and combustible liquids are safely stored to prevent accidental spillage, vapour escape, rupture and are well away from potential ignition sources. Treat empty flammable / combustible liquid storage containers as full;
- Ensure there is an up to date dangerous goods manifest available at the site office and at the main storage area and Safety Data Sheet (**SDS**) for each dangerous good being stored and handled on site.
- Dispose of any unused or excess *hazardous substances*, and ensure incompatible *hazardous substances* are stored separately to prevent accidental mixing;
- Ensure the correct type of fire extinguisher (minimum 4.5kg dry chemical) for flammable / combustible liquids *and hazardous substances* are installed and easily accessible;
- Implement and monitor the site's no smoking policy except in designated areas;
- Ensure no welding, grinding or other hot works that could emit a spark or flame is undertaken unless it is clear of all flammable / combustible liquids, *hazardous substances*, *combustible material* and there is a minimum of 2 x 9 litres stored water extinguishers or other suitable firefighting equipment available, i.e. water tanker or firefighting trailer;
- Ensure unnecessary fuel and *combustible materials* within the windfarm and around buildings, storage containers, electricity compounds and substations are managed (i.e. grass is cut (100mm), overgrown vegetation trimmed, fine fuels / leaf litter removed when more than 10mm deep, rubbish is disposed, etc) and maintained to a minimum distance of 4 metres;
- Ensure the exhaust of all vehicles likely to be driven near or in contact with any vegetation, passes through a silencing device / spark arrestor and are carrying a 1 x 9 litre water stored pressure fire extinguisher with a minimum rating of 3A;
- Ensure all plant and heavy equipment will be accompanied by a vehicle carrying minimum 1 x 9 litre water stored pressure fire extinguisher with a minimum rating of 3A and must remain in the vicinity of any operating machinery at all times;
- Ensure a monthly safety inspection of all plant and equipment to ensure there are no faults or mechanical defects and the silencing device / spark arrestor is working efficiently;
- Ensure lightning protection devices are installed where required and are regularly inspected and maintained.

- Ensure no welding, grinding or other hot works that could emit a spark or flame is undertaken unless the following controls are in place:
 - No hot works on days of Extreme or above grass fire danger rating at the windfarm,
 - Hot works are completed in a cleared area of vegetation matter and easily ignitable material,
 - Minimum 2 x 9L water fire extinguishers are at hand for immediate use,
 - A hot works permit has been issued with the above prescription before work commences.
- Conduct weekly inspections to identify any poor housekeeping issues to ensure all 36m x 36m crane pad areas (*bushfire protection area*) and around all site buildings, storage containers etc are maintained in a clean state as much as practicable to prevent the accumulation of *combustible materials*, vegetation or other hazards, i.e. *hazardous substances*.
- Provide administrative support and awareness by including fire brigade burning notices within the windfarm weekly newsletter to the community.

1.2 READINESS

During the *fire danger period*

- Install an emergency information container which is painted red and marked 'EMERGENCY INFORMATION' in white contrasting lettering not less than 25mm high at all main access points installed at a height of 1.2m – 1.5m. Ensure the containers has a site plan and up to date dangerous goods manifest;
- Ensure the windfarm emergency warning system (i.e. UHF/CB radio system is working and tested regularly as determined by the *emergency controller*;
- Ensure all portable fire extinguishers installed around site offices, storage containers etc are in place, easily accessible and checked monthly to ensure they are in working order, i.e. check extinguisher body and hose for damage, pressure gauge etc;
- Ensure all static fire water tanks for firefighting are full at all times, are easily accessible and CFA connections valves are regularly checked and maintained;
- Ensure water access point signage is in place and easily visible;
- Ensure CFA has a map with the location of all fire water tanks and their access tracks;
- Ensure the BERP always remains accessible to *deputy emergency controllers* and Emergency Response Team (ERT) members;
- Ensure all staff are aware of emergency procedures, and participate in training and exercise drills at least yearly and preferable prior to each *fire danger period*;
- Ensure all ERT, staff, and contractors are trained in the use of all fire protection equipment available at the windfarm and on their roles and responsibilities in the operation of this BERP;
- Ensure the *bushfire protection area* / safe assembly points are checked for any deficiencies, this includes ensuring the area is clear of any *combustible material*, *hazardous substances* etc,
- Ask all staff and contractors to download the Vic Emergency App on their phones and set them to receive all *bushfire* warnings and severe weather events in the area;
- Maintain written records of all testing, maintenance, training and exercising etc.
- Continually monitor the 4-day FDR for planning purposes, refer Appendix C for FDR's and potential fire behaviour.
- When the FDR is going to reach or has reached 'Severe' or above, broadcast it over the UHF/CB radio network at least the day prior for planning purposes and again on the morning (same time each day) as determined by the *emergency controller*,
- Implement a heightened fire awareness of all ERT members, staff and contractors during 'Severe' and above FDR to ensure they strictly adhere to all fire prevention and readiness requirements and have increased vigilance to prevent fire, to constantly look for fires and are clear on their delegated response role;
- Ensure a defensible space to a minimum distance of 6m is established and maintained around all site buildings, storage containers, static plant and equipment etc.
- Ensure all cars, trucks and mobile plant are located on a mineral earth parking area, with no *combustible material* within a minimum distance of 1m.
- On days of fire danger ratings of severe and above, provide advice to the local fire brigade captain of the location of work site location / locations for that day the night before.
- Liaise with the local fire brigade prior to each fire danger period to discuss the windfarms evacuation strategy and response protocols to get their input and advice and to provide situational awareness.

1.3 RESPONSE

BUSHFIRE EMERGENCY

Emergency controller or in his/her absence, deputy emergency controller:

- Ensure the health and safety of all staff, contractors and visitors at the windfarm;
- Evacuate all staff, contractors and visitors to the safe assembly point if time permits;
- If time does not permit, ensure all staff and contractors working in the area or in the path of the *bushfire* are instructed to evacuate to their nearest *bushfire protection area*, or well clear of the windfarm to a safe location that is not in the path of the fire,
- Ensure the fire brigade have been notified;
- Ascertain the location and size of the *bushfire* by conducting a *dynamic risk assessment*;
- Ensure a role call is immediately taken at the assembly point and at the *bushfire protection area* using the UHF/CB radio network;
- If required, delegate roles and responsibilities to *deputy emergency controllers*, ERT members and trained staff and contractors to protect the assembly point, *exposures*, including site buildings, storage containers etc;
- Coordinate all response activities based on relevant *bushfire* response procedures;
- If the bushfire is small and is within the capability of the ERT, and/or trained staff and contractors and there is sufficient fire firefighting equipment available (weight of attack), initiate fire response if safe to do so;
- Ensure the fire brigade are met on arrival at the relevant windfarm site point of entry, provide a quick briefing on the fire situation and potential *exposures* including the number of persons taking shelter at *bushfire protection area/s* and any other relevant information;
- If considered necessary and time permits, advise neighbouring properties of any *bushfire* within or could threaten the windfarm and may impact / affect their property;
- Ensure all ERT, trained staff and contractors, are dressed in the minimum protective clothing prior to undertaking any *bushfire* response roles including:
 - protective clothing made from natural fibres (cotton or wool) such as overalls or a long-sleeved cotton shirt and cotton trousers or jeans;
 - leather safety boots;
 - safety helmet;
 - cotton or leather gloves;
 - goggles or safety glasses; and
 - minimum P2 mask.

REMEMBER, PROTECTION OF LIFE IS THE FIRST PRIORITY

2 Emergency Response Procedures

2.1 MINOR FIRES / INCIDENTS

1. Evacuate the immediate area;
2. Immediately report the fire / incident to the emergency controller or in his/her absence, *deputy emergency controller* via the UHF/CB radio network or mobile phone;
3. If required, call the **Fire Brigade on 000** and give the following information:
 - Name of person making call and the name of the windfarm;
 - Nearest access point to the fire; and
 - Type and size of the fire.
4. If there has been an injury requiring medical treatment, call for an **Ambulance on 000**;
5. *Emergency controller* or in his/her absence, *deputy emergency controller* immediately undertake a *dynamic risk assessment* and action the following:
 - determine the size of the fire and what material is involved and any *exposures*;
 - if required, remove any *exposures* well clear of the fire / incident;
 - identify the most appropriate extinguishing agent and procedures using the fire class table below to 'contain', 'control' and 'extinguish' the fire;
 - if safe to do so – task a trained staff member, contractor the ERT to 'contain', 'control' and 'extinguish' the fire / incident; and
 - if it is not safe to 'contain', 'control' and 'extinguish' the fire / incident, ensure the area remains evacuated and await the arrival for the fire brigade.

Fire Class	Examples of minor fires / incidents	Fire Response procedures
A	Ordinary combustible materials such as wood, cloth, paper, grass, scrub, rubber and plastics.	WATER FIRE EXTINGUISHER AND/OR WATER TANKER
B	Flammable and combustible liquids – fuel, oils, greases.	DRY CHEMICAL FIRE EXTINGUISHER
C	Flammable / combustible gases - LPGas cylinders, aerosol cans,	Attempt to turn off the cylinder if safe to do so and extinguish consequence fires based on the Class of fire. If it is not possible to turn off the gas cylinder – IMMEDIATELY EVACUATE THE AREA AND REFER TO PROCEDURES FOR LARGE FIRES. DO NOT EXTINGUISH THE FIRE.
D	Combustible metals – aluminium, magnesium.	IMMEDIATELY EVACUATE THE AREA. DO NOT ATTEMPT TO EXTINGUISH THE FIRE.
E	Electrical – appliances, switchboards.	Switch off power or disconnect battery and extinguish consequence fires based on Class of fire. If power cannot be turned off, use DRY CHEMICAL FIRE EXTINGUISHER.

Minor fire / incidents command and control

6. *Emergency controller* or in his/her absence, *deputy emergency controller* direct all staff, contractors or ERT members and equipment in response to the fire / incident until the fire brigade arrives.

2.3 BUSHFIRE

1. Immediately report the fire to *emergency controller* or in his/her absence, *deputy emergency controller* via the UHF/CB radio or mobile phone,
2. *Emergency controller* or *deputy emergency controller* ascertain the location and size of the *bushfire* by conducting a *dynamic risk assessment*,
3. *Dynamic risk assessment* must include:
 - The FDR of the day and potential fire behaviour – refer **Appendix C**,
 - Location of fire and direction of spread,
 - Determine potential *rate of spread* using CSIRO Grassland Fire Spread Meter,
 - If the *bushfire* is external, determine location and approximate distance from the windfarm, approximate time and point of impact, *rate of spread*, and potential *fire behaviour*,
 - Determine any potential exposures in the path of the *bushfire*, including staff, contractors, plant or equipment, safe assembly points, site offices, storage containers etc,
4. If required, *emergency controller* or *deputy emergency controller* notify all staff and contractors to immediately cease all work activities, put all *hazardous substances*, LPGas cylinders, welding equipment, portable plant and equipment etc inside a closed storage container, ensure all vehicles, mobile plant and equipment are parked on a cleared area with no *combustible material* within 6m (only if safe to do so) and then immediately evacuate to the assembly point if time permits and do a roll call.
5. If there is not enough time to evacuate all staff and contractors to an assembly point, instruct those working in the area or path of the *bushfire* to go to the nearest *bushfire protection area* and to position their vehicle / plant at the safest part of the protection area to minimise exposure to the *radiant heat* and smoke and remain inside their vehicle / plant with the engine running and air conditioning operating. Once the *fire front* has passed, immediately make their way to the safe assembly point and notify *Emergency controller* or *deputy emergency controller*.
6. If it is not possible to safely reach a *bushfire protection area* instruct the relevant staff and/or contractors to travel away from the fire and provide direction so as they are moving away from the fire path of travel.
7. Ensure the fire brigade is called on **000** and give the following information:
 - Name of person making call,
 - Name of windfarm and nearest access point to the fire,
 - Bushfire situation including any threat to life and exposures,
 - Number of staff, contractors and visitors at the windfarm, and
 - Location of assembly points.
8. If there is enough time and ERT members / trained staff are available before the *bushfire* impacts the windfarm, the following readiness options should be considered:
 - Strategically position water tankers and/or firefight trailer around the assembly point where the fire is likely to impact and to protect *exposures*.
8. *Emergency controller* or *deputy emergency controller* direct all staff, contractors and equipment and after the passage of the *fire front*, continually monitor the whole windfarm and surrounding area for at least 4 hours.

Note: Methods to assist with a *dynamic risk assessment* include:

- Listening to local ABC radio,
- Monitoring the Vic Emergency App,
- Visiting the Vic Emergency Web: www.emergency.vic.gov.au,
- Own observations and local weather conditions to determine wind speed and direction, smell of smoke and smoke plume color, size and direction, is *bushfire* visible etc, and
- Training and experience.

2.6 DANGEROUS GOODS INCIDENT

1. Immediately evacuate the area to a safe area well clear of the incident and upwind;
2. **If there are any concerns the dangerous goods involved could explode, react violently on the application of water or give off highly toxic smoke or gases, EVACUATE THE AREA and establish a 'No Go Impact Zone' of minimum 150 metres around the incident, ensuring all remaining staff / contractors stay up wind and behind a protective barrier i.e. plant or vehicle. No one enters the Zone and await the arrival of the fire brigade;**
3. Immediately report the incident to the *emergency controller* or in his/her absence, *deputy emergency controller* via the UHF/CB radio network or mobile phone;
4. If required, call the **Fire Brigade on 000** and give the following information:
 - Name of person making call and the name of the windfarm;
 - Nearest access point to the fire; and
 - Type and size of the fire.
3. If there has been an injury requiring medical treatment, call for an **Ambulance on 000** and refer to safety data sheet (**SDS**) for treatment information;
4. No one must be allowed to enter the affected area until the *emergency controller* or in his/her absence, *deputy emergency controller* has attended the incident and undertaken a *dynamic risk assessment* to determine / action the following:
 - ensure all untrained staff, contractors have been evacuated to a safe area well clear of the incident and up wind;
 - identify the type of material, size and seriousness of the dangerous goods involved and extent of the spill, leak or fire;
 - assess its toxicity, flammability, health effects, and the personal protection required by reviewing the SDS;
 - if the incident involves a leak, spill or fire, review relevant section of the SDS to determine how to 'contain', 'control' or 'extinguish' a fire;
 - assess current external weather conditions and potential to affect the incident, i.e. wind direction and speed, potential for rain;
 - identify any exposures including buildings, plant and equipment, etc;
 - identify any potential ignition sources including plant and equipment, electrical equipment, lighting, etc;
 - remove all potential ignition sources – but only IF SAFE TO DO SO including:
 - turning off electric power to any buildings close, involved or under threat;
 - turning off electric power to any static plant, close, involved or under threat;
 - remove all other potential ignition sources; and
 - remove mobile plant / vehicle well clear of the area otherwise ensure they remain turned off.
 - determine and establish a 'No Go Impact Zone' which unauthorised persons and mobile plant / vehicles must not enter.
5. Determine the most appropriate and safest method to contain and control the spill, leak or fire, this should include, if safe to do so:
 - turn off any isolation valves, (eg oil, gas, fluid, etc);

- if the incident involves a spill of flammable / combustible liquid, stop the spread by creating a soil bund around the spill using hand tools;
 - if the incident is a small fire involving a flammable or combustible liquid, extinguish the fire using the extinguishing media detailed in the SDS.
6. The *emergency controller* or *deputy emergency controller* meet the fire brigade to advise where to go and provide a briefing on the current situation and request instructions on the further role of the ERT.

Mobile plant, vehicles, radios, pagers, mobile telephones and radios are ignition sources and MUST be kept clear of the 'No Go Impact Zone'.

Note No 1:

- It is very important that the *emergency controller* or *deputy emergency controller* establish a command point where he/she can see as much of the incident and surrounding area as possible and has direct telephone or radio communication with all ERT members and nearby mobile plant operators. It will also be important to keep site manager updated; and
- It will also be very important the *emergency controller* or *deputy emergency controller* does not become directly involved in the incident to ensure he/she maintains an over view of situation (situational awareness) and can deploy ERT and resources to where most needed and to ensure the 'No Go Impact Zone' remains isolated and all staff, contractors and visitors are well clear and up wind.

Section 3 - Definitions

Bushfire - a fire involving grass, scrub or forest.

Bushfire Protection Area – is each 36m x 36m pad crane area providing temporary protection from radiant heat and direct flame contact until the fire front passes. This will require person/s to position their vehicle / plant at the safest part of the protection area to minimise exposure to the radiant heat, smoke and remain within their vehicle / plant with the engine running and air conditioning on.

Combustible Material - any material that, in the form in which it is used under windfarm normal operational conditions or is part of the site landscape / environment including fine fuels, grass, scrub, tress and any other vegetation type that could ignite and burn.

Deputy Emergency Controller. Is delegated by the *emergency controller* some or all of his/her roles and responsibilities detailed within this BERP.

Dynamic Risk Assessment – is a continuous mental process of identifying hazards, assessing risk, taking action to eliminate or reduce risk, monitoring and reviewing, in the rapidly changing circumstances of a bushfire.

Emergency – in the context of the Vestas Emergency response plan (BBWF-PM-PLN0007) is ‘an incident affecting one or more of the site offices or sites and includes fire, explosion, death or serious injury, interruption of the electricity network as a result of the project actions, damage to existing infrastructure, collapse of buildings, engulfment by soil or other material, major release of contaminants, riot or civil commotion and terrorist activities such as a bomb threat’.

Emergency controller – the project site manager or a member of staff nominated and authorised by project site manager to have fire and emergency management planning and operational responsibilities including but not limited to the management and implementation of sections 1.1 – prevention, 1.2 - readiness, and 1.3 - response of this BERP.

Exposure – is *combustible material*, vegetation, vehicles, plant and equipment, site buildings and other structures, dangerous goods, LPGas cylinders, or any other element or material that if exposed to *radiant heat*, direct flame, could ignite, cause a fire, explosion, emit toxic gases etc

Fire Behaviour - The most important measure of *fire behaviour* is fire intensity and spread. Fire intensity represents the *radiant heat* energy released per meter of fire front (kW/m of fire) and the rate of spread horizontally and vertically.

Fire Danger Period - is a declared period by the fire services for each municipality when climate conditions and vegetation (grass scrub, forest etc) changes to the point that there exists an increased risk of ignition and difficulty of ‘contain’, ‘control’ or ‘extinguish’ during days of high temperature, low humidity and medium to strong winds.

Fire front - the part of a fire within which continuous flaming combustion is taking place. Unless otherwise specified, the fire front is assumed to be the leading edge of the fire perimeter. In ground fires, the fire front may be mainly smouldering combustion.

Hazardous substances – is any biological, chemical, radiological or physical nature, will cause harm to humans, animals or the environment. This can be the result of its interaction with other factors or its own properties.

Rate of Spread – Is the expansion of the bushfire in all direction. Can be computed in km/h when the flammability, fuel, type, wind temperature and topography are known. Grassfire rate of spread can be calculated using CSIRO Grassland Fire Spread Meter (<https://www.csiro.au/en/Research/Environment/Extreme-Events/Bushfire/Fire-danger-meters/Grass-fire-spread-meter>), and Bushfire rate of spread can be calculated using CSIRO Forest Fire Danger Metre Mk5 (<https://www.csiro.au/en/Research/Environment/Extreme-Events/Bushfire/Fire-danger-meters/Mk5-forest-fire-danger-meter>).

Radiant Heat – is the heat energy you feel from fire and travels in straight lines but not through solid objects such as wall and other similar barriers.

Appendices

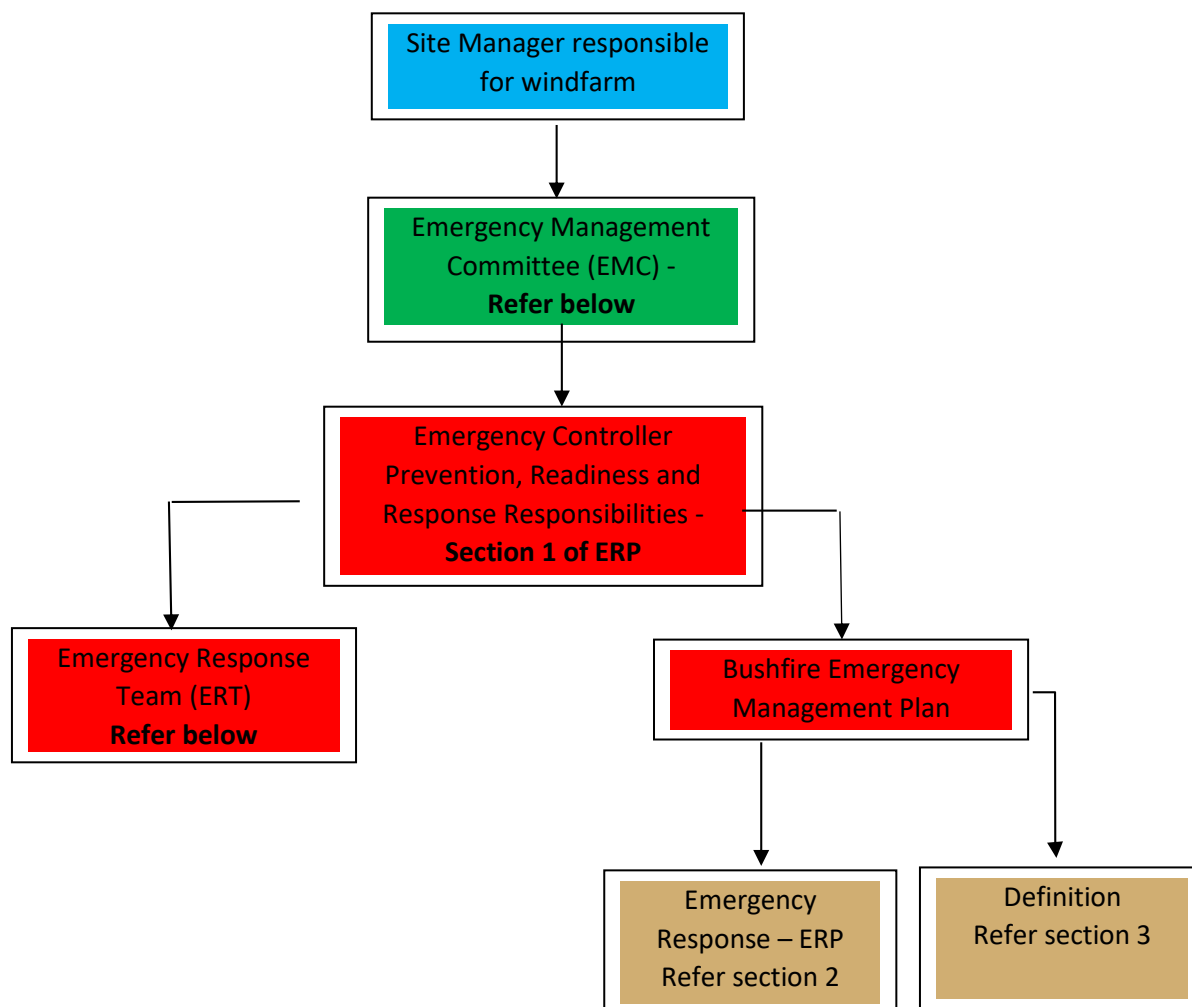
Appendix A - Emergency Management Planning

This section provides the structure and process required to achieve risk and evidence-based BERP across the prevention, readiness and response continuum for this windfarm and is consistent with the Berrybank Wind Farm Emergency Response Plan (BBWF-PM-PLN007) (BERP).

Once the BERP has been endorsed, it is important to ensure it is a CONTROLLED DOCUMENT and should not be copied for use by any persons. The use of unauthorised or improperly constructed versions can cause confusion during emergencies and result in administrative failure to update all copies of the plan within the windfarm.

Structure of Emergency Management

The structure below refers to the relevant sections within the BERP and provides details regarding roles, responsibilities and administration.



Emergency Management Committee (EMC)

Forming of the EMC

The EMC shall be formed in accordance with the BERP under the authority of the site manager who has overall responsibility for the EMC which is charged with *bushfire* prevention, preparedness and response at the windfarm.

The EMC membership will be staffed by project personal and reflect the level of *bushfire* hazards and risks at the site and is charged with implementing this BERP which, as previously mentioned, is a sub-plan of the Berrybank Windfarm Emergency Response Plan (BBWF-PM_PLN-007).

Responsibilities

The duties of the EMC in relation to *bushfire* management shall include but not limited to the following:

1. Identifying credible events/scenarios that could reasonably cause a *bushfire*;
2. Be responsible for future development, review, implementation including testing and exercising of the BERP;
3. Ensuring that resources and training are provided to enable the implementation of the BERP, fire protection equipment, systems and procedures;
4. Ensuring the BERP is readily identifiable and available to the appropriate person/s and agencies,
5. Establishing an Emergency Response Team (ERT) to operate in accordance with the BERP,
6. Authorizing or having authorized the release and implementation of the BERP,
7. The following shall apply to the implementation process:
 - a. Awareness of the *bushfire* emergency response procedures – information about the procedures shall be disseminated to all relevant staff, contractors and ERT,
 - b. Training – A formalised training schedule shall be developed, based on a training need and gap analysis by the EMC to ensure that risk-based *bushfire* training and exercising is provided.
 - c. Training program - Shall be based on credible worst-case scenarios and should include components of *bushfire* prevention, readiness and response,
 - d. Review of procedures – The effect of the procedures on the windfarm shall be monitored by the EMC during the implementation process. Amendments shall be made to rectify any deficiencies or inaccuracies that are identified in the procedures.
8. Establishing ongoing arrangements and procedures to ensure the continuing operation of the ERT in the safest and most efficient way; i.e. to deal with resignation, holidays, etc,
9. Ensuring the register of ERT members is current and readily available,
10. Establishing strategies to ensure all visitors and temporary / short terms contractors are made aware of *bushfire* FDR and response procedures in the event of a *bushfire* emergency,
11. Ensuring *bushfire* prevention, readiness and response procedures remain viable and effective by reviewing and testing the BERP and response procedures prior to each *fire danger period*,
12. Ensuring the BERP has a full and detailed review at the end of the validity period, after a *bushfire* emergency, an exercise, or any changes that affect the BERP such as windfarm alterations, significant change of work practices, etc,
13. Ensuring that a permanent record of events for each *bushfire* is compiled and retained,
14. Continually look to identify and rectify deficiencies and opportunities for continuous improvement in the BERP as part of the ongoing site risk management monitor and review process.

EMC Meetings

The EMC shall meet as determined in the Berrybank Wind Farm Emergency Response Plan (BBWF-PM-PLN-0007). A record of EMC meetings shall be made and retained in accordance with BERP policy and procedural requirements and provided to authorised agencies upon request, i.e. Work Safe, Corangamite Shire and CFA.

NOTE: This may include minutes of meetings, communication, reports and specialist advice.

Emergency Response Team (ERT)

Forming of the ERT

An ERT shall be appointed by the EMC, provide direction and control of the implementation of the *bushfire* emergency response procedures under the direction of the *emergency controller* or his/her delegate.

The ERT shall consist of the *emergency controller* or his/her delegate and nominated trained project staff and contractors and include.

- (a) *Emergency controller,*
- (b) *Deputy emergency controller/s,*
- (c) ERT team members.

Note, there can be a number of *deputy emergency controllers* if required to ensure there is one at the windfarm at all times during the *fire danger period* or when the FDR for the site reaches 'Severe' or above at the windfarm. Where there is more than one deputy, a 'duty *deputy emergency controller* rostering system should be considered to ensure a *deputy emergency controller* knows when he/she is on duty to avoid confusion and to ensure a controller is at the windfarm at all times during the *fire danger period* and/or on days the FDR is 'Severe' and above.

An up-to-date register of all ERT members shall be kept readily available from the *emergency controller*.

6.3.2 Authority

During emergencies, instructions given by the *emergency controller* or his/her delegate shall take precedence over the normal management structure. Once the emergency service arrives at the windfarm, the *emergency controller* or *deputy emergency controller* must meet the Incident Controller at the relevant entry point of the windfarm, provide a briefing on the *bushfire* situation and seek direction for the ongoing role of the ERT.

Appendix B - Training and Exercising Requirements

All staff and contractors shall undergo training and exercising by a qualified and experienced trainer in *bushfire* prevention, readiness and response application of the BERP and in the use of all fire protection equipment and systems available at the windfarm. The local volunteer brigades should be invited to participate in site familiarisation, fire suppression equipment and techniques for dealing with turbine fires shortly after the windfarm has been commissioned.

It must be stressed the basic principle of fire and emergency management practices is that no person should be placed in greater danger through fire and emergency actions and that no person should attempt tasks for which they are not equipped; either physically, psychologically or by way of training. To attempt a task outside one's competence and confidence creates the risk of escalating a situation rather than mitigating it.

To assist with this, a *bushfire* hazard and risk-based training analysis should be undertaken by the EMC to identify training needs and any skills gaps of all staff and contractors who will become *emergency controller*, *deputy emergency controllers* and emergency response team members at the windfarm. This will ensure the appropriate training and exercising is provided.

The Occupational Health and Safety Act recognises that the value of a site BERP is greatly enhanced by the incorporation of fire safety training and exercises.

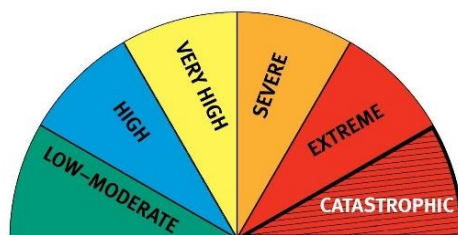
The type of training and exercises required for this windfarm to ensure the safe and efficient implementation of this BERP includes but not limited to:

- Basic first aid in relation to burns, foreign material in eyes,
- Understanding fuel hazards and fire behaviour associated with managed and unmanaged vegetation during a *bushfire event*,
- *Bushfire* behaviour under the influences of different FDR's,
- Safe response to *bushfires*,
- *Bushfire* prevention, readiness and response,
- *Bushfire* protection equipment readiness, use and maintenance,
- When to use a *bushfire protection area* / safe assembly point or evacuate,
- How to conduct a *dynamic risk assessment*,
- Emergency command and control,
- Fire response principles of contain, control and extinguish,
- Administrative and recording process.

Once training has been conducted, it is important a training report is completed to ensure a monitoring process is in place and to keep a record of who has undergone training, type of training, when and by whom.

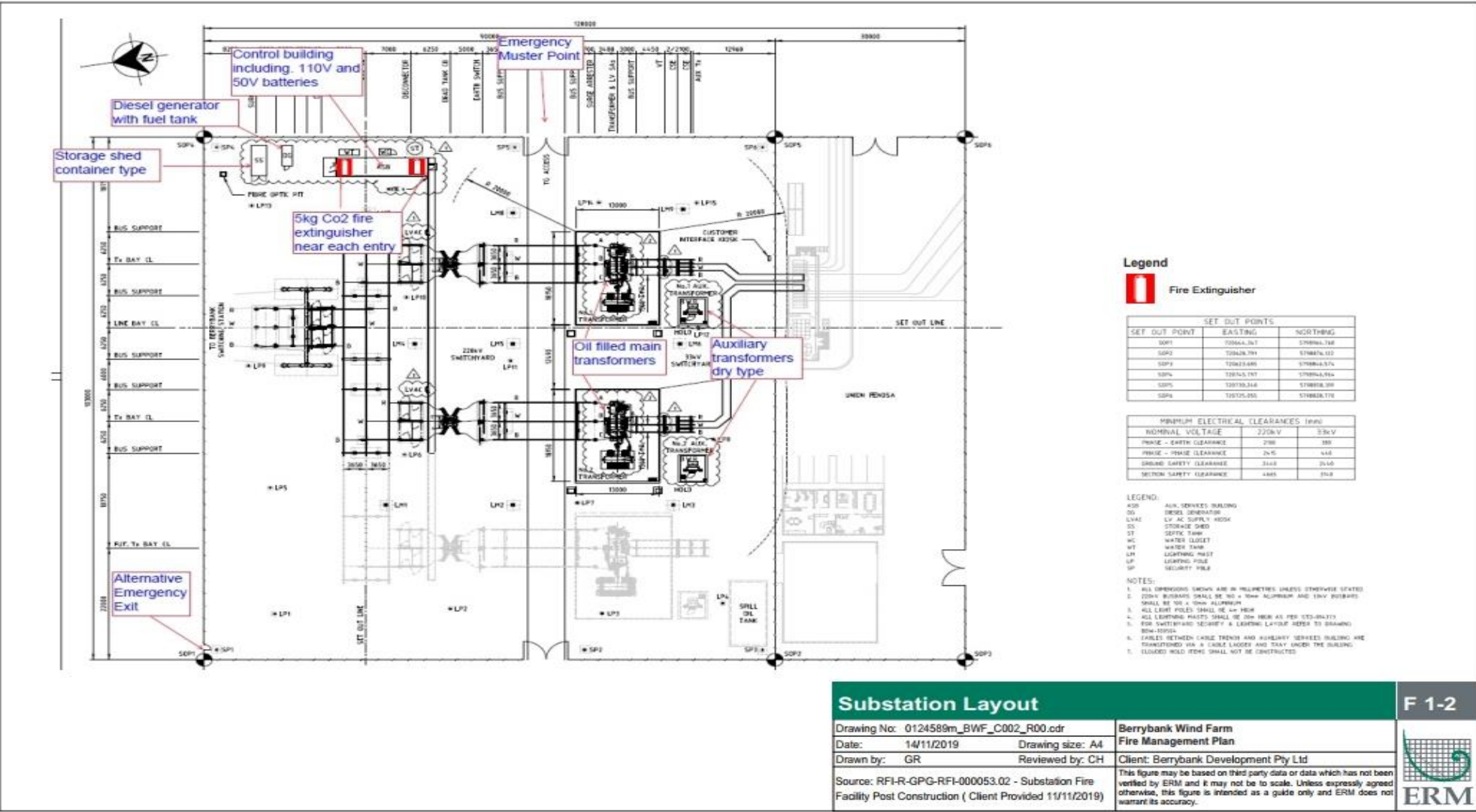
Consideration should be given to running at least one training exercise prior to each *fire danger period* involving all staff and contractors to ensure the BERP is tested and updated, all fire protection equipment and systems are tested under exercise conditions, and the local CFA fire brigades are invited to allow them to become familiar with the windfarm, water supplies, fire protection measures and ensure they have full access to all areas by their fire appliances.

Appendix C – Fire Danger Rating & Potential Fire Behaviour



Fire Danger Rating	Potential Fire Behaviour and Impact
CATASTROPHIC (CODE RED) FDI 100+	<ul style="list-style-type: none"> Fires will be uncontrollable, unpredictable and fast moving – flames will be higher than roof tops. People will die and be injured. Thousands of homes and businesses will be destroyed. Well prepared, well constructed and defended homes may not be safe during the fire. Construction standards do not go beyond a Fire Danger Index of 100. Thousands of embers will be blown around. Spot fires will move quickly and come from many directions, up to 20 km ahead of the fire. Leaving is the best option.
EXTREME FDI 75-99	<ul style="list-style-type: none"> Fires will be uncontrollable, unpredictable and fast moving – flames will be higher than roof tops. People will die and be injured. Hundreds of homes and businesses will be destroyed. Only well prepared, well constructed and actively defended houses are likely to offer safety during a fire. Thousands of embers will be blown around. Spot fires will move quickly and come from many directions, up to 6 km ahead of the fire. Leaving is the safest option for your survival.
SEVERE FDI 50-74	<ul style="list-style-type: none"> Fires will be uncontrollable and move quickly – flames may be higher than roof tops. There is a chance people may die and be injured. Some homes and businesses will be destroyed. Well prepared and actively defended houses can offer safety during a fire. Expect embers to be blown around. Spot fires may occur up to 4 km ahead of the fire Leaving is the safest option for your survival. Your home will only offer safety if it and you are well prepared and you can actively defend it during a fire.
VERY HIGH FDI 25-49	<ul style="list-style-type: none"> Fires can be difficult to control – flames may burn into the tree tops. There is a low chance people may die or be injured. Some homes and businesses may be damaged or destroyed. Well prepared and actively defended houses can offer safety during a fire. Embers may be blown ahead of the fire. Spot fires may occur up to 2 km ahead of the fire. Your home will only offer safety if it is and you are well prepared and you can actively defend it during a fire.
HIGH FDI 12-24	<ul style="list-style-type: none"> Fires can be controlled Loss of life is highly unlikely and damage to property will be limited Well prepared and actively defended houses can offer safety during a fire. Embers may be blown ahead of the fire. Spot fires can occur close to the main fire. Know where to get more information and monitor the situation for any changes
LOW-MODERATE FDI 0-11	<ul style="list-style-type: none"> Fires can be easily controlled Little to no risk to life and property Know where to get more information and monitor the situation for any changes

Appendix D – Sub substation



Substation Layout

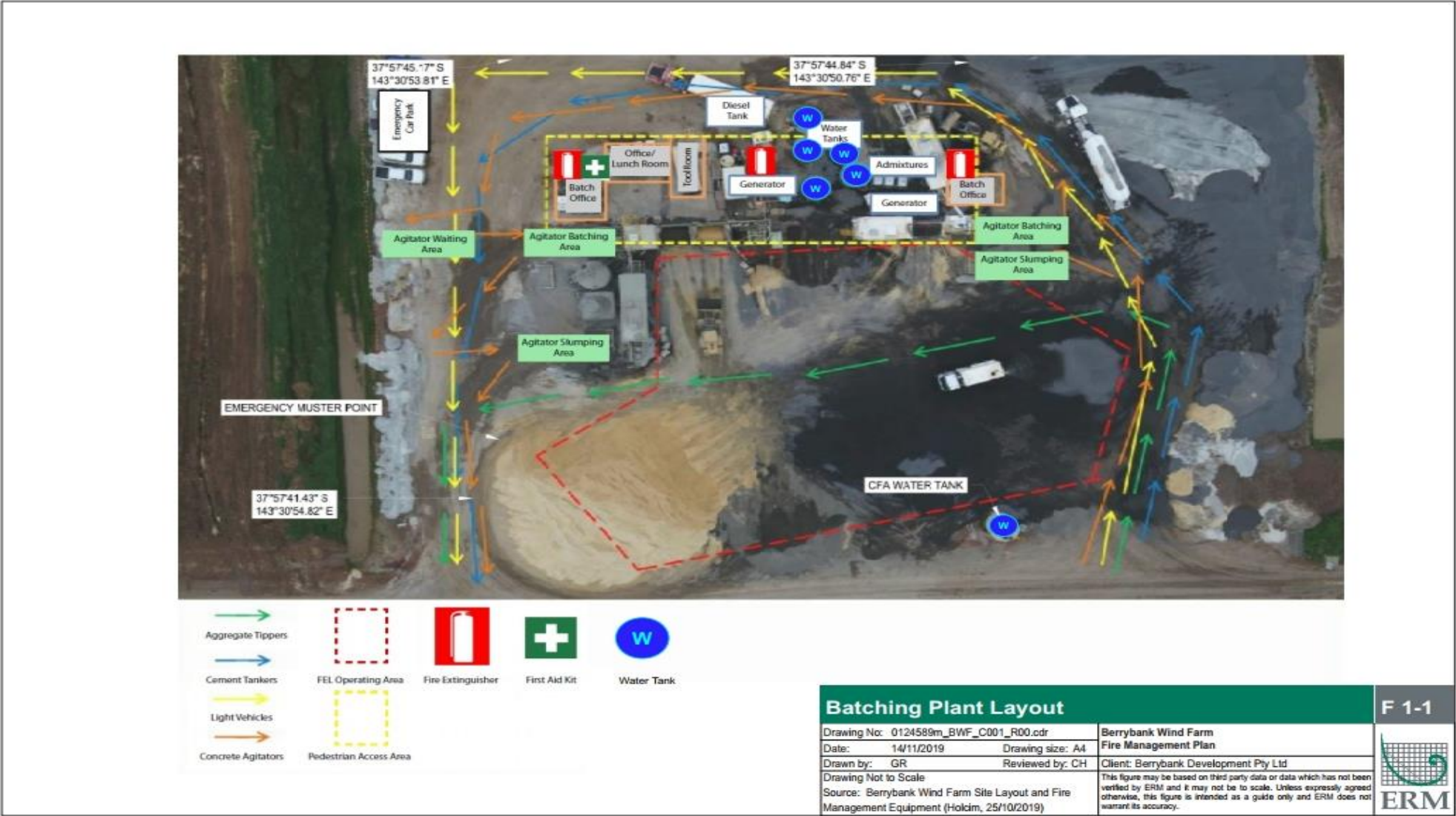
Drawing No: 0124589m_BWF_C002_R00.cdr
Date: 14/11/2019 Drawing size: A4
Drawn by: GR Reviewed by: CH
Source: RFI-R-GPG-RFI-000053.02 - Substation Fire Facility Post Construction (Client Provided 11/11/2019)

Berrybank Wind Farm
Fire Management Plan
Client: Berrybank Development Pty Ltd
This figure may be based on third party data or data which has not been verified by ERM and it may not be to scale. Unless expressly agreed otherwise, this figure is intended as a guide only and ERM does not warrant its accuracy.

F 1-2



Appendix E – Batching plant



Appendix F – Site compound

