

Appendix 29

Mount Emerald Wind Farm Fire Management Plan

Prepared by RATCH Australia Corporation Limited



MOUNT EMERALD WIND FARM

FIRE MANAGEMENT PLAN

REVISION 2
July 2013



REVISION	PREPARED	REVIEWED	STATUS
Revision 1	Terry Johannesen – 13 Feb 2012		Draft
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1 EXECUTIVE SUMMARY

1.1 OVERVIEW

The Fire Management Plan has been prepared to overview the approach to fire management during the Design, Construction and Operations Phases.

1.2 EXISTING SITE CONDITIONS

The site is situated at the northern most end of the Herberton Range, which forms part of the Great Dividing Range between the natural landmarks of Walsh Bluff and Mount Emerald, at a range of elevations between 750 to 1000 metres.

The land is dominated by of a series of three, approximately parallel ridges running in a south-east to north-west direction with a large area (~500 ha) of relatively flat country located in the north-western section.

The property is currently accessed via a 4WD only track which follows the path of a transmission line (Powerlink - Chulumbin to Woree 275kV) that roughly dissects the property. Two other vehicle tracks, branch from this track to access the northern and southern areas of the site.

The site is not currently grazed by domestic stock and consists entirely of remnant vegetation which can be described as relatively low open scrubland.

1.3 CLIMATIC CONDITIONS

The climate of the site as indicated by the long-term weather records obtained for the nearby township of Walkamin is monsoonal, with alternating wet and dry seasons that typically last for 4 and 8 months respectively (Weatherzone, 2011), although this can vary considerably depending on the severity of the El Nino/Southern Oscillation.

Statistics obtained for the nearby Bureau of Meteorology site at Mareeba Airport show a maximum temperature range from 19°C in June to 39°C in November whilst minimums range from 4°C in July to 24°C in November.

Average annual rainfall is 1032mm with the wettest month being February (250mm) and the driest month September (8mm). The majority of rainfall (80%) falls within the months of December to March.

1.4 RISK

The risk of a wind turbine catching fire is considered low. The greater risk is from fire during construction or a grass or bush fire entering the site.

Key aspects which will minimise the risk of fire include:

- A well designed and constructed road network through out the site.
- Personnel on site who understand how to respond quickly to a fire and use the equipment available on site.

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- Accessible sources of water.
- Adequate fire fighting facilities.

1.5 MANAGEMENT PLANS

The Health and Safety Management Plan and the Emergency Response Plan will be developed and will be ready for implementation during the Construction Phase.

2 DESIGN PHASE

The Design Phase of the wind farm will initially involve siting the wind turbine generators (WTGs) and other associated infrastructure. WTGs will generally be placed in cleared areas on ridge lines and spurs. A network of high quality gravel roads suitable for large truck movements will interconnect the WTGs. The design of this road network will occur during the Design Phase.

Since the WTGs, roads and hardstands are located on cleared portions of the site, there is minimal fuel to feed a fire. The site road network does provide some form of fire break.

Road designs (generally 10m wide) will be suitable for regular large and heavy loads, travelling in both directions at the same time. Road gradients and cross falls will be suitable for large loads.

Site plans will locate water troughs, tanks, dams, and any other sources of water. A copy of the interim Site Plan is included in Appendix 1.

3 CONSTRUCTION PHASE

3.1 INDUCTIONS AND TRAINING

All personnel and visitors onto the site will be required to attend an induction when they first arrive on site. Part of this induction will include aspects of the Fire Management Plan.

The District Fire Warden will be invited to attend a Toolbox talk at the beginning of the dry season (April/May) with follow up “refresher” presentations conducted throughout the construction of the Project.

Representatives from each major contractor will be shown how to use the fire fighting equipment on the back of project vehicles.

Inductions will also address the smoking policy on site, emergency phone numbers, aspects of the Crisis Management Plan and the muster area.

3.2 SITE LAYOUT

The District Fire Warden will be taken on regular site tours and provided with site plans showing the project infrastructure such as WTGs, roads, main compound and substation.

GPS locations will be provided for all WTGs and water sources such as troughs, dams and tanks.

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The major road in the area is the Kennedy Highway which links the towns of Mareeba, Walkamin, Tolga and Atherton. Road access to site from the Kennedy Highway will be via Hansen Road - Springmount Road – Kippin Drive.

The project area is contained within Rural Fire Brigade zone of the Springmount District Fire Warden, and shares boundaries with Atherton (east), Walkamin (north-east), Narcotic Creek (north) and Arriga (north-west).

The site is located within the following road distances to local fire and rescue services;

- Mareeba 28km
- Atherton 30km
- Dimbulah 48km

All site roads and hardstands will be maintained in good condition and can act as firebreaks.

3.3 VEHICLES

Diesel powered vehicles shall be used on site and petrol driven vehicles shall only be used if fitted with spark arrestors.

Vehicles shall be driven on formed roads and surfaces wherever possible to avoid the collection of debris under the vehicle that may cause a fire to start.

All project vehicles will contain a fire extinguisher and CB radios. The two project utilities from the Contractors will be fitted with a water tank, diesel pump, 30m fire hose and a knapsack spray.

3.4 FIRE FIGHTING FACILITIES

The main compound will contain a water tank (approx. 50,000 litres capacity) collecting water from the buildings in the compound. The tank will be fitted with outlets allowing fire trucks to connect to the tank. Should the water level drop below a set point a water truck will deliver water to the tank.

Adjacent to the water tank will be a fire hose reel (30m) and a diesel pump to provide coverage in and around the buildings. All buildings will be fitted with smoke detectors and contain portable fire extinguishers. All fire extinguishers will be checked on a 12 monthly basis.

Any landscaping around the buildings will include native plants with fire retardant characteristics.

Access to water troughs, dams and tanks throughout the properties will provide alternative sources of water should they be required.

Each WTG contains a fire extinguisher in the base of the tower and up in the nacelle.

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If the civil works contractor is working on site at the time of the fire, the use of graders, water trucks, front end loaders and bobcats may be possible.

3.5 SIGNAGE

Signage at the main compound will state the emergency numbers for the Owner's Operations Manager, Contractor's Service Manager, District Fire Warden, and the radio channel to contact the Fire Brigade. CB radios are located in the Administration Building and the project vehicles.

3.6 HOT WORK PERMITS

No waste materials shall be burnt on site. All rubbish shall be disposed of in the appropriate manner.

Where it may be necessary to undertake "hot works" e.g. welding, cutting, a "hot work permit" shall be issued. This will set procedures to be followed regarding where the work is undertaken, fire fighting equipment and personnel to be in attendance and the timing for the work to be well defined.

No naked flames will be permitted on site.

3.7 SMOKING

Smoking on site will be restricted to designated smoking areas and cigarettes are to be extinguished in ashtrays only. Cigarettes are not to be thrown on the ground or from vehicles.

3.8 EMERGENCY RESPONSE PLAN

An Emergency Response Plan will be prepared for the Construction Phase. This Plan will detail the procedures to be followed in the event of a fire.

In the event of a fire all resources and expertise available on site are to be made available to the local Fire Brigade. Personnel on site will comply with directions given by the local Fire Brigade.

Personnel are only expected to fight small fires within their level of competence. The local Fire Brigade will be called immediately if the fire cannot be controlled.

4 OPERATIONS PHASE

4.1 INDUCTIONS AND TRAINING

All personnel and visitors onto the site will be required to attend an induction when they first arrive on site. Part of this induction will include aspects of the Fire Management Plan.

Inductions will also address the smoking policy on site, emergency phone numbers, aspects of the Emergency Response Plan and the muster area.

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4.2 SITE LAYOUT

The Fire Brigade will be taken on regular site tours during the Operations Phase and provided with site plans showing the project infrastructure such as WTGs, roads, main compound and substation.

GPS locations will be provided for all WTGs and water sources such as troughs, dams and tanks.

The major road in the area is the Kennedy Highway which links the towns of Mareeba, Walkamin, Tolga and Atherton. Road access to site from the Kennedy Highway will be via Hansen Road - Springmount Road – Kippin Drive.

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- Mareeba 28km
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- Dimbulah 48km

All site roads and hardstands will be maintained in good condition and can act as firebreaks.

4.3 VEHICLES

Diesel powered vehicles shall be used on site and petrol driven vehicles shall only be used if fitted with spark arrestors.

Vehicles shall be driven on formed roads and surfaces wherever possible to avoid the collection of debris under the vehicle that may cause a fire to start.

All project vehicles will contain a fire extinguisher and CB radios. One utility will be fitted with a water tank, diesel pump, 30m fire hose and a knapsack spray.

4.4 FIRE FIGHTING FACILITIES

The main compound will contain a water tank (approx. 50,000 litres capacity) collecting water from the buildings in the compound. The tank will be fitted with outlets allowing fire trucks to connect to the tank. Should the water level drop below a set point a water truck will deliver water to the tank.

Adjacent to the water tank will be a fire hose reel (30m) and a diesel pump to provide coverage in and around the buildings. All buildings will be fitted with smoke detectors and contain portable fire extinguishers. All fire extinguishers will be checked on a 12 monthly basis.

Any landscaping around the buildings will include native plants with fire retardant characteristics.

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4.6 HOT WORK PERMITS

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Where it may be necessary to undertake "hot works" e.g. welding, cutting, a "hot work permit" shall be issued. This will set procedures to be followed regarding where the work is undertaken, fire fighting equipment and personnel to be in attendance and the timing for the work to be well defined.

No naked flames will be permitted on site.

4.7 SMOKING

Smoking on site will be restricted to designated smoking areas and cigarettes are to be extinguished in ashtrays only. Cigarettes are not to be thrown on the ground or from vehicles.

4.8 EMERGENCY RESPONSE PLAN

An Emergency Response Plan will be prepared for the Operations Phase by the Operations Team during the Construction Phase. This Plan will detail the procedures to be followed in the event of a fire.

In the event of a fire all resources and expertise available on site are to be made available to the local Fire Brigade. Personnel on site will comply with directions given by the local Fire Brigade.

Personnel are only expected to fight small fires within their level of competence. The local Fire Brigade will be called immediately if the fire cannot be controlled.

4.9 FLUID STORE

All fluids will be stored with a designated building. Adequate ventilation will be incorporated into the design of the building. The appropriate types of fire extinguishers will also be installed on the outside of the building.

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APPENDIX 1 - INTERIM SITE PLAN

