APPENDIX 21

Crudine Ridge Wind Farm Bushfire Emergency and Evacuation Plan

Crudine Ridge Wind Farm Pty Ltd

CONTENTS

BUSHFIRE EMERGENCY AND EVACUATION PLAN

1   Introduction

This is the Bushfire Emergency and Evacuation Plan (hereafter referred to as the 'Plan') for the Crudine Ridge Wind Farm development and study area (hereafter referred to as the 'site') on the NSW Central Tablelands, 45 km south of Mudgee and 45km north of Bathurst. This Plan addresses the evacuation and emergency procedures in the event of bushfire impacting the site. It provides for planned and orderly off-site and on-site evacuation of construction, maintenance staff, visitors and landowners.

The development of this Plan has been based on the NSW Rural Fire Service (RFS) document *A Guide to Developing a Bushfire Evacuation Plan* (NSW RFS 2004) and Eco Logical Australia's *Bushfire Emergency and Evacuation Plan* (2009). The Plan was also developed to meet the requirements of Australian Standard AS 3745-2002 – *Emergency control organisation and procedures for buildings, structures and workplaces* (Standards Australia 2002) and has been designed to specifically address a bushfire emergency as a sub-plan under a general Emergency Evacuation Plan prepared for the site.

This Plan will be activated and implemented by the Emergency Control Organisation (ECO) or senior officers of emergency services (Police and NSW RFS).

1.1   Aim and Objectives

The aim of the Plan is to increase the awareness of the procedure of bushfire emergencies, increase the preparedness of construction and maintenance staff, and facilitate orderly and safe evacuation and refuge during times of bushfire impact.

The objectives of the Plan are as follows:

- Assist consultation with emergency services;
- Inform ECO of its roles and responsibilities;
- Facilitate the decision making process for off-site and on-site evacuation;
- Direct evacuation procedures;
- Minimise harm to, and protect construction, maintenance staff, visitors, landowners and emergency personnel, during bushfire impact;
- Guide recovery after bushfire impact; and
- Educate, and maintain the awareness of, construction and maintenance staff of the importance of bushfire preparedness.

1.2   Relationship to Other Plans

This Plan is to be a sub-plan under an Emergency Evacuation Plan which is prepared to meet the requirements of Australian Standard AS 3745-2002 – *Emergency control organisation and procedures for buildings, structures and workplaces*. At the time of preparation of this Plan the

Emergency Evacuation Plan had not been prepared. This Plan addresses the specifics of a bushfire emergency only. This plan is a report that has been appended to the Crudine Ridge Wind Farm Environmental Assessment prepared by Wind Prospect CWP Pty Ltd. The Plan is related to the Bushfire Risk Assessment that has been prepared for the site and is also contained within the Crudine Ridge Wind Farm Environmental Assessment. This Plan is a recommendation of the Bushfire Risk Assessment (Table 7 – Risk treatment options and strategies). Background information on the development proposal, future operations at the site and the bushfire hazard and risk analysis can be found within the Crudine Ridge Wind Farm Bushfire Risk Assessment.

1.3 Review and Update of the Plan

This plan has been prepared prior to the construction of the development site. This is intentional as the plan is to address the evacuation of staff during the construction activities. Typically, Bushfire Emergency and Evacuation Plans are prepared once the operational arrangements of the site are known, such as numbers and arrangement of staff and the details of the layout and operation of the development. This plan is therefore a detailed 'template' that contains the principles of emergency and evacuation planning applicable to the site but will require review and updating upon knowing details of construction operations (such as staging), staff numbers and working locations.

2 Background Information of the Site

The site is located approximately 45 km south of Mudgee and 45 km north of Bathurst, near Pyramul, NSW and spans two local government areas; Mid-Western Regional and Bathurst Regional Councils (refer to Figure 1, Appendix 2). The site is comprised of many farming (predominantly grazing) properties and the development itself will be located in two clusters across these properties along the Crudine ridgeline (refer to Figure 1, Appendix 2).

The proposal consists of the construction and operation of up to 106 wind turbines and associated infrastructure for the generation of electricity. The built form will include the turbines and their footings, access and crane hardstands, a main and secondary collector substation, switching station, facilities building, concrete batching plants, rock crushing facilities, construction compound and storage, underground cabling and internal and external overhead transmission lines. The construction phase will involve the creation of new access tracks used to access the turbine sites with some being retained to carry out future maintenance activities.

A quick reference guide on site details such as location and staff numbers is listed in Table 1.

Table 1. Site quick reference guide – location and staff

Name	Crudine Ridge Wind Farm Pty Ltd
Street Address	Crudine, 45 km south of Mudgee and 45 km north of Bathurst
Suburb or Locality	Crudine **Postcode** 2795
Postal Address	*[To be updated – May consist of site address or office address of company]*
Local Government Area	Mid-Western Regional Council and Bathurst Regional Council
Operation	Construction, operation and maintenance of wind farm
Plan Contact	*[To be updated – Site Manager]*
Number of on-site staff	*[To be updated - Dependant on significant changes in staff numbers and operation phase]*
Site access	From Aarons Pass Rd at Pyramul and Hill End Rd. *[To be updated – Location of access gates during each operational phase of development]*

3 Roles and Responsibilities

In accordance with AS 3745-2002 (Standards Australia 2002), an ECO is to be established for the site. The ECO has overall responsibility for the planning, preparation and implementation of any evacuation and emergency procedures.

The ECO should consist of a Chief Warden, Deputy Chief Warden and Area Wardens.

The ECO does not have a 'statutory standing'. It must follow instructions and advice from emergency service personnel related to the preparedness for and response to an evacuation. The managers of the site will ensure that instructions given by the staff identified within the ECO overrule the normal management structure during emergency events / training when operating under this Plan.

Persons appointed to the ECO are to:

- Be physically capable of performing the duties required;
- Have strong leadership qualities;
- Have maturity of judgement, good decision-making skills and be capable of remaining calm under pressure;
- Have a comprehensive knowledge of the local area;
- Generally be on site during the bushfire danger period; and
- Be able to complete the required training and review.

The Chief Warden and Deputy Chief Warden will coordinate the activities of staff during a bushfire event and ensure emergency responsibilities and duties are carried out. The primary role of members of the ECO is to ensure that protection of life, health and welfare of staff takes precedence over asset protection.

The following is a list of the responsibilities of the ECO:

- Review and update of the Plan;
- Annual testing of the Plan;
- Reviewing and correcting any deficiencies in the Plan identified during annual testing or actual events;
- Distributing a current Plan in August each year, and following any plan revisions at any other time, to the Local Emergency Management Committee (LEMC) in each of Mid-Western and Bathurst Regional local government areas, and the NSW RFS Cudgegong District and NSW RFS Bathurst Regional District;
- Issue to all staff with any responsibility for evacuation or fire fighting a copy of those components of the Plan necessary for their efficient and effective involvement;
- Display the emergency procedures and assembly area maps and ensure that all signage is affixed in appropriate locations within site;
- During the Bush Fire Danger period, a brief outline of the emergency procedures and assembly area maps is to periodically be included with all written handout material provided to staff;
- Maintain a Chief Warden and Warden roster;
- Provide safety equipment for the Chief Warden, Deputy Chief Warden and Wardens (i.e. safety vest, helmet, torch, mobile phone, portable radio, fire-fighting equipment, loud hailer) and any additional equipment determined appropriate by the ECO; and
- Invite representatives of the Local Emergency Management Committee (LEMC) for each local government area and NSW Rural Fire Service to participate in a review of evacuation exercises.

3.1 Chief Warden

The person selected to head the ECO, in addition to the above, is to have a good knowledge of the layout of the development site and the location of all fire protection equipment. For the management and execution of this Plan, the Chief Warden will be *[To be updated – with name and position]*.

The Chief Warden is responsible for the following:

- Monitoring fire risk (e.g. weather patterns) during the bushfire danger period (October to March inclusive, and can be extended year to year depending on NSW RFS notification);
- Monitoring, through contact with NSW RFS (Cudgegong District – 02 6372 4434, Bathurst Regional District – 02 6333 1333), the progress and situation of bushfires in the local region;
- Supervision of the ECO;
- Ensuring the ECO achieves its responsibilities;
- Preparation, maintenance and activation of the Plan (in conjunction with the ECO);
- Liaising with emergency services and maintaining the emergency service contact lists (Appendix 1);
- Maintain and display in prominent positions a current list of internal contact telephone numbers;

- Vehicle movement in and out of the site during on-site and off-site evacuation until this function is taken over by emergency service personnel;
- Setting up the staff checklist to monitor a 'head-count' into and out of the Evacuation Areas;
- Prior to the bushfire season each year, arrange for the certification of all fire detection and suppression systems within site and ensure all available firefighting equipment is ready, i.e. fire extinguishers, pumps and hoses;
- Implement annual evacuation exercises prior to the bushfire season;
- On becoming aware of a bushfire emergency or potential emergency:
    - Ascertain the nature of the emergency and determine appropriate response in accordance with the Plan;
    - Ensure that the appropriate emergency services are notified;
    - Ensure the suitability of the on-site assembly areas;
    - Ensure that the emergency on-site evacuation centre is set up to cater for a possible evacuation;
    - Instigate the operation of an evacuees registration system;
    - Ensure staff and visitors are notified that an orderly evacuation (on or off-site) of the facility has been initiated;
    - Monitor the progress of the fire attack (if undertaken) and notify fire authorities on their arrival and whenever else required;
    - Supervise the evacuation and subsequent supervision of the evacuation areas unless relieved of this responsibility by the attending commanding officer of emergency services or the Police;
    - Brief and co-operate with the emergency services personnel upon their arrival; and
- Undertake debriefing with staff and if appropriate, the local emergency services within one month of the conclusion of the emergency, and ASAP if injuries or fatalities have occurred.

3.2   Deputy Chief Warden

The appointment of the Deputy is to ensure continuity of the Chief Warden's functions during absences. The selection of the Deputy is to be consistent with the selection criteria for the Chief Warden. The deputy is to be fully trained and capable of taking over the role of the Chief Warden. For the management and execution of this Plan, the Deputy Chief Warden will be *[To be updated – with name and position]*.

3.3   Area Wardens

Area Wardens may be useful in managing separate construction and maintenance areas, such as clusters. The distance between the most distant parts of the site is such that fire behaviour and access points will vary, and site operations may be isolated from one another. The use of Area Wardens can overcome this issue if required.

It is essential that the persons appointed have the qualities needed to enable them to perform duties required in emergencies. Area Wardens will be delegated by the Chief Warden or Deputy Chief Warden from suitable staff who satisfy the requirements listed below:

- Availability – they are to be persons who spend most of their time at, or near, their workplace when on duty;
- Ability to organise others in an emergency; and
- Reliability.

Area Wardens are responsible for the following:

- Assisting with the notification and implementation of the evacuation;
- Assisting the emergency service personnel on their arrival, unless otherwise directed; and
- Keeping the Chief Warden regularly informed of the status of the emergency, and their current activities and location by telephone.

4   Evacuation

4.1   Preparedness

Care is required to avoid confusion between on-site evacuation related to bushfire attack and the evacuation of a building for other purposes. The latter requires the building to be cleared of people whereas with on-site 'evacuation' it is important that people move to a designated refuge area which can be a building or suitable outdoor area.

The Bushfire Risk Assessment recommends bushfire risk treatment strategies and measures to be carried out at the development site to reduce the risk of construction, operation and maintenance activities igniting a fire and spreading to surrounding areas. The Bushfire Risk Assessment recommends the following which can assist in the management of this Plan and orderly evacuation:

- The provision of appropriate access/egress to the site so occupants leaving, and fire fighters/ rescuers accessing the site can do so in relative safety;
- Self-sufficiency in fire fighting and property protection e.g. staff are familiar with the operation of fire suppression equipment; and
- Education and training of staff on monitoring fire weather.

4.2   Consultation with Emergency Services

The decision to evacuate is to be made in consultation with the emergency services. The following is the initial procedure for reporting a bushfire to assist in the determination of the need to evacuate and the chosen evacuation strategy:

Ring '000' and advise emergency services of:

- The exact location of the incident;
- The nature of the incident;
- Any persons trapped or injured or likely to be injured;
- A contact number;
- A contact name; and
- Any requirement for further assistance, be specific e.g. a Fire Brigade for a bushfire threat.

Appendix 1 contains numbers of other services and authorities.

4.3   On-Site Evacuation

4.3.1   Circumstances under which on-site evacuation is to occur

On-site evacuation can usually be a precautionary procedure upon knowledge of a bushfire threat that is not imminent, significant or widespread enough to warrant large-scale off-site evacuation. On-site evacuation can also be a precursor to off-site evacuation (e.g. assembly).

On-site evacuation will consist of the on-site assembly and refuge outdoors in most cases (but may also be within a facilities building or site shed depending on the operational phase of the development, location of the fire and the number of staff) and the on-site evacuation site is to be determined for each operational phase and designated development area, such as a cluster. The designated refuge point is to be mapped on Figure 1, Appendix 2 *[To be updated]*. The following is a list of considerations for the location of an on-site refuge area:

- Located within close proximity (walking distance) to the development area such as the cluster, preferably central to the area;
- Be located on the eastern side of the hillside or ridgeline if possible;
- Be located at least 100 m from woodland vegetation;
- Be located within a maintained or cleared area void of tall grasses, shrubs and trees with an interlocking canopy continuous with woodland remnants; and
- Be alongside the primary access point/road for that area.

On-site evacuation is to occur when one or more of the following bushfire conditions exist:

- Prior to off-site evacuation to ensure an orderly process and to account for staff;
- When a bushfire is not under control and is known to be within 5 km of the site currently under construction/operation;
- When it is understood that a bushfire is not of a location and size, nor predicted pattern of spread, so to as to significantly threaten the site;
- Emergency service personnel order on-site evacuation; or
- The ECO believe it may be unsafe to evacuate off-site due to surrounding spread of fire or blockage of access and they have been unable to obtain confirmation of this risk with emergency services.

4.3.2   On-site evacuation procedures

An important element of on-site evacuation is that it avoids the potential undesirable aspects of off-site evacuation, including:

- Evacuees being caught in potentially hazardous situations adjoining bushland along access roads;
- Public road congestion and increased potential for road accidents;
- Increased stress for evacuees and emergency personnel;

- Greater management difficulty for evacuation coordinators;
- Higher costs of support services for evacuees e.g. accommodation and welfare; and
- Communication difficulties between evacuees and authorities.

4.3.3 On-site evacuation statement of action

1. Ensure the welfare of staff at all times;
2. Notify all staff of the need to seek refuge and activate the Plan;
3. In the event of a bushfire emergency, ECO to instruct all staff to move immediately towards the designated refuge point as mapped on Figure 1, Appendix 2 *[To be updated]*;
4. The Chief Warden or Deputy Chief Warden is the 'Incident Controller' until relieved by arriving authorities *e.g.* NSW RFS or Police;
5. The Chief Warden or Deputy Chief Warden will ensure that a person who is able to further advise evacuees of their welfare on an ongoing basis is present at the designated refuge point;
6. Whilst at the designated refuge point, the ECO will ensure that additional drinking water is available for evacuees;
7. Ensure the welfare of all evacuees through advice and first aid where required;
8. If staff availability and time permits, personnel delegated by the ECO may be required to assist emergency services personnel to patrol the area surrounding the site for spot fires and suppress or notify location for attention by emergency service personnel;
9. After the bushfire has passed over and it is safe to do so, check site is free of fire and safe; and
10. Upon finalisation of the evacuation, the Chief Warden will ensure that the incident is declared over, and when it is appropriate to do so, a debriefing of the incident will occur for all involved staff and emergency services representatives.

4.4 Off-Site Evacuation

4.4.1 Circumstances under which off-site evacuation is to occur

The bushfire circumstances under which the site will be evacuated to an off-site designated refuge point include:

- Instructions by the NSW Police or other recognised authority e.g. senior officers of NSW RFS;
- When it is known that there is time for a safe and orderly off-site evacuation to occur before the affects and impacts of bushfire reach the site;
- When the ECO consider a potentially significant bushfire attack on the site is likely, and it is too dangerous and/or difficult to coordinate and protect staff on-site;
- The possibility of extreme fire intensity in areas near to the site or designated refuge point as a result of forecast weather conditions and the location of an existing bushfire; and
- The possibility of heavy smoke conditions and ember showers affecting staff.

4.4.2 Circumstances under which off-site evacuation may not be required

The NSW Police are responsible for protection of life and any lawful request of Police must be followed. However, if a lower threat bushfire occurs then off-site evacuation may not be necessary. The decision to evacuate should be guided by NSW Police or Senior Officers of the RFS.

4.4.3   Off-site evacuation procedures

Under all the above circumstances, access to the designated off-site refuge point must be assured and ample time in advance of the bushfire arrival MUST BE available.

The designated off-site refuge point is the Rylstone Police Station, Louee Street, Rylstone (02 6379 1000) (Refer to Figure 1, Appendix 2, for the appropriate access roads and directions from the site to Rylstone) *[To be updated]*.

Safe off-site evacuation may take more than one hour to complete. Wherever possible, off-site evacuation should commence as early as necessary to provide ample time to evacuate the site ahead of the anticipated arrival of a bushfire.

4.4.4   Off-site evacuation statement of action

The following procedures are to be followed when Police or NSW RFS initiates an off-site evacuation of the site:

1. Ensure the welfare of staff at all times;
2. If Police or the on-site emergency service senior officer requests an off-site evacuation, alert all staff and instruct them on procedures to moving to the on-site designated refuge point (refer to Figure 1, Appendix 2 *[To be updated]* for location);
3.   A briefing on arrangements for transporting people to the off-site designated refuge point (Rylstone Police Station in first instance unless otherwise advised) will be provided. Transportation will include private cars and work vehicles available on site;
4. The location of the selected off-site evacuation will be made by NSW Police; this may or may not be the Rylstone Police Station. Authorities may instruct evacuation to an alternate location dependent upon the nature of the bushfire and its existing and predicted effects;
5. Drive carefully and ensure the welfare of staff until they reach the designated off-site refuge point as determined by the initiating authority.

5   Site Recovery

After bushfire impact and an off-site evacuation have occurred, general staff are not to re-enter the site until a full survey and audit of the site, assets and infrastructure has occurred. The audit is to focus on the safety of the site and is to include, but not be limited to, an audit of the access roads, power lines and poles, dangerous trees, dangerous buildings and other items of infrastructure and built form, and the supply of power, sewer arrangements and safe drinking water.

6   Education and Plan Awareness

All members of the ECO are to be trained in evacuation procedures and the operation of bushfire protection equipment as required within the Bushfire Risk Assessment. Guidance should be sought from the LEMCs concerning the format and content of evacuation training exercises where no such material is available.

The Chief and Deputy Chief Wardens, and Areas Wardens are to receive training / awareness in the following:

- The layout of site, including evacuation routes, designated refuge points, and locations of fire suppression systems, i.e. fire extinguishers, water supplies, pumps and hoses that are installed;
- The operation of communication equipment;
- The operation of a registration system to check staff on the premises into the evacuation assembly and refuge area;
- The operation of the Plan;
- The staging of annual evacuation exercises; and
- Bushfire awareness training.

This Plan is linked to the Bushfire Risk Assessment which addresses the education of staff on bushfire risk.

6.1   Plan Display

The emergency procedures of the Plan are to be displayed at the site. During the bushfire danger period, this information is to be periodically distributed to all staff.

All staff are to be provided with an updated summary version of the entire Plan in August each year or as there are significant changes during the construction, operation and maintenance phases.

7   Education and Plan Awareness

The implementation of the Plan will rest with the ECO.

A copy of the plan is to be located in a prominent position at the site. All members of the ECO are to have a personal copy. Copies are also to be sent to the following authorities:

- Rylstone, Mudgee and Bathurst Police Stations;
- NSW RFS Cudgegong and Bathurst Districts; and
- Local Emergency Management Committee (Mid-Western Regional Council and Bathurst Regional Council).

Amendments made after reviews are also to be disseminated to the aforementioned organisations.

AS:3745-2002 requires that the ECO ensure these emergency procedures remain viable and effective by review and monitoring at periods not exceeding 12 months. In addition, the ECO shall ensure that the procedures are reviewed after an emergency event, a training exercise or any changes that affect the Plan and emergency procedures.

8   References

Eco Logical Australia (2009) *Bushfire Emergency and Evacuation Plan, Boco Rock Wind Farm.* Consultancy report prepared under contract for Wind Prospect CWP Pty Ltd, September 2009.

Eco Logical Australia (2011) *Crudine Ridge Wind Farm Bushfire Risk Assessment*. Consultancy report prepared under contract for Wind Prospect CWP Pty Ltd, August 2011.

NSW Rural Fire Service 2004, *A guide to developing a Bushfire Evacuation Plan*. Retrieved from, http://www.rfs.nsw.gov.au/file_system/attachments/State/Attachment_20070228_06F04768.pdf.

Standards Australia 2002, *AS 3754-2002 Emergency control organisation and procedures for buildings, structures and workplaces*. Standards Australia International Ltd. Sydney, NSW.

Appendix 1

The following contact list is for emergency services and welfare agencies and is to be kept updated and displayed prominently in any site office within the site.

Emergency Contacts

Contact	Phone Number
Sapphire Site Chief Warden *[To be updated – Name]*	*[To be updated – Number]*
Sapphire Site Deputy Chief Warden *[To be updated – Name]*	*[To be updated – Number]*
Sapphire Site Area Wardens *[To be updated – Name]*	*[To be updated – Number]*
Emergency Services (EMERGENCY) police, ambulance, fire	**000**
Police (Rylstone)	(02) 6379 1000
NSW Rural Fire Service Cudgegong District	(02) 6372 4434
NSW Rural Fire Service Bathurst District	(02) 6333 1333
Mid-Western Regional Council	1300 765 002
Bathurst Regional Council	(02) 6333 6111
NSW Rural Fire Service information line	1800 679 737
NSW Rural Fire Service – Website	www.bushfire.nsw.gov.au
Bureau of Meteorology – Website	www.bom.gov.au
(SES) State Emergency Services	(02) 132 500
Department of Community Services (DoCS) Disaster Recovery Centre	1800 018 444
Mudgee Community Health Centre	(02) 6378 6236
Mudgee District Hospital	(02) 6378 6222
Security Company *[To be updated – Preferred site contractor]*	*[To be updated – Number]*

Appendix 2 Figure 1