

Bushfire Mitigation Plan 2022-23
Glenrowan West Solar Farm
Revision 6

	Description	Originator	Reviewed	Approved	Date
0	Developed	T. Cordell			18/01/2021
1	Updated	T. Cordell	M. Rose	G.G. Gee	19/01/2021
2	Updates of 7.1 and addition of 10.4	T. Cordell	M. Rose	G.G. Gee	19/01/2021
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5	Changes as per ESV	T. Cordell	B. Ramon	R. Dharmasena	07/10/2022
6	Glenrowan website URL added	T. Cordell	B. Ramon	R. Dharmasena	19/10/2022

Details of Revision Amendments

Document Control

The latest approved version of this Document will be available for all personnel on the electronic document management system.

Amendments

Each new revision to the Document will be distributed to all required personnel for review and approval.

When a new revision to the document is available, a notification email will be distributed to all personnel advising of the update

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1. Contact Information

1.1 Specified operator

Name	Glenrowan Sun Farm Pty Ltd (ABN 49 620 923 748)
Position	Connections Manager
Address	9 Matcham Street, Jordan Springs, NSW, 2747
Phone	0418 648584
Website	www.glenrowanwestsolarfarm.com.au
Email	gcorbett@glenrowan-sun.com

1.2 Person/s responsible for creating the out the plan

Name	Garth Gum Gee and Matthew Rose
Position	Connections Manager
Address	201/39 East Esplanade, Manly, NSW, 2095
Phone	+61 284 599 700
Email	Matthew.Rose@wirsol.com.au

1.3 Person/s responsible for carrying out the plan

Name	Roshan Dharmasena and Matthew Rose
Position	Head of Operations & Maintenance
Address	201/39 East Esplanade, Manly, NSW, 2095
Phone	+61 284 599 700
Mobile	+61 484 148 021
Email	Roshan.Dharmasena@wirsol.com.au and Matthew.Rose@wirsol.com.au

1.4 Control room emergency contacts

Name	Wirsol Control Room
Address	Level 1, 1024 Ann Street, Fortitude Valley, 4006, Queensland
Phone	1300 595 934 / (07) 3505 3957
Email	control.room.qe@quintasenergy.com

2. Bushfire Mitigation Policy

Glenrowan Sun Farm Pty LTD is the owner of Glenrowan West Solar Farm and values the health and safety of all personnel influenced by our business operations. We hold a high environmental regard and are committed to sustainability.

We are committed to the principal of elimination prior to minimisation in relation to all workplace risks. We appreciate that the ignition of fire is a significant threat to personnel, property and the environment. We are committed to the effective implementation of our safety management system and the Bushfire Mitigation Plan to elimination fire ignition risk so far as is reasonably practicable.

It is the responsibility of the Head of Projects to ensure that the objectives of this plan and the implementation of our safety management system are carried out in a practicable manner.

3. Objectives of the Bushfire Mitigation Plan

The key objective of this Bushfire Mitigation Plan is to eliminate where practicable all fire ignition risks in our operations. We aim to achieve this through:

- Elimination of ignition sources
- Maintenance of equipment and apparatus
- Maintenance of separation between potential ignition sources and flammable material

This Bushfire Mitigation Plan provides a framework to manage the bushfire risks associated with Glenrowan West Solar Farm. The aim is to:

- Protect the health and safety of the local community
- Minimise environmental impacts of our operations and mitigation activities
- Ensure safe clearances are maintained
- Reduce the risk of fires and power interruptions

4. Description

4.1 General Description

The 149MW DC (110MW AC) Glenrowan West Solar Farm is located at a site south-west of the town of Glenrowan, between Benalla and Wangaratta. Consisting of large arrays of solar panels with the supply capability of approx. 41,000 homes.

4.2 Overhead Power Lines

In respect of this Bushfire Mitigation Plan, this plan applies to the overhead lines, poles, hardware and apparatus up from the line posts within the substation up to but not including pole 22. These items remain within the solar farm fence boundary. Pole 22 and related items are under the control and ownership of Ausnet.

Glenrowan West Solar Farm owns and is responsible for the span from Pole 22 to Pole 23 and the span to the Glenrowan West Solar Farm substation. Pole 23 is a concrete pole. The at risk electric line and surrounding area will be maintained by Glenrowan West Solar Farm.

4.3 Images



Figure 1 – Electrical Infrastructure



Figure 2 – Electrical Infrastructure

5. Bushfire prevention strategies and programmes

This Bushfire Mitigation Plan provides the strategies and programmes for the prevention of bushfires caused by the operation of Glenrowan West Solar Farm. The risk of bushfire will be managed through the following:

- Application of risk management process in accordance with the Glenrowan West Solar Farm WHS Risk Management Procedure
- Ensuring adherence with the published “No-Go Zones”
- Undertaking inspections and preventative maintenance of electrical assets
- Ensuring the competency of personnel engaged in high-risk work
- Utilisation of quality products throughout the construction and operation of the solar farm
- Maintain easements to ensure appropriate vegetation management

5.1 Fire Fighting Equipment

Fire-fighting equipment suitable to extinguish small fires is provided in all vehicles and within the substation. Extinguishers are to be inspected every six months and in accordance with manufacturer instructions. Firefighting is only to be attempted by personnel post reporting the fire and only if safe to do so.

6. Inspection Plan

Overhead power lines are inspected periodically in accordance with section 10.1 Inspections. Periodic inspections include both line and easement inspections.

These inspections will be carried out annually during the period of August-September with reporting no later than October.

6.1 Line Inspections

Line inspections are to be completed pole by pole with inspection to include the following components:

- Poles
- Pole hardware
- Insulators
- Line hardware
- Line

The inspector is required to identify defects, report on the condition, and assign a priority regarding rectification

6.1.1 Pole

Poles are to be inspected via visual inspection. The visual inspection is to include:

- Alignment and pole position

- Evidence of decay, deterioration, or damage
- Area surrounding pole for o Degradation of the support base for the pole
- Impact on the decay of the pole for
 - Degradation of the support base for the pole
 - Impact on the decay of the pole

6.1.2 Pole hardware

Pole hardware relates to all additional structure and or components required to support the insulators. Pole hardware is to be visually inspected. The visual inspection is to include:

- Alignment and position
- Evidence of decay, deterioration, or damage

6.1.3 Insulators

Insulators are defined as insulating hardware supporting the line and line hardware from the pole and pole hardware.

Insulators are to be visually inspected. The visual inspection is to include:

- Alignment and position
- Evidence of decay, deterioration, or damage
- Foreign objects and or contamination

6.1.4 Line hardware

Line hardware relates to the hardware connected to the line at the operating voltage of the line. Line hardware is to be visually inspected. The visual inspection is to include:

- Alignment and position
- Evidence of decay, deterioration, or damage
- Foreign objects and or contamination

6.1.5 Lines

The line hardware relates to the hardware connected to the line at the operating voltage of the line. Line hardware is to be visually inspected. The visual inspection is to include:

- Alignment and position
- Evidence of decay, deterioration, or damage
- Foreign objects and or contamination

6.2 Easement Inspections

For the purposes of this plan, the easement is defined as the cleared area within the blue markings in Figure 2: Electrical infrastructure.

Any vegetation identified as at risk is to be reported. Removal of such vegetation is to be carried out by appropriately competent personnel in accordance with a task specific risk assessment.

7. Competency

We understand that the competence of personnel is a key element in ensuring the quality of our inspections.

As a minimum all personnel undertaking an inspection (including auditing inspections) are to have successfully achieved the following:

- UET20612 – Certificate II in ESI – Asset Inspection
- UET20319 – Certificate II in ESI – Powerline Vegetation Control

Or equivalent equally recognised training course as directed by Energy Safe Victoria. All personnel must be approved by Glenrowan Sun Farm Pty Ltd for Glenrowan West Solar Farm prior to undertaking any electrical asset inspections.

7.1 Training in Bushfire Mitigation Plan

All personnel with duties related to this plan will be provided a copy of the plan from the Person responsible for the preparation of the plan.

Those personnel are responsible for reading the plan and where any aspects require further explanation to attain understanding are to communicate with the Person responsible for the preparation of the plan.

The Person responsible for the preparation of the plan is to maintain records of duty holder confirmation of plan understanding. This may be in the form of diary notes.

Other workers and contractors will be trained in the Bushfire Mitigation Plan along with the Emergency Management Plan as part of the Glenrowan West Solar Farm induction process. A theory assessment will be undertaken in order to determine competence. All personnel undertaking tasks within the area covered by this plan will be operating under a specific risk assessment and be deemed competent for the tasks of which they are undertaking. Records of competence will be reviewed by or on behalf of GWSF personnel.

8. Operational Contingency Arrangements

Contingency arrangements are in place for Glenrowan West Solar Farm in the circumstance of hazardous conditions.

8.1 In the event of a bushfire

In the event of a bushfire, Glenrowan West Solar Farm will, where appropriate withdraw field staff. Response to bushfire will be managed in accordance with the Emergency Management Plan.

8.2 Total fire ban days

On days identified by the fire authority as Total Fire Ban maintenance activities will be limited to:

- Vehicle operation on non-vegetated roadways
- Elimination of hot work

8.3 Fire danger period

The operation of the solar farm will continue as normal. Some limitation will be applied to maintenance activities:

- Vehicle operation on non-vegetated roadways
- Hot work in accordance with the Hot Works Procedure

8.4 Line Isolation

In the event of fire in the area which impacts on the power line between Ausnet Glenrowan Terminal Station (GNTS) and the Glenrowan West Solar Farm operations will be co-ordinated between Ausnet and solar farm to isolate the solar farm. The solar farm can be remotely isolated by the Wirsol Energy control room.

8.5 Plan Availability

A copy of this report will be available at the following locations

- At the Glenrowan West Solar Farm site office
- The Wirsol Energy Control Room
- Published on the Glenrowan West Solar Farm web page

9. Fire investigations

Glenrowan West Solar Farm will, as requested, provide assistance to fire control authorities investigating bushfires within the vicinity of the solar farm. This will include:

- Allocating staff or a representative to accompany fire investigators investigating any potential/suspected ignition sources within the solar farm
- Provision of technical details of items in specific relation to fire ignition
- Providing access to bushfire related policies and procedures
- Accepting recommendations from fire authorities concerning improvement opportunities

Glenrowan West Solar Farm is committed to investigating all incidents including incidents involving fire and the reasonable potential there for. All investigations are to be carried out in accordance with the Incident Investigation & Reporting Procedure.

The level of incident investigation is determined based on incident severity. Incidents classified as negligible to medium are undertaken using the work incident investigation method. Whereas incident severity classified as Large will be investigated in accordance with the ICAM methodology.

10. Continuous Improvement

Glenrowan West Solar Farm are committed to continuous improvement. This extends to all aspects of the business including this Bushfire Mitigation Plan.

10.1 Inspections

Inspections will be carried out on all aspects of the line. This includes the inspection of:

- Pole
- Pole hardware
- Insulators
- Line Hardware
- Line

Inspections undertaken will:

- Identify any defects;
- Report the condition of the key components;
- Assign a priority upon rectification of defects identified.

Inspections shall only be undertaken by competent personnel in accordance with section 7 Competency.

10.2 Audits

Glenrowan West Solar Farm will utilise a combination of internal and external audits to monitor the implementation of this Bushfire Mitigation Plan. The intent is to provide a mechanism to assist in identifying any potential implementation deficiencies along with creating a process for continuous improvement. This will be carried out through internal and external audits.

10.2.1 Internal audits

Internal audits will be undertaken on a minimum of five percent (5%) of inspections each year. This will be used to monitor the continuing competence of inspectors and verify the effectiveness of the inspections. The internal auditor will undertake the inspection without involvement in the initial inspection. In the circumstance of any major discrepancies the inspection complete inspection is to be repeated. Additionally, the initial inspector would be required to undertake a refresher course prior to completing any further inspections.

10.3 External Audits

In addition to the internal audits and inspections, Glenrowan West Solar Farm will ensure an independent inspection is completed at least every 5 years by an industry qualified external auditor. The external auditor shall be:

- Trained in line inspection; and
- Has completed an assets inspection training course endorsed by ESV

In the circumstance of any significant inspection discrepancies, it may be required that the initial inspector and internal audit inspector undertake refresher training. It may be required that a review of inspections carried out by both involved inspectors be undertaken.

10.4 Implementation Monitoring

Actions identified through inspections and audits will be tracked to close out through the Corrective Action Register. Upon completion of an inspection and or audit, actions identified will be raised and recorded on the Corrective Action Register. These actions will be periodically reviewed and followed up for close out. Once the action is deemed to be closed, details of rectification will be added to the register and the aspect closed.

Physical works undertaken will be monitored by Glenrowan West Solar Farm personnel and or representative. An element of this monitoring is to ensure compliance with all site and legislative requirements.

11. Management plan revision

11.1 Identification of improvement opportunities

Opportunities for continuous improvement of the plan may be identified in a range of ways. The following outline reasonably foreseeable triggers:

- Legislative change
- Policy
- Annual review
- Industry practice
- Review by the regulator (Energy Safe Victoria ESV)
- Audits
- Investigations
- Suggestions for improvement from members of the public or an officer of a public authority

11.2 Revision timing

This BMP has been prepared by Glenrowan West Solar Farm. The plan is to be reviewed and resubmitted to ESV prior to July 1st each year. The plan may be reviewed at an earlier opportunity in the circumstance of the identification for improvement.

12. Analysis of 2021-2022 BMP

Section of the Regulation	Glenrowan Solar Farm Comments
6(m) The investigations, analysis and methodology to be adopted by the specified operator for the mitigation of risk of fire ignition from its at-risk electric lines	There were no fires that started due to the at-risk electric line
13(1) Energy Safe Victoria may, in writing, exempt a specified operator or major electricity company from any of the requirements of these regulations	No exemptions were requested or issued by

13. Reference Documents

Details of the file	File Name	Version	Submitted/Approved date
Bushfire Mitigation Plan 2021-22 Glenrowan West Solar Farm	GWSF-1-PLN-02 Bushfire Mitigation Plan_Final	3	20 April 2021
ESV- acceptance of Glenrowan West Solar Farm Bushfire Mitigation plan 2021/22	CM-10842		30 August 2021

14. Website Document Location

<https://www.glenrowanwestsolarfarm.com.au/#gallery>