



SIEMENS

Ingenuity for life



Minimising the risk of bushfires with Fusesaver[®]

The world's fastest MV outdoor vacuum circuit breaker

High-risk bushfire days are primarily determined by the temperature, humidity, prevailing wind conditions and the amount of dry fuel on the ground. With just a spark from an electrical arc a bushfire can be ignited, affecting landscapes and lives for years. On extreme risk bushfire days, it is critical to eliminate any probability of faults on the electrical network igniting a fire.

www.siemens.com/fusesaver

Fact

Between 1967 and 2013, major Australian bushfires have resulted in over 8,000 injuries and 433 fatalities with a cost of approximately A\$4.7 billion².

Findings of a study¹ show that overhead distribution network operators can significantly reduce the risk of bushfires by implementing these actions:

1. Eliminate protective devices that expel molten material during operation

Traditional fuses should be removed from high risk bushfire zones as arc by-products can start fires. Fusesaver[®] provides a cost effective alternative with fully encapsulated vacuum interrupter switching fully eliminating this risk.

A Remote Control Unit (RCU) allows for easy SCADA integration and gives the ability to change protection settings and to disable reclosing without the need to be on-site.

2. Utilise ultra-fast fault clearing circuit breakers to reduce electrical arc hazards

Arc duration is a significant variable in the probability of an electrical fault causing ignition of a fire. With clearing times in the range of 30–50ms traditional reclosers are too slow to prevent an arc causing fire ignition. The Fusesaver[®] is unique in having a clearing time in as little as 10ms (or one half-cycle) and with this speed the probability approaches zero.

4. Synchronise operation to ensure compatibility with resonant earthing schemes

Single phase protective devices, such as fuses, can cause instabilities on networks using resonant earthing schemes. Fusesaver[®] provides a synchronised three-phase switching operation for both protection and manual switching activities.

Save Money and reduce risk

With a lower capital cost than traditional reclosers, compact design, fast installation time and an unrivalled fault clearing time, the Fusesaver[®] represents a quantum leap in reclosing technology. Whilst minimising the risk of bushfires it supports utilities to:

- Keep down insurance premiums
- Avoid litigations
- Protect the distribution network
- Increase network reliability.

3. Provide remote access to disable reclosing on high fire risk days

To enable remote monitoring and operating capabilities, the Fusesaver[®] can be conveniently accessed from the control room.

Key benefits



Minimising the risk of bushfires



Increased network reliability



Improved operator safety



Future proof asset



Fast ROI

To find out more, contact us via fusesaver.au@siemens.com

¹ Conducted for Energy Safe Victoria by HRL Technology Pty Ltd, "Probability of Bushfire Ignition from Electric Arc Faults" D. Coldham, A. Czerwinski and T Marxsen.

² 2013 Australian dollars, including deaths and injuries but excluding most indirect losses, Source: Ladds M, Keating A, Handmer J and Magee L (2017), "How much do disasters cost? A comparison of disaster cost estimates in Australia".