

Introduction of REFCLs

Rapid Earth Fault Current Limiters

REFCLs will deliver safer communities from bushfires

REFCLs will reduce bushfires from faulty powerlines, better protecting Victorian lives and property from catastrophic bushfires.

Fire Protection

Bushfires ignited by powerlines contributed to the deaths of 159 of the 173 Victorians who died during the devastating 2009 Black Saturday bushfires.

The Victorian Government established the Powerline Bushfire Safety Program to implement recommendations 27 and 32 of the Victorian Bushfires Royal Commission. REFCLs are a critical component of this \$750 million program of works.

REFCLs have been demonstrated to be highly effective in managing powerline faults by rapidly limiting the energy release on high voltage 22kV powerlines.

Where are REFCLs being installed?

REFCLs are being placed at 45 major electrical installations (called substations) in high-risk bushfire areas.



More information about REFCLs

For more information about Rapid Earth Fault Current Limiters, including details about safety, benefits and implementation contacts, go to the Department of Environment, Land, Water and Planning's website.

Web: <http://bit.ly/EnergyREFCL>

Email: hcap@delwp.vic.gov.au

or contact your electricity distributor:

AusNet Services – austnetservices.com.au

Powercor – powercor.com.au

Jemena – jemena.com.au

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Information for High Voltage Customers

What is a REFCL?

REFCL means "Rapid Earth Fault Current Limiter". It is a smart technology that constantly monitors high voltage electric lines to detect and suppress faults that might otherwise start a bushfire.

REFCLs work by detecting powerline faults within milliseconds and instantaneously diverting electricity from the faulted line to non-faulted lines. It also acts as a diagnostic tool pinpointing any weak or ageing links, allowing for repair and ensuring a higher safety standard powerline network.

How does a REFCL's operation impact high voltage customers?

The operation of REFCLs may result in short periods of over voltage as the voltage flow on the non-faulted lines nearly doubles.

This action will not impact households, although the private networks of high voltage customers will be affected. Factors such as the age, condition, operational specifications and tolerances of existing assets may impact a high voltage customer's ability to withstand over-voltage.

High voltage customers will need to assess and test their electrical equipment and installations and, if necessary, undertake works to ensure that their electrical assets are REFCL ready.

REFCL Implementation

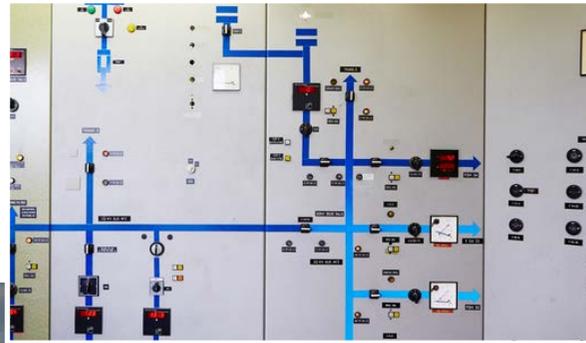
The Victorian Government is committed to protecting communities from bushfires, including bushfires caused by the electricity network.

In May 2016, the Government amended its *Electricity Safety (Bushfire Mitigation) Regulations* to require electricity distribution businesses to operate at heightened safety standards in high bushfire risk areas. REFCLs meet these standards.

AusNet Services, Powercor and Jemena will be the electrical distribution businesses placing REFCLs onto the Victorian powerline network.

They will be deploying REFCLs onto their networks from 2018 and all REFCLs must be fully operational by April 2023.

High voltage customers will need to assess their electrical assets (equipment and private networks) to ensure they can withstand periods of over-voltage conditions when REFCLs operate.



Rapid Earth Fault Current Limiter (REFCL)

HV Customer Checklist - what to do next

If you connect directly to a 22kV feeder, rather than through a transformer, you may need to modify your assets to comply with the operating conditions of REFCLs.

HV Customers will need to:

- Contact your electrical distribution business to help determine the compliance standards to be met
- Assess your private network to identify required works to protect your assets
- Complete the HCAP application pack

Find further information at the website: <http://bit.ly/EnergyREFCL>

High Voltage Customer Assistance Program (HCAP)

To help commercial high voltage customers meet the costs of upgrading electrical assets for REFCL operation, the Victorian Government has committed up to \$10 million in direct financial assistance through the Powerline Bushfire Safety Program.

HCAP grants will provide funding grants towards the actual cost of works required to make the high voltage customer REFCL-ready.

HCAP application closing date: 20 February 2019

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