

Managing bushfire risk

September 2024

EnergyCo is leading the development of Renewable Energy Zones (REZs) and priority network infrastructure projects to deliver a clean, affordable and reliable electricity supply energy consumers. We understand the serious impact of bushfire in regional areas of NSW and are committed to avoiding and reducing the residual risk of bushfire during the construction and operation of our projects.



How we assess and manage bushfire risk for transmission projects:



During the design process

We consider the history of bushfires, the density and type of vegetation, topography, access constraints and other factors that may affect bushfire risk when planning the transmission route. We also consider how bushfires may behave when designing transmission lines and related infrastructure.

Transmission projects are designed and managed in line with the *Electricity Supply Act 1995* and Electricity Supply (Safety and Network Management) Regulation 2014 which requires the network operator to take all reasonable steps to make the network safe.



Working with emergency services

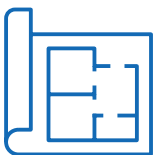
EnergyCo and transmission network operators engage with emergency service providers such as the NSW Rural Fire Service during the planning, construction and operation of transmission networks. Measures to protect people, property and the environment from bushfires are developed in line with NSW Rural Fire Service guidelines. Firefighters are trained on the control measures which apply to fighting fires near transmission lines. NSW fire authorities have policies and operational procedures in place for working around transmission lines, including controls to enable aerial firefighting to continue.

Existing 330 kV transmission lines near Armidale



Bushfire hazard and impact assessment

Where transmission infrastructure is proposed on bushfire prone land, the project's environmental impact statement assesses the bushfire risk and describes measures to avoid, minimise and manage these risks during construction and operation.



Vegetation management

Vegetation is trimmed and maintained around transmission line infrastructure, construction compounds and other project infrastructure to improve their resilience to potential bushfire impacts.



Inspections and maintenance

Transmission lines, energy hubs and switching stations are regularly inspected and maintained to minimise the risk of fires starting due to failures or incidents.



Emergency protocols

Transmission projects have comprehensive emergency management and evacuation plans for construction and operation. These consider bushfire emergency management and include procedures or restrictions for high fire danger periods, fuel storage, smoking areas, hot work, vehicle movements and other activities.



Firefighting protocols

Project infrastructure and facilities are designed to provide safe access for firefighting operations in line with standards set by the NSW Rural Fire Service. Site offices and facilities have appropriate equipment in case of fire and are built to be resilient to potential bushfire impacts.

Frequently asked questions

Q. Will transmission infrastructure increase the risk of bushfires?

While electrical infrastructure can present a fire risk, transmission lines have a very low risk of starting bushfires. There are no records of a 500kV transmission line starting a fire in Australia, and they have the lowest bushfire risk of all powerline infrastructure (transmission and distribution lines). Lower voltage transmission lines and distribution lines, such as those found in our streets and towns, have a greater bushfire risk. Distribution lines (particularly 22kV/33kV) are usually associated with fire ignitions from electrical infrastructure.

In the recent Standing Committee on State Development Inquiry on the Feasibility of undergrounding the transmission infrastructure for renewable energy projects (Parliament NSW, 2023), Transgrid reported they could not find a record of a bushfire being started in Australia by a Transgrid transmission line operating at over 66kV.

Q. What makes them lower risk?

Transmission lines are unlikely to start or be damaged by fire because:

- they have a low risk of contact from trees and branches due to vegetation management in the easements
- they are supported on tall towers around 60 to 70 metres high to maintain safe clearances
- they have dedicated easements around 60 to 70 metres wide and include land use restrictions for safety and operational reasons
- individual transmission lines (conductors) are separated by minimum clearances and are not likely to clash during weather events.

Q. Will transmission lines prevent aerial firefighting activities from being carried out?

There are established procedures and protocols in place for emergency services when fighting fires around transmission lines. Aerial water bombing may be carried out on and around transmission lines where approved by the incident controller, air attack supervisor and pilot, and in accordance with Civil Aviation Safety Authority (CASA) requirements. Transmission lines are shown on aeronautical charts and incident action plan maps so aircraft operators are aware of their location, and they are covered in briefings by air attack supervisors prior to aerial firefighting operations.

Q. What happens to transmission lines in a bushfire?

Transmission lines can be turned off remotely in the case of a fire. When transmission infrastructure is damaged, maintenance crews will carry out emergency repairs as soon as it is safe to do so. In the event of a supply outage during a bushfire, the network operator will work closely with authorities and emergency services to restore power as quickly as possible.

Q. What are the safety restrictions for firefighters around transmission lines?

Firefighters are trained on protocols for fighting fires around power lines and have appropriate procedures in place to ensure firefighting activities can continue safely in the vicinity of transmission lines. In the case of a severe bush fire, directly fighting the fire on the ground is unsafe and ineffective. In severe fire conditions emergency services will use indirect ground and aerial fire suppression actions when conditions are suitable.

Q. Will transmission lines impact water scooping aircraft?

Transmission lines near bodies of water (such as dams) would not restrict the use of water scooping fixed wing aircraft and helicopters when conditions are suitable. Aircraft operators are aware of the location of transmission lines as they are published on aeronautical charts and covered in briefings for firefighting operations. The location of the transmission route would not restrict the use of Chaffey Dam by both water scooping fixed wing aircraft and helicopters.



Aerial firefighting near Sydney in 2013

About EnergyCo

The Energy Corporation of NSW (EnergyCo) is a statutory authority responsible for leading the delivery of Renewable Energy Zones (REZs) as part of the NSW Government's Electricity Infrastructure Roadmap.

EnergyCo is working closely with communities, investors and industry to deliver the state's first five REZs.

For more information about EnergyCo, visit our website at energyco.nsw.gov.au/about-energyco.

Contact us

For more information, please visit our website or get in touch with our team.



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