



Snowy Valleys CCG 'Pilot' Bushfire  
Management Workshop  
HumeLink  
Wednesday 27 July 2022

# Acknowledgement of Country

We begin by acknowledging the Traditional Owners of the land on which we meet today.

We pay respect to Elders past, present and emerging.



# Workshop Agenda

- Introductions
- How Transgrid manages bushfire risk across transmission network
- Bushfire within the HumeLink Environmental Impact Statement (EIS)
- Q&A
- Lunch break (30 minutes)
- **Working Session:** *from a community perspective what would you like to see addressed in the EIS Bushfire Report?*
- **Working Session:** *what does the bushfire team need to know about fires in this area?*
- **Working Session:** *identifying and prioritizing project opportunities for Snowy Valleys bushfire management and matters for further investigation*

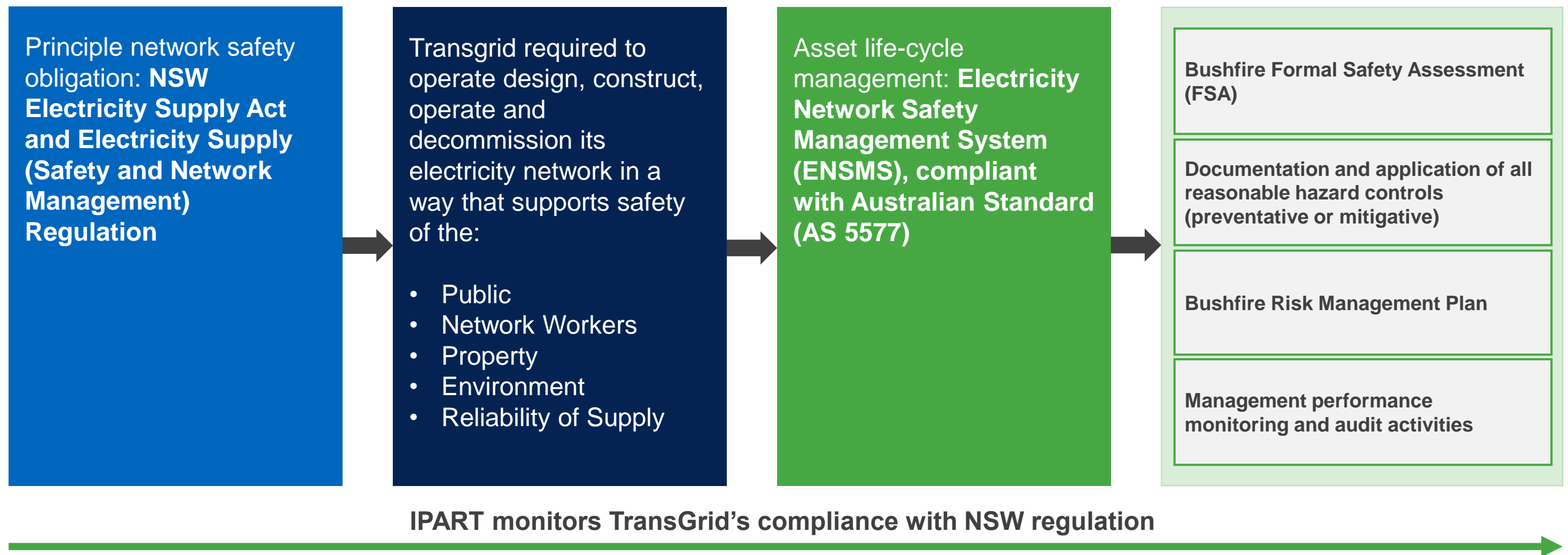
# Transgrid: managing bushfire risk across transmission network

Transgrid are committed to the safety of the community and our workers. This includes managing bushfire risk to be as low as reasonably practicable.

This commitment is signed off by the CEO and the Board in:

- **Our Corporate Values** – We put safety first
- **Our Corporate Risk Statement** – Transgrid has no tolerance for network safety incidents (including bushfires) that could result in loss of life or significant environmental / property damage
- **Our Health and Safety Policy** - Transgrid commits to zero harm to the public, our employees, visitors and delivery partners
- **Our Asset Management Policy** – Transgrid commits to managing our assets to deliver value to the community through a safe, reliable and efficient network.

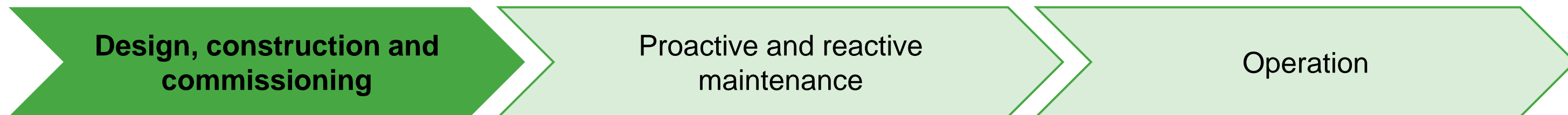
# Transgrid: managing bushfire risk across transmission network



Source: [2020 Electricity Safety Management System and Bushfire Report](#)

# Transgrid: managing bushfire risk across transmission network

- Transmission lines are designed to AS 7000 – Overhead Line Design
- HumeLink lines will be rated Critical under the standard and the highest reliability
- Transmission lines and associated infrastructure will be destructively tested to confirm design loading
- Substations designed to AS 2067 – Substation and High Voltage Installations exceeding 1kV a.c.
- Bushfire Assessment found Maragle requires a cleared asset protection zone, whereas Gugaa and Bannaby are located in cleared areas which already meet asset protection zone requirements.
- Substations are graveled and have limited combustible materials. AS 2067 cover requirements to manage oil filled equipment catching fire e.g. transformers.
- Safety in Design (SiD) processes review the risk in developing assets



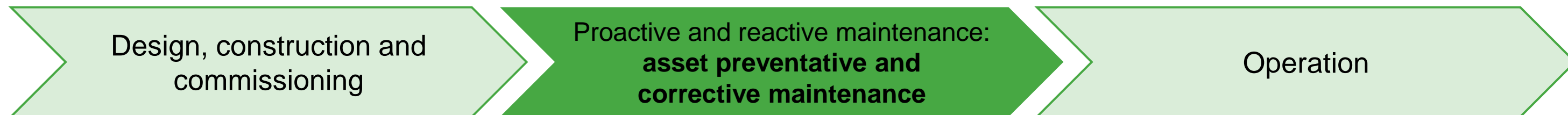
# Transgrid: managing bushfire risk across transmission network

**Transgrid's preventative maintenance (inspections and condition assessments) and corrective maintenance (fixing known defects and issues) programs are focused on managing potentially hazardous events as identified in the FSA:**

- Conductor drops
- TL structure failures
- Explosive asset failure
- Vegetation grow ins or fall ins
- Stray electrical currents
- Damage to Transgrid assets and staff from bushfire

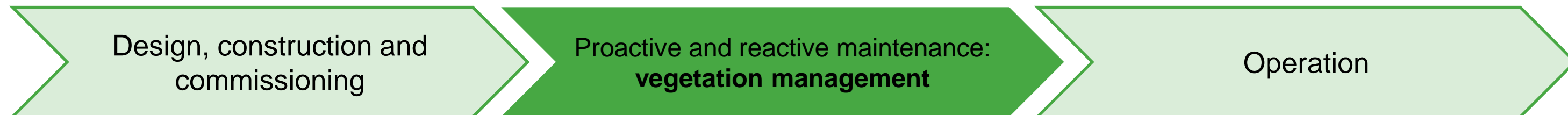
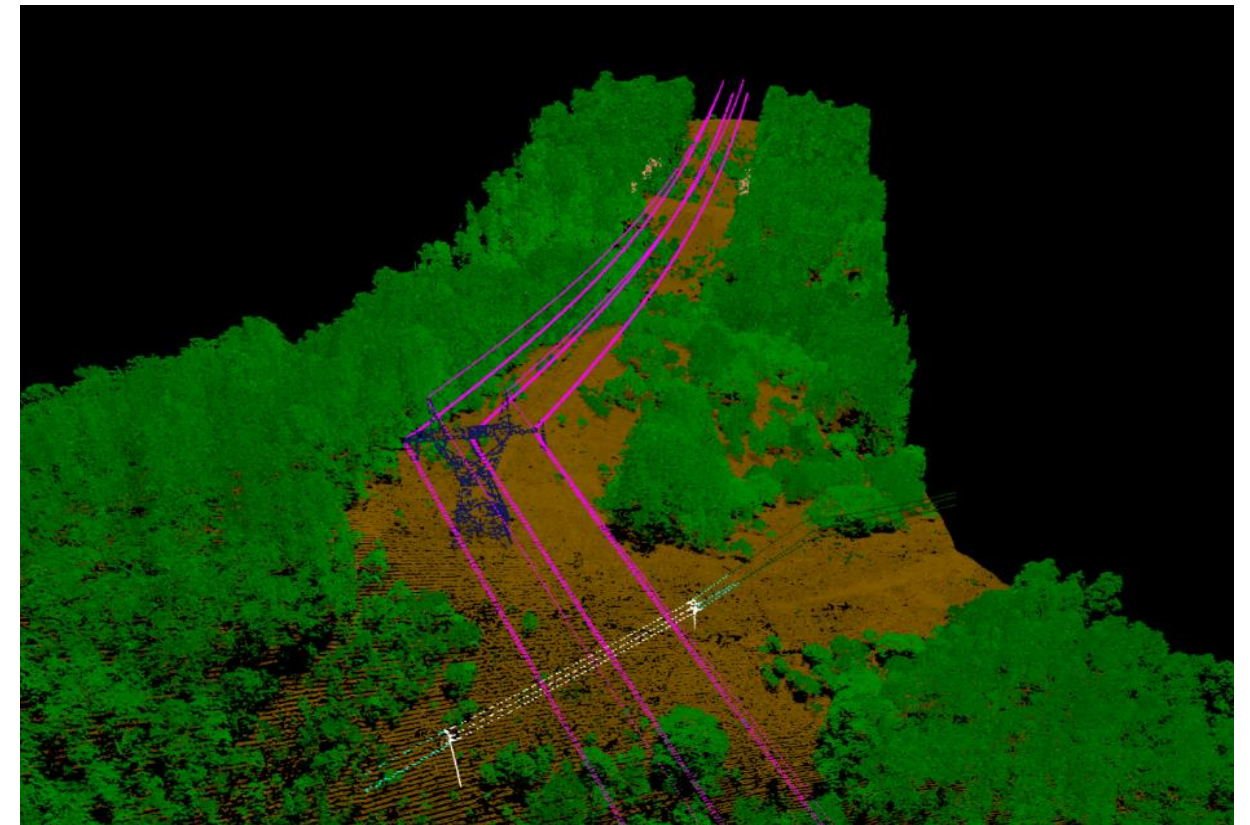
**To do this Transgrid completes the following asset inspection activities:**

- Annual visual inspection of all assets prior to the bushfire season
- Thermographic inspections to identify "hot spots"
- Detailed structure condition assessments through climbing and measurements
- Earthing system testing
- Underground (wood pole) and foundation (steel tower) inspections and condition assessments



# Transgrid: managing bushfire risk across transmission network

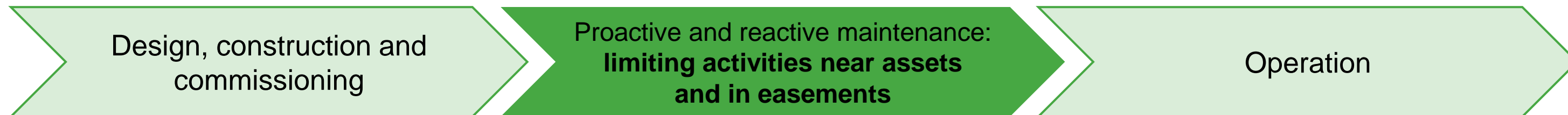
- Vegetation Clearance Requirements (VCR) – clearance between vegetation and conductors
- ‘Grow-in’ vs. ‘fall-in’ vegetation
- Routine inspection and condition-based management of vegetation
- Bushfire preparedness program completed at the start of bushfire season (February and April), includes helicopter patrols, LIDAR flights and ground inspections
- Vegetation managed using manual and mechanical methods:
  - Ground base clearing/ felling techniques
  - Rope climbing techniques
  - EWP’s
  - Jarrafs
  - Slashers
  - Forest Mulchers
  - Herbicide control.
- Biodiversity considerations





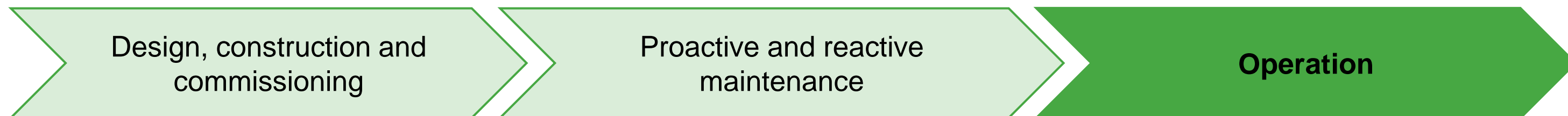
# Transgrid: managing bushfire risk across transmission network

- Easements allow Transgrid to safely construct, operate and maintain electricity infrastructure in a way that protects people and the environment.
- Limits on:
  - tree heights
  - certain storage activities
  - building heights
  - plant and vehicle heights
  - building materials and certain recreation activities



# Transgrid: managing bushfire risk across transmission network

- Quarterly attendance at key bush fire management committees (BFMC) and associated sub-committees.
- BFMC held with Rural Fire Service (RFS), key government land managers, local government, utilities, associations and other land managers.
- Work with RFS and other key government agencies such as National Parks and Wildlife Services, NSW Forestry Corporation and WaterNSW to assist fire mitigation burns (Hazard Reduction Burns).
- In the case of bushfires near our network, we work closely with emergency services.
- Act as a liaison to assist emergency services, which can be through the RFS HQ (Homebush) or locally in RFS control or incident management centres across the state, with key staff acting as liaison officers.
- If necessary, RFS have the power to de-energise our transmission lines. RFS will work with our operations team through the local fire control liaison officers to consider the situation on the ground and potential impacts of de-energisation on the wider consumers and agree the best outcomes.



# Bushfire within the HumeLink Environmental Impact Statement

## Assessment scope set out by the Planning Secretary's Environmental Assessment Requirements (SEARs)

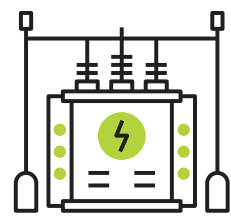
HumeLink to prepare a **Bushfire Risk Assessment Report** in accordance with the *Planning for Bush Fire Protection* (NSWRFS 2019) guidelines.



NSW Rural Fire Service has also requested the preparation of a **Bushfire Emergency Management and Evacuation Plan** consistent with the *Development Planning – A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan (2014)*

# Environmental Impact Statement – Bushfire Risk Assessment Report

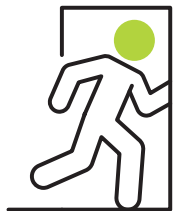
The bushfire assessment report will address the aims and objectives of *Planning for Bushfire Protection (NSWRFS 2019)* to improve life safety, property protection and community resilience to bushfire attack in relation to:



Areas where temporary or permanent buildings (such as substations) may be constructed, so that they can be built to the correct construction standard – including temporary workforce accommodation.



Consideration of access to these structures, water supply, utilities and vegetation setbacks (for HV transmission lines and for temporary and permanent structures).



Access and exits for emergency services to buildings.



Handling and use of any dangerous goods and potential impacts to high pressure gas pipeline.



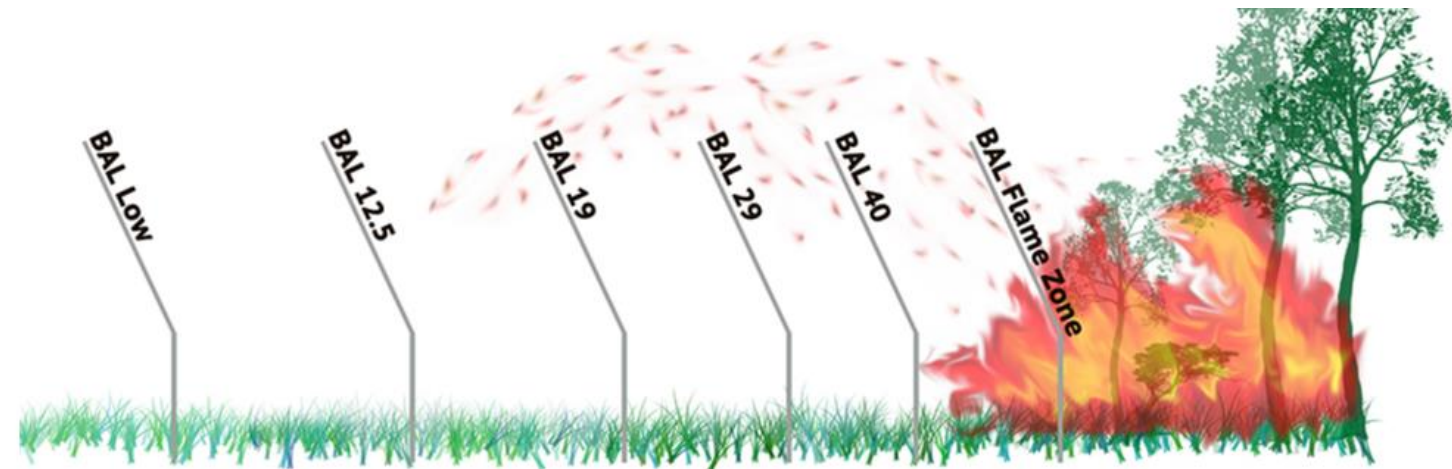
Ongoing maintenance and management of bushfire protection measures.

The risk profile along the project footprint varies with geography and changes over years, annually, seasonally, daily and hourly. The environmental inputs used for this bushfire assessment are based on worst case conditions and applied uniformly for:

- Buildings (based on AS3959:2018)
- High Voltage easement (AS/NZS 7000:2016)

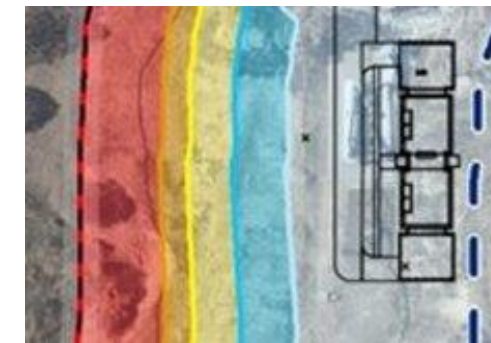
# Environmental Impact Statement – Bushfire Risk Assessment Report

Assessment report calculates the bushfire attack level (BAL) based on AS3959:2018 to determine the bushfire construction standard of buildings to protect occupants.



## Bush Fire Attack Level

BAL	Description of risk
BAL – LOW	Lowest risk from a potential fire.
BAL – 12.5	Risk is primarily from potential embers during a fire.
BAL – 19	Moderate risk, particularly from embers and burning debris.
BAL – 29	High risk, particularly from embers, debris and heat.
BAL – 40	Very high risk. Likely to be impacted by embers, debris, heat and potentially flames.
BAL – FZ	Extreme risk. Directly exposed to the flames of a potential fire front.



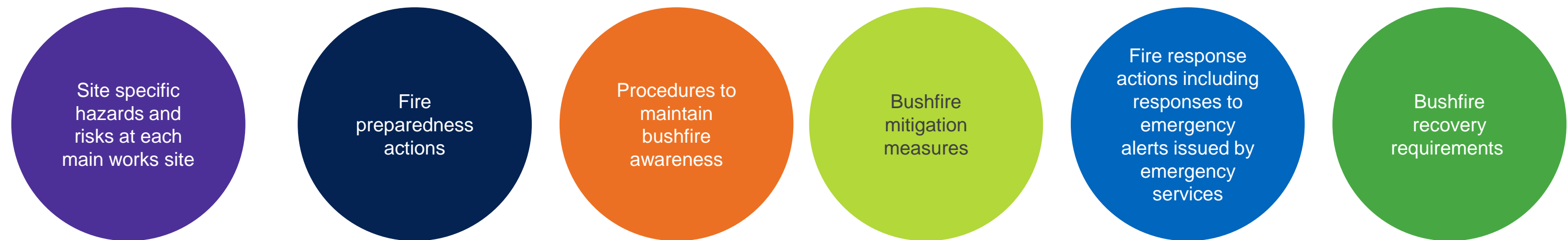
## BAL Radiant Heat (kw/m2)

- BAL 12.5
- BAL 19
- BAL 29
- BAL 40
- Flame zone
- 100 m guideline

Source: <https://www.rfs.nsw.gov.au/plan-and-prepare/building-in-a-bush-fire-area/building-after-bush-fire/your-level-of-risk>

# Environmental Impact Statement – Bushfire Emergency Management and Evacuation Plan

A preliminary ***Bushfire Emergency Management and Evacuation Plan*** will be created as part of the EIS and developed further by the appointed contractor as part of the Construction Environmental Management Plan (CEMP) to safely manage construction. The plan will include:



# Bushfire Behavior in the Snowy Valleys

- Snowy Valleys BFMC area has a cool temperate climate, predominantly winter rainfall, and a November- March bushfire danger period.
- Prevailing bushfire weather conditions include north-westerly winds, high daytime temperatures, low humidity, and dry lightning storms.
- Hot dry westerly and north-westerly winds increase the chance of bushfires spreading to the east and south-east.
- Bushfire risk increases in El-nino or unseasonably dry years, when dry spring-summer winds cure vegetation and increase the potential for fires to start and spread during summer.
- The Snowy Valleys Bush Fire Risk Management Plan (Rural Fires Act) area on average has four significant fires per year, and 62 smaller fires (Snowy Valleys BFMC 2018).
- In the past decades major bushfires have affected the region:
  - 2019/2020 - Dunns Road bushfire
  - 2009 – Tumbarumba -Tooma
  - 2006 – Tumut fires
  - 2003 - Australian Alps bushfires

FDI	Flame Height (m)	Radiant Energy Released (kW/m)	FDR / Method of attack	Spotting distance based on 15 t/ha
0–12	0–0.5	0–50	<b>Low:</b> Fires generally self-extinguish or hand tool line will hold the fire	Low ~0.2km
12–50	0.5–1.5	50–500	<b>Moderate:</b> Offensive operations usually possible in bush fuels. Most properties usually defendable	Mod ~0.6km
15–25	1.5–3.0	500–2000	<b>High:</b> Fire too intense for direct attack. Parallel attack recommended	High 1.2km
25–50	3.0–10	2000+	<b>Very High:</b> Crown fire at upper intensities. Indirect attack recommended.	Very High 2.8km
20–75	10+	12000–18000	<b>Severe:</b> The fire may be worse than anything previously experienced. Actions should be focused on safeguarding people and defensive operations. Offensive operations may be possible at night	Severe 4.1km
75–100	12+	18000–25000	<b>Extreme:</b> As for Severe but crew and public safety become major concern. Safeguarding refuges and defensive operations may be the only safe options	Extreme 6.0km
100+	15+	25000+	<b>Catastrophic:</b> Fire Behaviour is very dangerous, devastating and difficult to accurately predict. Expect significant ember attack. Action must focus on safeguarding lives	Catastrophic 6km++

# Frequently Asked Questions

## Transmission lines and infrastructure

'Do towers attract lightning strikes and increase fire risk?'

'How do you manage the risk of fires to the lines and substations?'

'Do transmission lines arc in high winds or in lightning strikes?'

## Going through high BAL areas

'How does bushfire risk influence route selection? Do you avoid timbered areas in selecting a route?'

'Can we make powerline easements wider in some locations so they can be used as fire breaks?'

## Operation in times of fires

'What happens when there is a fire in proximity to a HV transmission line? How do you fight it?'

'Do you deploy specialist bushfire teams to protect your assets, or do you rely on the local RFS?'

'Do powerlines interfere with capacity to fight fires aerially?'

'Do you close the network in times of bushfire risk?'

'Does the protection of powerlines take precedence over protecting people and property?'

## Increased risk of insurance

'Does having a transmission line on my property increase my insurance risk and cost of insurance? If so, will Transgrid pay the difference on top of any land payments?'

'Will Transgrid pay compensation if you are liable for a bushfire happening?'



Thank you

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