



# Annual Safety Performance and Bushfire Preparedness Report 2024/25

Electricity Network Safety  
Management System





# Acknowledgement of Country

In the spirit of reconciliation, Transgrid Group acknowledges the Traditional Custodians of the lands where we work, the lands we travel through and the places in which we live.

We pay respects to the people and the Elders, past, present, and emerging, and celebrate the diversity of Aboriginal peoples and their ongoing cultures and connections to the lands and waters of New South Wales, the Australian Capital Territory and Victoria.

Cover: Brodie Grant - Substation Technician Apprentice

Right: Murray River, NSW

Artwork: Yura, Gili, Nanga, the indigenous interpretation of Power. People. Possibilities





Introduction	4	Section 2: Bushfire Preparedness for Summer 2025/26	16
Section 1: Annual Safety Performance Reporting for 2024/25	5	2.1. Bushfire risk profile across Transgrid’s supply area	17
1.1. Tier 1 – Major incidents	6	2.2. Permanent / temporary declaration of areas by RFS and Transgrid’s actions	18
1.2. Tier 2 – Incidents	6	2.3. Pre-summer bush fire inspections	18
1.3. Tier 3 – Control failure near miss	7	2.4. Vegetation Tasks	19
1.4. Vegetation contact with conductors	7	2.5. Asset Tasks	20
1.5. Unintended contact, unauthorised access and electric shocks	8	Section 3: Glossary	21
1.6. Reliability and Quality of Supply	9		
1.7. Reliability and Quality of Supply – Critical Infrastructure Incidents	9		
1.8. Network-initiated Property damage events	10		
1.9. Tier 4 Control implementation	10		
1.10. Design, construction and commissioning	11		
1.11. Inspection (assets)	11		
1.12. Inspections (vegetation) Aerial/Ground based	12		
1.13. Public electrical safety plans and activities	13		
1.14. Internal audits performed on any aspect of the ENSMS (as per AS 5577 clause 4.5.4)	14		
1.15. External audits performed on any aspect of the ENSMS (as per AS 5577 clause 4.5.4).	15		



This report provides information about the performance of Transgrid's Electricity Network Safety Management System (ENSMS) as implemented in accordance with the Electricity Supply (Safety and Network Management) (ESSNM) Regulation 2014 and Australian Standard AS 5577.

This report has been produced in accordance with Safety management system performance measurement, Electricity networks reporting manual - October 2024. In addition, the reporting provides information on Transgrid's bushfire preparations for the upcoming 2025/26 fire season.

In the reporting period, Transgrid continued to maintain its ENSMS and supporting Management Systems to meet the requirements of the ESSNM Regulation. Transgrid's ENSMS defines the interface and integration of the various corporate frameworks and management systems that implement risk controls to ensure that the objectives of the ESSNM Regulation are met. Transgrid is committed to delivering the following objectives through its ENSMS:

- the safety of members of the public
- the safety of person(s) working on the network
- the protection of property (whether or not belonging to Transgrid)
- the management of safety risks arising from the protection of the environment (for example, preventing bushfires that may be ignited by network assets)
- the management of safety risks arising from the loss of electricity supply.

Transgrid's ENSMS is supported by the following Management Systems:

- a Health and Safety Management System certified to AS/NZS 4801
- an Asset Management System certified consistent with ISO 55001
- an Environmental Management System certified to ISO 14001.

This report includes the safety performance of all network assets operated by Transgrid within NSW and the ACT.

**Section 1** of this report provides an overview of the ENSMS safety performance for the period 1 July 2024 to 30 June 2025 in line with Reporting Manual Appendix A.

**Section 2** of this report covers Bushfire Preparedness for the period from 1 October 2024 to 30 September 2025 in line with Reporting Manual Appendix C. It allows Transgrid to provide meaningful data to IPART and the broader community on bushfire risk mitigation programs as well as our performance in managing bushfire risk.





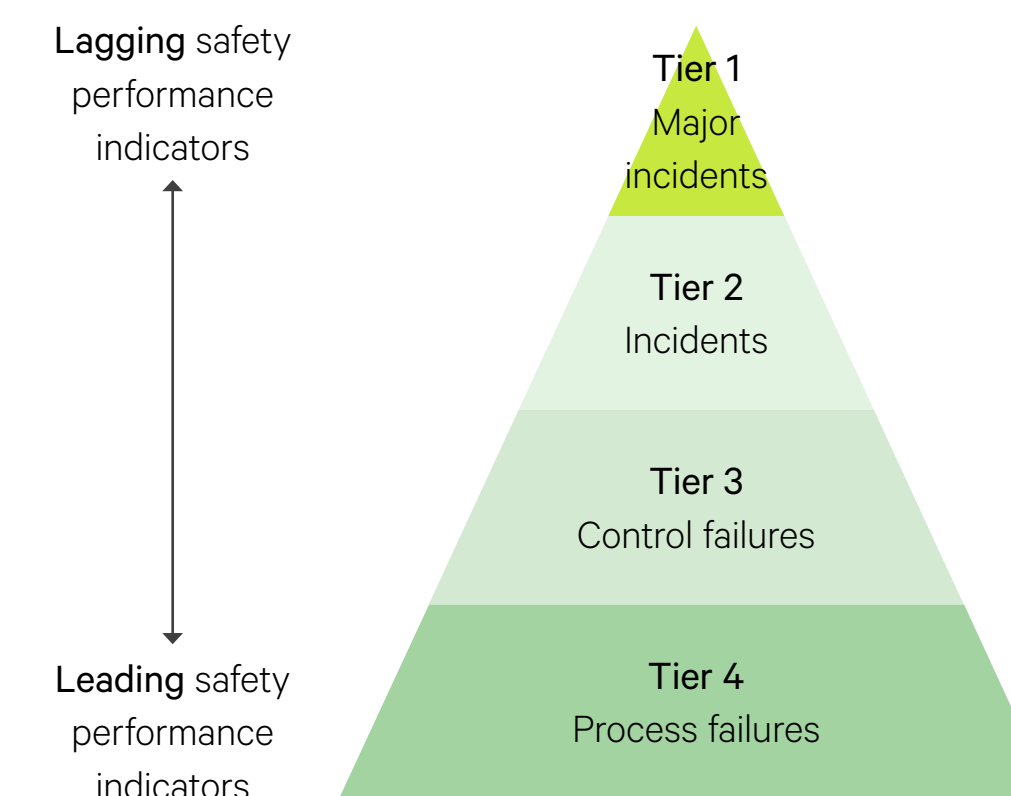
# Annual Safety Performance Reporting for 2024/25

Nate Cull – Field Coordinator (TLC)

Transgrid considers the network safety performance of its network in a performance management framework, in which an understanding of the risk control measures that are in place and the degree to which they are operating effectively acts to assist in avoiding incidents with serious consequences.

This performance management framework, shown in Figure 1 aligns with the ENSMS performance reporting required by IPART to be included within this report.

**Figure 1:** Network Safety Performance Management Framework



Tier 1 and Tier 2 incidents in the framework are lagging indicators of performance and represent occasions when the risk controls have failed to the extent that significant harm has occurred. These two tiers align with the definitions of Incidents and Major Incidents included in [IPART's Incident Reporting Manual](#)<sup>1</sup>. Details of incidents in each of these categories experienced by Transgrid during the reporting period are included in Section 1.1. and 1.2 of this report.

Control failures and process failures are lagging indicators of performance. By understanding the causes of these failures, Transgrid is able to make changes to its processes that can prevent incidents of harm occurring.

Section 1.3 to 1.8 of this report detail incidents where risk controls have failed, resulting in failures that did not have a safety impact. These represent opportunities to improve controls to prevent similar failures in future and prevent potential harm incidents.

Section 1.9 to 1.15 discuss the control processes that are in place to manage the risks to achieving ENSMS objectives and highlight deficiencies and improvements made to processes.

<sup>1</sup> Incident reporting Electricity networks reporting manual IPART August 2024



# 1.1. Tier 1 – Major incidents

Table A.1 Major Incidents

ESSNM objective		Description of each major incident reported under the Reporting Manual - Incident Reporting requirements
Safety of members of the public		Nil
Safety of persons working on network		Nil
Protection of property	Third party property	Nil
	Network property <sup>2</sup>	Nil
Safety risks arising from loss of electricity supply <sup>3</sup>		In November 2024 the Buronga to Broken Hill Line X2 collapsed due to damaging winds during a severe storm, damaging nine structures and resulting in a loss of supply at Broken Hill approximately 2 weeks. This incident is classified as major due to adverse impact or disruption to the community in accordance with the Reporting Manual - Incident Reporting.

2 Network property losses are not reportable under IPART’s Reporting Manual - Incident Reporting requirements. For the purpose of this report, Transgrid is to report each event in which losses exceed \$500,000 in relation to damage caused to electricity works (electricity power lines or associated equipment or electricity structures that form part of a transmission or distribution system) as defined in the Electricity Supply Act 1995.

# 1.2. Tier 2 – Incidents

Table A.2 Incidents

ESSNM objective		Description of each major incident reported under the Reporting Manual - Incident Reporting requirements
Safety of members of the public		Nil
Safety of persons working on network		Nil
Protection of third-party property		Nil
Safety risks arising from loss of electricity supply <sup>4</sup>		In November 2024 the Wagga to ANM tee Morven Line 996 tripped and locked out due to windblown Canola being caught on the line’s conductors resulting in loss of supply to Morven. This incident amounted to >0.05 system minutes measure in accordance with the Reporting Manual - Incident Reporting



Brodie Grant - Substation Technician Apprentice  
Amy Longmuir - Substation Technician Apprentice

3 As defined for major reliability incidents in the Reporting Manual - Incident Reporting.  
4 As defined for reliability incidents in the Reporting Manual - Incident Reporting.



# 1.3. Tier 3 – Control failure near miss

Table A.3 provides a breakdown of Transgrid’s asset types, the population of these asset types, functional failure details and whether these failures resulted in a fire. Asset types for which Transgrid is not the licenced operator in NSW and ACT are excluded from the table A.3.

Table A.3 Network Asset Failures

Performance measure	Population	5-year average annual functional failures <sup>5</sup>	Annual functional failures (for reporting period)					
			Unassisted			Assisted		
			No fire	Fire		No fire	Fire	
				Contained	Escaped		Contained	Escaped
Towers	14,832	0.6	0	0	0	1	0	0
Poles (including stay poles) <sup>6</sup>	23,157	1.4	0	0	0	0	0	0
Conductor – transmission overhead <sup>7</sup> (km)	13,446	5.6	1	1	0	7	0	0
Conductor – transmission underground <sup>8</sup> (km)	109	0.4	0	0	0	0	0	0
Power transformers <sup>9</sup>	254	5.6	3	0	0	0	0	0
Reactive plant <sup>10</sup>	199	9.8	6	0	0	4	0	0
Switchgear – transmission	15,481	16.8	17	0	0	3	0	0
Protection relays or systems	3,753	8	8	0	0	1	0	0
Transmission substation SCADA system	2,270	6.2	5	0	0	0	0	0
Transmission substation protection batteries <sup>11</sup>	276	13.2	14	0	0	0	0	0

5 Transgrid defines an asset functional failure to be when a network asset is unable to meet the expected or specified performance standard.  
6 Transgrid pole population is the count of pole structures. e.g., a structure consisting of 3 poles is counted as 1  
7 OH means ‘overhead’. Transmission voltages are generally 33 kV AC nominal and above. Transmission conductors form part of a transmission network.  
8 UG means ‘underground’.  
9 Power Transformers are transformers where the secondary/output voltage is 5 kV nominal or above.

# 1.4. Vegetation contact with conductors

Transgrid’s maintenance plan for easements and access tracks defines the required outcomes for its vegetation management program that enable it to demonstrate that the risks associated with vegetation / conductor contact are being reduced as low as reasonably practicable. The effectiveness of the vegetation management program in achieving the maintenance outcomes is demonstrated by the lack of fire starts or supply interruptions due to vegetation growing into the network over the last five reporting periods.

Transgrid has a separate maintenance plan for the management of hazard trees, which are trees that may pose a risk to the network by falling onto lines from outside the defined trimming clearance distance. This plan, which was developed in 2019 in response to a significant number of historic hazard tree-related incidents, has seen a significant reduction in the number of incidents of this type. The plan recognises that due to the length of the network and the number of trees that could pose a fall-in hazard, it is not possible to eliminate this risk however it sets out a process for evaluating the risk posed by each identified hazard tree and prioritises their management to ensure that the risk is reduced as low as reasonably practicable.

Table A.4 lists all events where vegetation has contacted Transgrid conductors leading to a fire or a supply interruption.

Table A.4 Vegetation contact with conductors

Performance measure <sup>12</sup>	Event count					Comments on 2024/24 events
	Current reporting period	Last reporting period	Two periods ago	Three periods ago	Four periods ago	
Fire starts – grow in	0	0	0	0	0	
Fire start – fall in and blow in	0	0	1	0	0	
Interruption <sup>13</sup> – grow in	0	0	0	1	0	
Interruption <sup>13</sup> – fall-in and blow in	1	0	2	2	1	One hazard tree incident at Line 66 Murray - Lower Tumut 330kV, outage ID 840734.

10 Reactive plant includes reactors, capacitors, static VAR compensators and synchronous condenser  
11 The count of battery systems includes total count of batteries and chargers as a single system.  
12 Vegetation hazard definitions as per the Industry Safety Steering Committee Guide for the Management of Vegetation in the Vicinity of Electricity Assets (ISSC3).  
13 Includes momentary interruptions.

# 1.5. Unintended contact, unauthorised access and electric shocks



Table A.5 lists all events where someone, livestock or domestic pet, vehicle or machinery has inadvertently contacted Transgrid assets resulting in an electric shock or injury, unauthorised access, or a breach of safe approach distances.

**Table A.5** Unintended contact, unauthorised access, and electric shocks<sup>14</sup>

Detail	Event count					Comments on 2024/2025 events
	Current reporting period	Last reporting period	Two periods ago	Three periods ago	Four periods ago	
Electric shock <sup>15</sup> and arc flash incidents <sup>16</sup> originating from network assets <sup>17</sup> including those received in customer premises						
Public	0	0	0	0	0	
Public worker	0	0	0	0	0	
Network employee /network contractor <sup>18</sup>	1	1	0	1	2	INC 8372 induced voltage during decommissioning of the overhead conductors from substation at Wallerawang Power Station
Livestock or domestic pet	0	0	0	0	0	
Contact with energised overhead network asset (e.g. conductor strike)						
Public road vehicle <sup>19</sup>	0	0	0	0	0	
Plant and equipment <sup>20</sup>	0	2	0	1	1	
Agricultural and other <sup>21</sup>	0	0	0	0	0	
Network vehicle	0	0	0	0	0	
Contact with energised underground network asset (e.g. conductor strike)						
Plant and equipment	0	0	1	0	0	
Person with handheld tool	0	1	0	0	0	
Unauthorised network access (intentional) <sup>22</sup>						
Zone / BSP / Transmission substation / switching station	0	0	5	5	5	
Tower / poles	1	1	0	0	1	INC - 7970 Security Breach Security Breach - Unauthorised Access Member of the public reported climbing a tower at Line 27 structure 24
Other (e.g. communication sites)	3	0	1	0	1	<ul style="list-style-type: none"><li>HAZ - 25904 and INC 8497 at Darkes Forest. Damage to palisade fence</li><li>HAZ- 27301 Security Breach and Theft at Girard Radio site</li></ul>
Safe Approach Distance (SAD) <sup>23</sup>						
Network employee /network contractor	0	0	0	1	1	
Public	0	0	1	0	0	
Public Worker	0	0	0	0	0	

14 Accredited Service Providers (ASPs) working on customer installations or distribution networks who may be involved in incidents reported in this table are reported as Public Workers as Transgrid is not a party to the Accredited Service Provider Scheme and has no responsibilities for the safety of ASPs beyond its obligations to any public worker.

15 All electric shocks are to be reported except those resulting from static discharge, defibrillators, where the system is nominally extra low voltage or involving the DC rail traction system.

16 Incidents that result in a burn or other injury requiring medical treatment and result from exposure to an arc.

17 Events caused by network assets, network asset defects or network activities, including shocks received inside customer installations are reported, noting that Transgrid’s network has no direct connection to and therefore cannot cause shocks in customer installations.

18 Includes all classes of authorised persons.

19 Including plant and equipment packed up for travel (i.e. plant and equipment travelling on a public road to or from worksite).

20 Cranes, elevated work platforms, cherry pickers, excavators, handheld tools, etc.

21 Examples include agricultural equipment, aircraft and watercraft.

22 Includes all Transgrid-owned network facilities but excludes non-network locations such as depots.

23 Encroachment into the applicable Safe Approach Distance for the type of individual involved.



# 1.6. Reliability and Quality of Supply



The performance measures specified in Table A.6 of the Reporting Manual relate to events that occur on the distribution network and are not applicable to Transgrid as a transmission network service provider.

## 1.7. Reliability and Quality of Supply – Critical Infrastructure Incidents

As a transmission network service provider, Transgrid does not directly supply many customers and safety impacts due to loss of supply on the transmission network are generally able to be managed by the distribution network service provider through the interconnections built into their networks. Transgrid’s Reliability Formal Safety Assessment does however define the types of connection that it considers to be critical and that may have safety impacts if supply to them is lost. The following table details the connections listed in the FSA that Transgrid considers to be critical infrastructure.

Table A.6 Critical Infrastructure Incident Definitions

Critical Infrastructure	Description of risk
Directly connected customers	Customers that are directly connected to Transgrid’s network may have limited alternate supply options. Supply failure may result in loss of critical equipment such as mine ventilation for which they need to have contingency in place.
Regional localities with limited supply redundancy or radial feed	Regional localities, for example Broken Hill, have limited network redundancy. Critical loads such as hospitals, street lighting, communications equipment within the locality may not be able to be supplied and may result in safety impacts in the locality in the event of extended network outages.
Major Cities	Major cities such as Canberra, Sydney, Newcastle, and Wollongong are population centres that are highly affected by supply outages to critical substations.
NSW / Australian Capital Territory	The majority of NSW, and the entirety of Canberra would be affected by a system black event that will likely take several days to restore resulting in catastrophic business loss and public safety consequences.
Other Jurisdictions	The NSW prescribed network contains critical interconnectors with Victoria, South Australia (In-development), and Queensland. Loss of supply events that affect these connections can result in supply constraints and system stability issues for these adjacent systems.

Table A.7 contains a listing of all Transgrid loss of supply events which impacted critical infrastructure, with system minutes >0.05. Transgrid counts all loss of supply events which do not meet exclusion criteria set out by the Australian Energy Regulator in the Service Target Performance Incentive Scheme (STPIS). Exclusion events include the following:

- Outages shown to be primarily caused or initiated by a fault or other event on a third-party system.
- Outages on assets that are not providing prescribed transmission services.
- Outages caused by a direction from emergency services or AEMO.

Table A.7 Reliability and Quality of Supply – Critical infrastructure incidents

Type of critical infrastructure	Minutes of supply lost	Cause	Consequential safety impacts associated with supply issue
9MC Orange North - Cadia 132 kV Line	85 minutes	The line tripped due to a failure of its protection relay	Loss of supply to the mining load in Cadia may have had a range of safety impacts for people working on the site
X2 Buronga - Broken Hill 220 kV Line	21,506 minutes	Several structures collapsed during a severe thunderstorm	Loss of supply to the Broken Hill region impacted numerous facilities that may have had a safety consequence
996 Wagga330 - ANM tee Morven 132 kV Line	199 minutes	The line tripped due to windblown canola contacting the conductors of the line	Loss of supply to the Morven region impacted numerous facilities that may have had a safety consequence
X2 Buronga - Broken Hill 220 kV Line	99 minutes	The line tripped due to a failure of its protection relay	Loss of supply to the Broken Hill region impacted numerous facilities that may have had a safety consequence
Muswellbrook No.1 Transformer	39 minutes	The transformer tripped due to a failure of its Buchholz relay	Loss of supply to the Muswellbrook region impacted numerous facilities that may have had a safety consequence



# 1.8. Network-initiated Property damage events

Table A.8 lists all events leading to either third party or Transgrid property damage which have been initiated by Transgrid’s electricity assets or asset life cycle activities, including any event where there is a reasonable likelihood that damage was caused by electricity works (electricity power lines or associated equipment or electricity structures that form part of Transgrid’s transmission system).

Table A.8 Network-initiated Property damage events

Detail	Event count					Comments on 2023/24 events
	Current reporting period	Last reporting period	Two periods ago	Three periods ago	Four periods ago	
Third party property (assets including vehicles, buildings, crops, livestock)						
Damage (e.g. fire, physical impact or electrical)	0	0	0	7	0	
Network property (including non-electrical assets including vehicles, buildings)						
Damage (e.g. fire, physical impact or electrical)	0	0	1	0	1	

The following events are excluded from the counts above:

- Minor damage to Transgrid assets, plant, machinery, and property, during construction or maintenance activities or vehicle movements.
- Failure of mobile plant or machinery during construction or maintenance activities.
- Asset failures which only resulted in damage to the asset itself.

24 Adjustment or modification to Transgrid’s formal safety assessments, or risk treatment action plans, including those changes informed by consideration of the results of the investigation and analysis of incidents, near misses or asset failures, where Transgrid has assessed that existing assessments or risk treatments do not eliminate the risk or reduce risk as low as reasonably practicable.

# 1.9. Tier 4 Control implementation

Transgrid’s formal safety assessments are based on AS5577 – Electricity Network Safety Management Systems. A formal safety assessment considers the hazards that might be associated with activities on or near the electricity network and is aligned with the principles of AS/NZS ISO 31000 - Risk Management.

Formal safety assessments are on a three-year review cycle but may also be updated out of the regular cycle if an incident highlights a significant control failure that must be addressed<sup>24</sup>. Table A.9 provides details of updates that were made to Transgrid’s five formal safety assessments and any related risk treatment action plans during the reporting period.

Table A.9 Amendments and improvements to Formal Safety Assessments (FSA) or associated Risk Treatments

FSA	Amendments / improvements
Public safety	FSA was updated in November 2023. Updates included: <ul style="list-style-type: none"><li>• Alignment of bowties with the Reliability FSA</li><li>• Introduced the concept of reasonable worst-case for risk assessing High Potential Incidents</li><li>• Enhanced stakeholder consultation details</li></ul>
Worker safety	FSA was updated November 2023. Update included: <ul style="list-style-type: none"><li>• General administrative updates to align to revised organisational structures</li><li>• Inclusion of historical performance of critical risk incidents</li><li>• Critical Risk 10. Excavation and Trenching added</li><li>• Relocation of Health and Safety Risk Assessment to the HSE Risk Profile and the Completeness Review (Appendix A)</li></ul>
Bushfire	This FSA was updated in October 2024 (Post reporting period) with: <ul style="list-style-type: none"><li>• Alignment of bowties with the Reliability FSA</li><li>• Introduced the concept of reasonable worst-case for risk assessing High Potential Incidents</li><li>• Enhanced stakeholder consultation details</li><li>• Major update to the bow-ties to provide better granularity of the controls to address specific threats</li><li>• Separation of the threat asset failure into a threat for each asset class</li><li>• Removal of Bushfire risk to Transgrid, this being moved to the Reliability FSA</li></ul>
Environment and property	No updates occurred to this FSA in the reporting period
Reliability safety	This FSA was updated in October 2024 (Post reporting period) with: <ul style="list-style-type: none"><li>• Better description of the scope and context of this FSA</li><li>• Major update to the bow-ties to provide better granularity of the controls to address specific threats</li><li>• Separation of the threat asset failure into a threat for each asset class</li><li>• Improved identification of threats and associated controls related to physical and cyber security</li><li>• Addition of external bushfire threat to Transgrid, this being moved from the Bushfire FSA</li></ul>



# 1.10. Design, construction and commissioning



Table A.10 provides counts of completed Safety in Design reports, safety reviews and project close out reports.

The increase in Safety Reviews during the current reporting period is attributed to the introduction of leading HSE indicators, including hazard reporting and leader-led safety discussions as key performance indicators. This change promotes a proactive safety culture and enhances leadership accountability as part of wider safety initiatives.

Table A.10 Design, construction and commissioning<sup>25</sup>

Performance measure	Number of designs/projects				
	Current reporting period	Last reporting period	Two periods ago	Three periods ago	Four periods ago
Designs for which Safety in Design (SiD) reports have been completed	171	191	279	225	277
Designs for which Safety in Design (SiD) reports have been audited	171	191	279	225	277
Safety reviews performed <sup>26</sup>	7499	2691	947	608	169
Project closeout reports completed	107	77	142	143	172
Project closeout reports audited	29	10	1	0	0

# 1.11. Inspection (assets)

Table A.11 provides counts of Inspection and associated Corrective Action tasks for the key asset classes on Transgrid’s network that were planned or completed during 2024/25.

At Transgrid, maintenance tasks, including inspections, are allocated as work orders. Inspection task numbers shown in the table A.11 represent individual work orders, which for transmission lines (overhead and underground) may include large numbers of spans up to an entire feeder per work order.

Inspection activities are designed to identify asset condition issues that carry a risk of failure due to a known or potential failure mode. Routine inspection activities all have defined intervals that depend on the asset type, inspection

type and identified level of risk. An additional inspection is carried out every year in the period leading up to the start of the bushfire danger period for the purposes of identifying defects that give rise to the risk of a network-initiated bushfire. These pre-bushfire danger period inspections are not included in this table but are included in section 2.3.

Corrective action tasks are those arising from inspections where an asset defect is identified. The failure risk associated with specific defects is determined by the asset inspector with guidance from a catalogue of defect types and severities. The level of failure risk determines the priority and rectification time assigned to each defect. Outstanding defects are ones that have not been rectified in the assigned timeframe.

Table A.11 Inspection (assets)

Performance measure	Inspection tasks				Corrective action tasks				Comments
	Planned inspections <sup>27</sup>	Achieved <sup>28</sup>	Open <sup>29</sup>	Outstanding	Tasks identified	Achieved	Open	Outstanding	
Digital Infrastructure	72	22	50	0	675	575	73	27	Overdue or Late work orders are due to some of the work being impacted by resource constraints. This work has been reviewed and re-prioritised during the period and higher priority works completed to manage risk. This is part of ongoing review of work orders in program.
Transmission Lines	577	189	388	0	1123	620	495	8	
Transmission Substations	1080	452	627	1	2828	611	939	198	
Transmission underground	189	62	127	0	50	45	5	0	

<sup>25</sup> Only NSW electricity distributors have obligations under the NSW Accredited Service Provider Scheme, hence performance measures related contestable designs and contestable projects are not applicable.

<sup>26</sup> The incident reporting processes have been improved since the last reporting period, A safety review includes checking that work on or near the network is being performed safely. Transgrid now includes pre-mobilisation audits, post mobilisation audits and project health checks, process audits which are reported in the following categories: - Critical Risk Control Checks (CRCC): the number of actions and practices undertaken by leadership, from site supervisors to executives, to manage Transgrid's ten critical risks in the field. - Leadership Safety Conversations (LSC): the number of safety conversations completed and recorded

by Leadership with their Teams. - Heads Up Conversations (HUC): the number of safety conversation completed and recorded by trained leaders in the field.

<sup>27</sup> Includes all 'Open' and 'Outstanding' tasks from the previous reporting period.

<sup>28</sup> Inspection tasks are only reported as 'Achieved' when all associated corrective action tasks to address the faults of a particular asset have been identified.

<sup>29</sup> Open' and 'Outstanding' tasks are those tasks categorised as such at the end of the reporting period.

<sup>30</sup> Commentary provided to explain the management of risk associated with outstanding tasks and when the outstanding tasks are expected to be completed.



# 1.12. Inspections (vegetation)

## Aerial/Ground based

Table A.12 provides the number of vegetation inspections undertaken, either aerially or via a ground-based inspection crew. The objective of these inspections is to identify vegetation that is encroaching within the vegetation clearance requirements specified in Transgrid’s maintenance standards. Rectification of the defects found during these inspections form Transgrid’s routine vegetation management program.

At Transgrid, vegetation inspections are allocated as work orders and these tasks include large numbers of spans on a single work order up to an entire feeder per work order. Pre-summer vegetation related bushfire inspections counted in Table C.1 have been excluded from this table. Note that total span shown in the table below is the entire population across the network, which are inspected by a combination aerial and ground-based inspections.

Table A.12 Inspections (vegetation) Aerial/Ground based

Inspection type	Population (no. of spans)	Target	Achieved	Outstanding	Comments
Third party property (assets including vehicles, buildings, crops, livestock)					
Total	38721	309	309	0	
Ground-based					
Total	38721	111	111	0	Following review, all 'Outstanding' Work Orders were closed and actioned. Closed late WOs are due to wet weather and access delay.



Lilly Flick – Pre-apprentice  
Teinaga Nouata – Pre-apprentice



# 1.13. Public electrical safety plans and activities

Transgrid maintains a Public Electrical Safety Awareness Plan that assists in mitigating the risks presented in and the following table. The most recent edition of the plan was published on 22 September 2023.

Top Event	Hazard / Hazardous Event	Description of risks
Loss of control of electricity	Conductor drop / Structure fail	Risks to the public due to asset failures that allow a release of explosive or electrical energy into the general environment. Outcomes include injury or electrocution of public third parties operating near the network.
	Asset Fire / Explosive failure	
	Earthing / Induced Voltage	
Loss of control of external influences	Third party activities near assets	Risks to the public due to work activities adjacent to the network who inadvertently enter safe approach distances.
	Unauthorised access to assets	Risks to the public from access our assets for misadventure, sabotage, self-harm, etc. that bring them in contact with electricity.
Loss of control of Transgrid Asset Life cycle activities	Third party activities near assets	Risks to the public due to activities Transgrid undertake to build, operate, and maintain the assets. This includes protecting the public from areas where construction activities are being undertaken prior to energisation of the assets.

Based on geographical operational area, construction activity, and local community living and working in the vicinity of our assets, we target campaigns to raise safety awareness. The following programs and activities were undertaken in 2024/25 to promote public knowledge and understanding of electricity network safety hazards, and are targeted to a broad public spectrum based on the key hazardous events identified in Transgrid’s ENSMS.

Table A.13 Public electrical safety plans and activities

Network Operator public safety programs/ campaigns	Details
Community and stakeholder engagement	<p>Community consultation has been undertaken targeting new transmission infrastructure including transmission lines and substations. Specific consultation regarding Transgrid’s safety approach with an emphasis on bushfire risk management occurred as follows</p> <ul style="list-style-type: none"><li>• Fire mitigation and safety tabled as concern during the VNI West Community Consultative Group in November 2024, in the context of developing the VNI West Environmental Impact Statement</li><li>• Consultation on opportunities to support fire mitigation / risk management initiatives, discussed as part of VNI West’s Community Investment and Benefits program (which is considering planning and delivery of social legacy initiatives). This consultation occurred within the VNI West Community Consultative Group forums in February 2025 and May 2025, and in dedicated engagement sessions in late 2024 on Social Legacy</li><li>• EnergyConnect sponsorship of an RFS Watchtowers network camera installed in close proximity to the project footprint in May 2025</li><li>• RFS visit to Dinawan (Bundure) camp and substation in July 2024 to discuss site-specific fire conditions and protocols</li><li>• HumeLink West Community and Safety Information Sessions conducted from May to June 2025 to inform local residents about project activities, address safety concerns, and provide updates on construction timelines</li><li>• HumeLink East Social Impact Management Plan (SIMP) Focus Group conducted from March to April 2025 to evaluate social impacts, community accessibility, and well-being during the project's construction and operation phases.</li></ul> <p>Community and stakeholder engagement is embedded within all aspects of Transgrid’s operations. This includes engagement with the local community when Transgrid operations may have an impact on that community, especially when it involves introducing hazards associated with those operations. Stakeholder engagement also involves participation in forums such as the NSW Industry Safety Steering Committee to enable sharing of best safety practices.</p>
Communication with emergency services	<p>Emergency services are often required to operate in the vicinity of Transgrid assets during abnormal, emergency conditions. Transgrid communicates with the emergency services to inform them of the hazards associated with these assets.</p> <ul style="list-style-type: none"><li>• Full activation of the PSERP occurred during the loss of X2 Transmission Line to Broken Hill - outside of ACT - on 16/10/2024. More than 100 staff deployed to site to erect 7 Lindsey Emergency Restoration towers, and emergency generation sourced from across Australia to meet demand. This acted as a real case emergency response exercise</li><li>• Tropical Cyclone Alfred Preparedness and Response to Lismore February 2025. Staff were deployed and Transmission Line Teams pre-positioned in case of Transmission Line failure. Lessons learned from Broken Hill were applied, with additional learning around the positioning of staff when flood locations are variable.</li></ul>
Traditional newspaper and social media updates related to network safety management.	<p>Transgrid undertook a specific public safety campaign targeting bushfire management, safety inspection notices, prevention program around easements. This was published on Facebook, Instagram, and LinkedIn on December 2024. This included communication of the updated easement guideline that followed in February 2025. These campaigns raise awareness of the Transgrid Easement Guidelines document for anyone living or working with electricity transmission lines with a specific focus on fences and educating the public on the requirements for fencing instalments within Transgrid Easements.</p>
Updates to public safety information provided on Transgrid’s internet site	<p>Transgrid has undertaken updates to the following items on the safety pages of its public internet site:</p> <ul style="list-style-type: none"><li>• Refresh performed to Uncrewed Aerial Vehicle Fact Sheet in December 2024</li><li>• Awareness information on Transgrid’s bushfire prevention program and aerial inspection schedule was published in March and May 2024 respectively.</li></ul>



# 1.14. Internal audits performed on any aspect of the ENSMS (as per AS 5577 clause 4.5.4)



Transgrid develops a three-year Asset Management System (AMS) / ENSMS audit plan that is refreshed annually to ensure that it remains aligned with organisational strategies and plans, key risk areas and stakeholder expectations. The audit team works with the Asset Managers to develop the audit program, to ensure that over time all aspects of the AMS and ESNMS are covered.

It is noted that the AMS and ESNMS are closely aligned and the ENSMS objectives are included in the asset management objectives. Audits of the AMS are therefore relevant to the ENSMS audit program.

**Table A.14** Internal audits performed on any aspect of the ENSMS (as per AS 5577 clause 4.5.4)

Audit scope	Identified non-compliances <sup>31</sup>	Actions
Asset Management System Health Check	7 Low Risk Outcomes identified	Improvements are being undertaken for better identification and management of IWR, work programs and AMS key documents
ENSMS Audit Safety aspects arising from loss of electricity supply and bushfire risk management	1 Opportunity for Improvement identified	Improvements to better define process, including a role, for which incidents related to loss of supply occurring in other states of Australia and which resulted in safety incidents are assessed and lessons learnt incorporated into Transgrid ENSMS
Waratah Super Battery (WSB) - SIPS project review	<ul style="list-style-type: none"><li>• 3 Medium risk outcome</li><li>• 1 Low risk outcome</li><li>• 3 Opportunity for Improvement identified</li></ul>	Suggestion to investigate and improve the Process for managing changes to Planning schedule throughout development, compliance monitoring, change management and stakeholder engagement
Riverina BESS Asset Acceptance Review	1 Low risk outcome	Investigate the review of the design deviations to the design standards during handover
Delivery Assurance Practices 2025	<ul style="list-style-type: none"><li>• 1 High risk outcome</li><li>• 1 Opportunity for Improvement identified</li></ul>	Agreement to conduct periodic review of work orders and review process be integrated into the project management framework for all stages of work in the project, including the project close out process
IWR0193 99K Concrete Pole Condition Inspections	1 Opportunity for Improvement identified	Agreement to ensure the future inspection results to be made available via EAM and reviewed periodically by the project manager
Control Assurance Review - Substations Corrective Maintenance – IWRs	1 Medium risk outcome	Improvement are being undertaken to provide mechanism to track satisfactory completion of all deliverables within an IWR
Routine Maintenance Substation Assets – Control Assurance Review		Agreed action to review and update the scheduled maintenance tasks
Control Assurance Review on Berrybank Maintenance	2 Opportunity for Improvement identified	Opportunity for improvements for reporting and visibility of the backlog of Work Orders
Control Assurance Review Process - Digital Infrastructure	5 Opportunity for Improvement identified	Opportunity for improvements on the Control Assurance Review process to be implemented

<sup>31</sup> Only non-compliances that are related to ENSMS or safety issues.



# 1.15. External audits performed on any aspect of the ENSMS (as per AS 5577 clause 4.5.4).

The AMS / ENSMS audit plan includes audits carried out by external parties as well as those carried out by Transgrid internal staff. Table A.15 lists external audits and associated actions and non-compliances which are relevant to the ENSMS.

**Table A.15** External audits performed on any aspect of the ENSMS (as per AS 5577 clause 4.5.4)

Audit scope	Identified non-compliances	Actions
Reliability and Bushfire – IPART Directed Audit by GHD	<ul style="list-style-type: none"><li>• 1 Opportunity for Improvement identified</li><li>• No major or minor non-conformances</li></ul>	In response to the opportunity for improvement Transgrid is committed to review of its Reliability FSA to provide process requirements for review of any interstate or overseas events to determine if there are any learnings or practicable controls that can be implemented as part of the ENSMS
AMS Surveillance Audit by AMCL	<ul style="list-style-type: none"><li>• No major or minor non-conformances</li><li>• 4 Observations and 11 opportunity for improvements were identified</li></ul>	Transgrid has reviewed the observations and is taken actions to ensure they do not develop into non-conformities in future audits. Opportunities for improvement are being assessed for value and actioned where they will provide benefit to stakeholders and consumers

Audits listed may include consideration of systems or assets that are common across all jurisdictions where Transgrid’s network exists. Audits undertaken on assets or systems that are located or used exclusively outside of NSW have not been included in Table A.14 or Table A.15.



Daniel Robinson  
- Program Lead



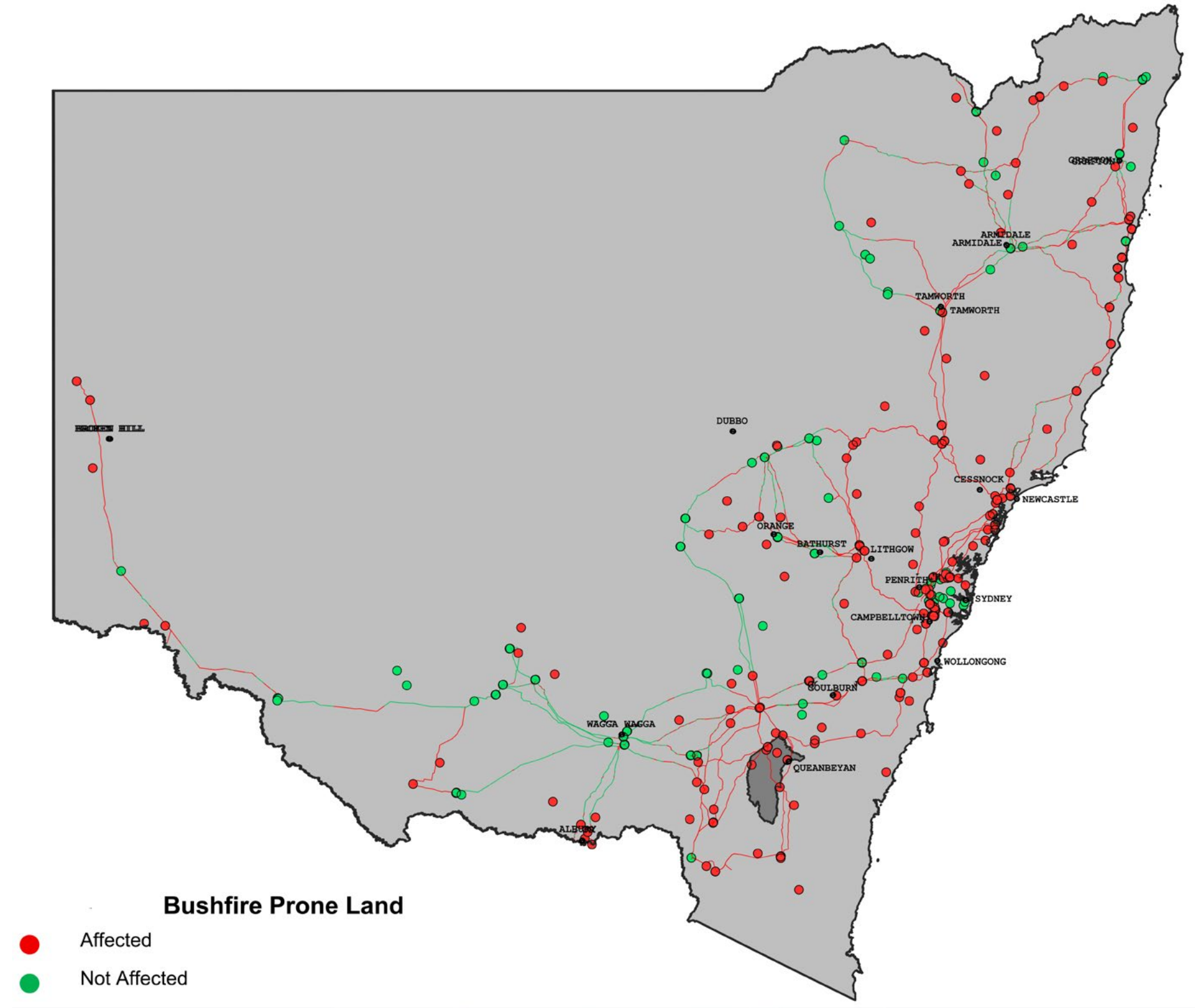
# Bushfire Preparedness for Summer 2025/26

As part of its activity to ensure that its network and network operations are well prepared to manage the elevated risk of a network-initiated bushfire over the summer months, Transgrid undertakes an annual preparedness review that examines the status of established operational risk controls. The intent is to ensure that all controls are fully implemented and operating effectively so that both the risk of Transgrid's network or network operations initiating a bushfire and the consequences of a bushfire impacting its network are reduced as low as reasonably practicable. The outcomes of this review are documented in a Bushfire Preparedness Report, which provides visibility of bushfire preparedness and risk management activity to Transgrid senior management prior to the start of the bushfire danger period.



# 2.1. Bushfire risk profile across Transgrid’s supply area

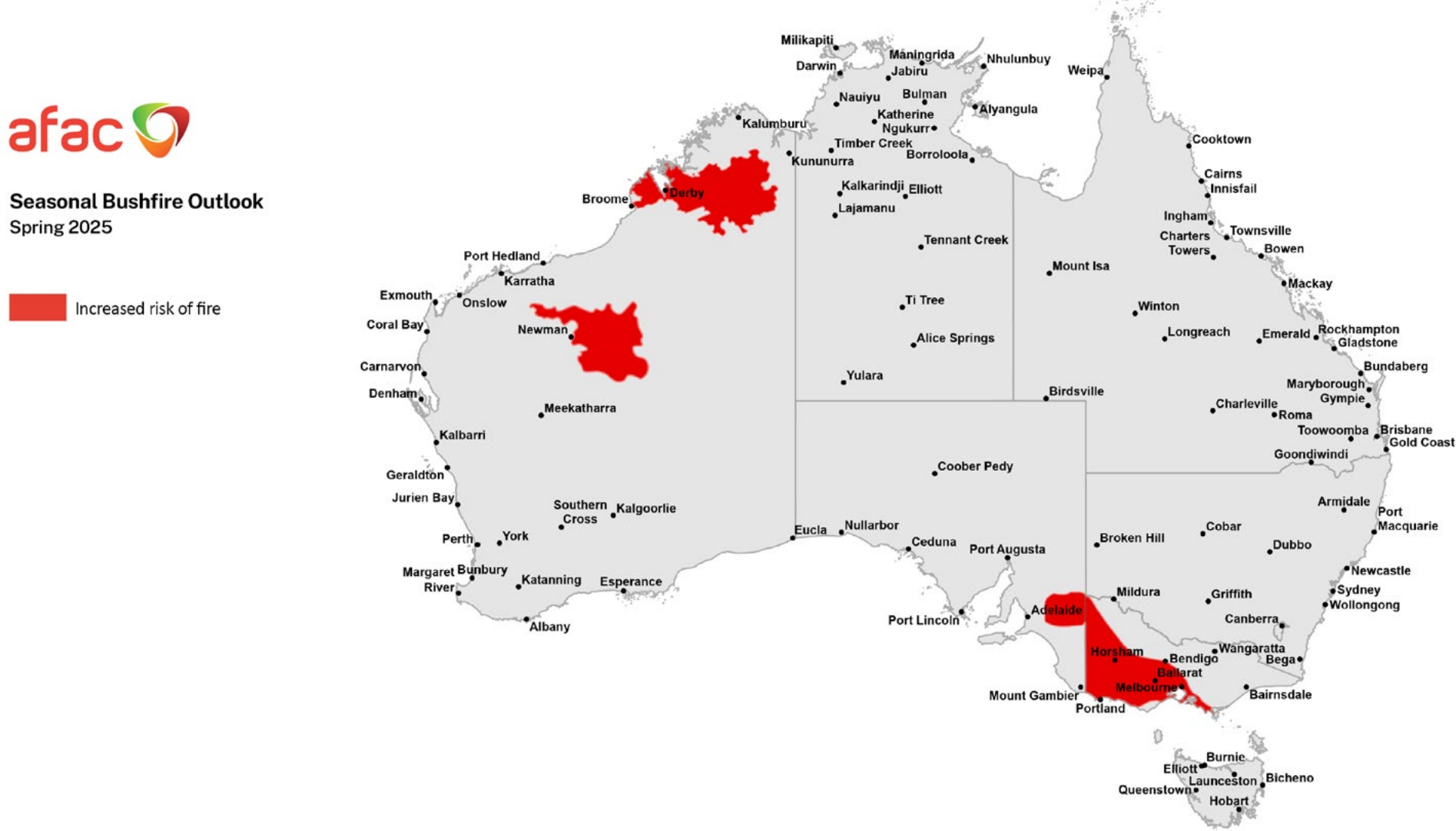
Figure 2: Transmission Network Bushfire Risk Profile



Transgrid’s review of its bushfire preparedness considers the climatic conditions that are forecast to occur over the bushfire danger period. While the forecast does not directly impact on Transgrid’s preparations, it is considered as a factor that impacts both the likelihood and consequence of bushfire risks when the overall adequacy of the established controls is considered.

The Australasian Fire and Emergency Service Authorities Council (AFAC) prepares a seasonal bushfire outlook on a quarterly basis that provides details of the expected fire conditions by state for the upcoming season. The information contained in this report is derived from information from the Bureau of Meteorology, jurisdictional fire authorities and other relevant organisations. Figure 3 shows the national outlook for Australia for Spring 2025, the most recent information available at the time of publication. Importantly, there is no forecast increased risk of bushfire across NSW and the ACT, and increased risk in Victoria.

Figure 3: Spring 2025 bushfire outlook



## AFAC summary

**Normal risk of fire for NSW and ACT, heightened risk in western and southwestern Victoria.ACT**

The El Niño–Southern Oscillation (ENSO) remains neutral. The Bureau's model predicts a neutral ENSO (neither El Niño nor La Niña) until at least January 2026. This is consistent with most international models assessed, although some indicate the potential for borderline La Niña levels. There is a relatively large spread in the model forecasts, indicating more uncertainty than usual in the ENSO forecast.



## 2.2. Permanent / temporary declaration of areas by RFS and Transgrid’s actions

The Rural Fires Act 1997 provides for a statutory Bushfire Danger Period (BFDP) commencing 1 October and ending 31 March in the following year. This period can be varied on either a temporary or permanent basis due to local climatic conditions and remains in force for the period specified unless it is revoked.

Transgrid cannot predict the early declarations by the NSW RFS to enact operational changes to respond to heightened bushfire risk, if necessary. Transgrid therefore aims to have all its pre-bushfire danger period preparation complete by 1 September to enable it to manage any risks associated with elevated fire danger prior to the statutory start of the BFDP. The end of the BFDP is similarly variable so for reporting purposes, Transgrid considers the end of the BFDP to be 31 March.

At the time of the reporting, RFS has declared early start of Bushfire Danger Period in the following 23 LGAs:

- New England (Glen Innes Severn; Tenterfield; ; Walcha; Armidale)
- Northern Slopes (Inverell,
- Greater Hunter (Newcastle)
- Greater Sydney (Bayside, Burwood, Canada Bay, Canterbury- Bankstown, Hunters Hill, Lane Cove, Mosman, North Sydney, Randwick, Ryde, Strathfield, Sydney, Waverly, Willoughby, Woollahra)
- Far Western (Broken Hill)

Transgrid will remain in close contact with the RFS and Energy Utilities Functional Area Co-ordinator EUSFAC across the season to enable it to understand any changes to the risk position across the network.

## 2.3. Pre-summer bush fire inspections



In addition to the routine inspection cycles discussed in Sections 2.11 and 2.12, assets and easements are inspected annually prior to the start of the bushfire danger period to ensure that there are no defects with the potential to initiate a bushfire.

The status of Transgrid’s pre-summer bushfire inspections is given in the tables below and includes all inspection tasks raised or completed during the 12-month period to 30 September 2024, where bushfire risk is being managed. At Transgrid, inspections are allocated as work orders. For transmission lines and easement/vegetation inspections they generally include large numbers of spans on a single work order up to an entire feeder.

Pre-summer inspections include:

- Annual Light Detection and Ranging (LiDAR) inspection is the process of 3D laser scanning of ground, electricity infrastructure and vegetation, to determine locations where the vegetation clearance to wires does not meet requirements.
- Annual Compliance inspection is a ground inspection of the easement where scheduled LiDAR scan of the span did not or could not occur.
- Annual Aerial inspections undertaken from a helicopter to provide a high degree of assurance that the easements and transmission lines do not pose a bushfire or safety risk.

Table C.1: Pre-summer bush fire inspections

Pre-summer bushfire inspections	Population (spans / structures)	Target (No. of inspections)	Achieved (No. of inspections)	Outstanding (No. of inspections)	Comments
Inspections	38721	1363	1363	0	All required inspections were performed by the commencement of the bushfire danger period.



# 2.4. Vegetation Tasks

Table C.2 provides a count of identified vegetation defects and the status of their rectification. Vegetation defects include encroachments into the defined vegetation clearance requirements (VCR), as well as hazard trees that are located off our easement, but large enough to fall into contact, or dangerously near a power line. These are trees that, if developing a structural defect, will have the potential to impact or come within Vegetation Clearance Requirements (VCR) of the transmission line (operating at Maximum Line Operating Conditions) or its structures should whole or parts of the tree fall.

The NSW Industry Safety Steering Committee guide ISSC3 Guide for the Management of Vegetation in the Vicinity of Electricity Assets defines requirements for the management of vegetation around distribution networks, however, because of the different nature of Transgrid’s network, the transmission network is specifically excluded from the scope of the

guide. Transgrid’s vegetation management practices and requirements are defined in its Maintenance Plan – Easements and Access Tracks. The plan includes definitions of and rectification requirements for the different categories of encroachment defect and hazard tree included in Table C.2. The basic approach is to set a minimum safe approach distance and to define the VCR based on the expected growth rate of the tree such that the safe approach distance should not be encroached upon between trimming cycles. Defect priorities are determined based on how soon the safe approach distance is expected to be encroached.

Hazard trees are assessed by an experienced arborist and prioritised according to the risk of failure and potential to impact the network. An annual program for hazard tree removal is established based on these priorities.

Table C.2 Vegetation tasks

Bushfire risk category	Status	Grow-in P1	Grow-in P2	Grow-in P3	Grow-in P4	Hazard trees - Urgent	Hazard trees - Failed	Hazard trees - Potential
Bushfire Prone	Identified	0	126	861	7	1	0	0
	Completed	0	126	861	7	1	0	0
	Open	0	0	0	0	0	0	0
	Outstanding	0	0	0	0	0	0	0
Non-Bushfire Prone	Identified	0	11	91	0	0	0	0
	Completed	0	11	91	0	0	0	0
	Open	0	0	0	0	0	0	0
	Outstanding	0	0	0	0	0	0	0





# 2.5. Asset Tasks

Table C.3 provides counts of Defect based tasks associated with managing bushfire risks, raised, or completed during the 12-month period to 30 September 2025, split into Substations, Transmission Lines, Automation (includes protection, communication, controls, and metering type asset classes) and Network Property (property – substations and property – repeater site type asset classes).

The most common asset tasks in the table below include pole assessment or treatment, condemned pole replacement, transmission line bolt/nut/fitting, insulator, bond, guy wire and overhead earth wire repairs, and for substations, circuit breaker and hot joint repairs.

All Work Orders planned prior to the Bushfire Danger Period were closed of the reporting period. As a result, Transgrid's bushfire preparedness risk profile is confirmed as ready as of 1 October 2025.

Table C.3 Asset tasks

Asset Category	Status	Within bushfire prone areas						Outside bushfire prone areas					
		Work order priority					Totals	Work order priority					Totals
		1	2	3+3A	4	5 <sup>29</sup>		1	2	3+3A	4	5	
		< 24 hours	< 1 month	< 6 months	< 12 months	Next outage /Maintenance /Manually set		< 24 hours	< 1 month	< 6 months	< 12 months	Next outage /Maintenance /Manually set	
Substation	Identified	34	18	19	7	264	342	16	3	5	7	131	162
	Completed	34	18	19	7	253	331	15	3	5	7	129	159
	Open	0	0	0	0	11	11	0	0	0	0	0	2
	Outstanding	0	0	0	0	0	0	1	0	0	0	0	1
Transmission Line	Identified	1	35	95	108	1086	1325	2	36	19	29	284	370
	Completed	1	35	95	108	1086	1324	2	36	19	29	284	370
	Open	0	0	0	0	1	1	0	0	0	0	0	0
	Outstanding	0	0	0	0	0	0	0	0	0	0	0	0
Automation	Identified	14	2	5	0	119	140	3	3	2	0	46	54
	Completed	14	2	5	0	119	140	3	3	2	0	44	52
	Open	0	0	0	0	0	0	0	0	0	0	0	0
	Outstanding	0	0	0	0	0	0	0	0	0	0	0	0
Network Property	Identified	5	4	29	9	169	216	3	3	9	1	49	65
	Completed	5	4	29	9	169	215	3	3	9	1	49	65
	Open	0	0	0	0	0	0	0	0	0	0	0	0
	Outstanding	0	0	0	0	0	1	0	0	0	0	0	0



# Glossary



Term	Description
Assisted failure	Any functional failure of a piece of equipment (component of an asset or asset) where the equipment was subject to an external force or energy source against which the network operator’s standards for design and maintenance do not attempt to control.
Fire	A state, process, or instance of combustion in which fuel or other material is ignited and combined with oxygen, giving off light, heat and flame. This includes 'smouldering' or 'smoke' events. Network Scope: Applicable to any fire caused by, or impacting, a network asset.
Functional failure	Transgrid interprets a network asset functional failure to be the incident when the particular network asset types were unable to meet the expected or specified performance standard in the reporting period, thereby causing an outage or incident.
Incident	Defined in accordance with IPART’s Electricity networks reporting manual - Incident reporting, available on the IPART website.
Major incident	Defined in accordance with IPART’s Electricity networks reporting manual - Incident reporting, available on the IPART website.
Network worker	A person who has been authorised by the network operator to plan or conduct work on or near the network. Includes persons employed by the network, persons engaged under a contract by the network operator, and persons authorised by the network operator and working for an Accredited Service Provider.
Open (with respect to defects / tasks)	A defect / task that has not been rectified by the network operator but where the time that has elapsed since being identified has not exceeded the standard time that the network operator has set for having the defect rectified.
Outstanding (with respect to defects / tasks)	A defect / task that has not been rectified by the network operator where the time that has elapsed since being identified has exceeded the standard time that the network operator has set for having the defect rectified.
Public worker	A party or parties that are conducting work that is not directly associated with the electricity network such as building work, landscaping, landfill work, excavations, road works and includes the construction, maintenance, adjustment or dismantling of mobile plant and scaffolding.
Unassisted failure	Any functional failure of a piece of equipment (component of an asset or asset) where the cause of the failure is of a type for which the network operator’s design and maintenance standards include specific controls to mitigate against the risk of failure and which is neither an assisted failure nor a maintenance induced failure. These failures are generally caused by a deterioration of the condition of the equipment and also include overhead connection failures and vegetation within the mandatory vegetation clearance window.





## Contact details

For all enquiries regarding the Annual Safety Performance and Bushfire Preparedness Report 2024/25, contact: [community@transgrid.com.au](mailto:community@transgrid.com.au)

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