Annual ENSMS Performance Report

31 October 2022

Ausgrid

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A. Annual Performance Reporting - ENSMS

This Annual Performance Report has been prepared in accordance with the Electricity networks reporting manual - Safety management systems reporting (September 2022) (the **Reporting Manual**) issued by IPART to fulfil this statuary obligation.

The report provides information regarding the performance of Ausgrid's Electricity Network Safety Management System (**ENSMS**) which has been prepared in accordance with the Electricity Supply (Safety and Network Management) Regulation 2014 (**ESSNM**). It is intended to assist stakeholders including the public and customers to assess Ausgrid's performance against its ENSMS.

Section A is Ausgrid's response to the reporting requirements in the Reporting Manual Appendix A - Annual performance reporting framework. This section includes the current reporting period performance measurement data for the period 1 July 2021 to 30 June 2022 (**current reporting period**). Ausgrid has provided data for the previous periods aligned with financial years where it has been possible to do so (some measures have been impractical to shift to financial year reporting in historical periods and have been noted through the report). Ausgrid has populated the performance measurement data for the previous periods as appropriate.

Tier 1 – Major Incidents

Tier 1 incidents are defined as a 'Major Incident' in accordance with the Electricity networks reporting manual – Incident reporting (Reporting Manual - Incident Reporting).[1] Table A.1 shows that there has been a similar number of Major Incidents recorded for the current reporting period compared to the previous reporting period in the same ESSNM objective.

Table A.1 Major Incidents

ESSNM Objective		Description of each major incident reported under the incident reporting requirement
Safety of members of the public		Nil in the current reporting period.
Safety of persons working on network		Nil in the current reporting period.
Protection of property	**Third party property**	Nil in the current reporting period.
	Network property[a]	Nil in the current reporting period.
Safety risks arising from the protection of the environment (for example, preventing bushfires that may be ignited by network assets)		Nil in the current reporting period.
Safety risks arising from the loss of electricity supply[b]		**09/09/2021** - Interruption to Significant Community Infrastructure Customer in the Central Coast LGA > 2 hours. **19/12/2021** - Interruption event impacting 5,000 customers for > 4 hours from one failure. Interruption to all customers supplied out of a single zone substation in Northern Beaches LGA following a storm. Incident involved a significant sized vegetation that failed and fell onto the network assets within the substation.

a Network property losses are not reportable under IPART's Reporting Manual Incident reporting requirements. For the purpose of this Reporting Manual, a network operator is to report each event in which losses exceed $500,000 in relation to damage caused to electricity works as defined in the Electricity Supply Act 1995.

b As defined for major reliability incidents in IPART's Reporting Manual - Incident Reporting.

[1] The Reporting Manual – Incident Reporting is available on the IPART website, here: https://www.ipart.nsw.gov.au/Home/Industries/Energy/Energy-Networks-Safety-Reliability-and-Compliance/Electricity-networks/Electricity-Networks-Reporting

Table A.1 Major Incidents (continued)

ESSNM Objective	Description of each major incident reported under the incident reporting requirement
Safety risks arising from the loss of electricity supply (cont'd)	**19/12/2021** - Major network incident declared under the Incident Management System. Significant interruption to customers following a storm which impacted Sydney's northern beaches area. Including the Interruption to Customers supplied by Dee Why West Zone Substation which involved vegetation that fell onto the network substation assets. **29/05/2022** - Supply interruption causes the loss of network supply, for greater than 2 hours, to significant community infrastructure in the Sydney LGA.

Tier 2 - Incidents

Tier 2 incidents are defined as an 'Incident' in accordance with the Reporting Manual – Incident Reporting. Table A.2 shows that there have been a similar overall number of Tier 2 Incidents recorded in the current reporting period compared to the previous reporting period. There was, however, an increase in safety incidents involving Ausgrid workers, offset with fewer safety risks arising from loss of electricity supply. Ausgrid has responded to the incidents with 23 follow-up actions developed and completed to assist in reducing the reoccurrence of these incidents.

Table A.2 Incidents

ESSNM Objective	Description of each major incident reported under the Incident reporting requirement
Safety of members of the public	Nil in the current reporting period.
Safety of persons working on network	**05/08/2021** – An Ausgrid worker injured his ankle when he slipped into an excavated trench. Worker was unable to attend work for a period of time. **22/09/2021** – An Ausgrid worker was working aloft in an EWP and crushed his left hand between a wooden cross arm and the EWP bucket resulting in a laceration and haematoma to his hand. Worker was unable to attend work for a period of time. **24/11/2021** – A PLUS ES worker carrying out work on the Ausgrid network, tripped and fell approximately 1.5 metre off a truck impacting their chest, shoulder, arm and head. Worker was transported to hospital by ambulance and was unable to attend work for a period of time. **14/12/2021** – An Ausgrid worker was removing and replacing a transformer bushing due to an oil leak, when their thumb got caught on a piece of metal causing a laceration in the joint close to the nail. Treatment from a health care professional was required. **07/02/2022** – An Ausgrid worker was lifting a cable using chain jocks. The hook become disconnected and hit the worker in the forehead causing a laceration. Worker was unable to attend work for a period of time.
Protection of third party property	Nil in the current reporting period.

Table A.2 Incidents (Continued)

Safety risks arising from the protection of the environment (for example, preventing bushfires that may be ignited by network assets)	Nil in the current reporting period
Safety risks arising from loss of electricity supply[a]	**19/12/2021 -** Significant Interruption to customers following a storm which impacted Sydney's northern beaches area. Including the Interruption to customers supplied by Dee Why West Zone Substation due to significant sized vegetation that fell onto the Switchyard assets and equipment. 30/05/2022 - Significant widespread Interruption to customers following damaging winds which impacted network assets across multiple LGAs.

a As defined for reliability incidents in IPART's Reporting Manual – Incident Reporting

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Tier 3 – Control Failure Near Miss

Table A.3 shows that in the current reporting period there has been a lower than average total number of failures across the asset categories except for Conductor – HV OH. Conductor – HV OH was not lower than average due to an increase of foreign objects found on conductors (many without interruption) likely due to high winds from the La Nina weather patterns. The fire starts and fires that escaped assets has also been lower than average in the current reporting period due to milder temperatures and higher soil moisture content from the current La Nina.

Table A.3 Network Asset Failures

Performance Measure	Population	5-year average annual functional failures[b,c]	Annual functional failures (for reporting period)[b]					
			Unassisted[a]			Assisted[a]		
			No Fire	Fire		No Fire	Fire	
				Contained	Escaped		Contained	Escaped
Towers	722	1	0	0	0	0	0	0
Poles (including street lighting columns/poles & stay poles)	513,072	580	3	0	0	555	6	1
Pole-top structures[a]	n/a[d]	614	388	2	1	202	2	2
Conductor – Transmission OH[a,e]	674 km	37	3	0	0	3	0	0
Conductor – Transmission UG[a,e]	216 km	6	2	0	0	0	0	0
Conductor – HV[a] (including sub-transmission) OH	12,164 km	393	221	0	3	278	1	2
Conductor – HV[a] (including sub-transmission) UG	9,664 km	285	236	0	1	0	0	0
Conductor – LV[a] OH	17,368 km	1,752	542	3	1	856	0	0
Conductor – LV[a] UG	8,100 km	518	517	0	0	2	0	0
Service line[a] OH	708,569	6,991	3,640	3	0	3,674	1	3
Service line[a] UG	265,509	192	190	0	2	13	0	0

Table A.3 Network Asset Failures (Continued)

Performance Measure	Population	5-year average annual functional failures[b,c]	Annual functional failures (for reporting period)[b]					
			Unassisted[a]			Assisted[a]		
			No Fire	Fire		No Fire	Fire	
				Contained	Escaped		Contained	Escaped
Power transformers[a]	553	75	32	0	0	1	0	0
Distribution transformers	34,972	154	85	0	0	25	0	0
Reactive plant[a]	301	12	4	0	0	1	0	0
Switchgear – zone / subtransmission / transmission	14,064	127	118	0	0	4	0	0
Switchgear – distribution (OH)	83,869	610	463	1	1	105	0	0
Switchgear – distribution (Ground based	73,767	116	164	1	0	7	0	0
Protection relays or systems	78,765	249	239	0	0	1	0	0
Zone / Subtransmission / transmission SCADA system	2,657	256	248	0	0	8	0	0
Zone / Subtransmission / transmission Protection Batteries	868	53	51	0	0	4	0	0
Regulated SAPS[a]	0	0	0	0	0	0	0	0

a See Glossary for the definition.
b The functional failure figures in the table are all discrete counts failure events inclusive of conductors.
c The 5-year average annual functional failures was calculated based on five financial years including the current reporting period.
d Ausgrid does not record all individual pole top structure arrangements (e.g. cross-arms and insulators) in its corporate systems.
e Improvements to separate Transmission and Subtransmission feeders in the failure data has resulted in a reduction in failures for Conductor -Transmission OH and Conductor -Transmission UG.

Table A.4 Vegetation Contact with Conductors

Performance Measure[a]	Event Count					Comments
	Current reporting period	Last reporting period	Two periods ago	Three periods ago	Four periods ago	
Fire starts – grow in	2	4	2	2	2	The volume of fire starts due to grow-ins has been low and trending similarly in the last 5 years.
Fire starts – fall-in and blow in	13	7	21	9	19	Fire starts due to fall-ins and blow-ins can be highly variable based on environment factors such as major weather events. Ausgrid is continuing to monitor this metric to identify if any trends are becoming evident.
Interruption[b] – grow in	64	59	74	28	22	The number of events occurring in the current reporting period is within the expected variability.
Interruption – fall-in and blow in	1,416	1,487	2,445	1,229	727	The volume of fall-ins and blow-ins varies year on year depending on major weather events and generally is influenced by windstorms in particular.

a Vegetation hazard definitions as per the Industry Safety Steering Committee *Guide for the Management of Vegetation in the Vicinity of Electricity Assets* (ISSC3).
b Includes momentary interruptions.

The annual variations in the data in Table A.5 below are in part due to variations in the quality of information provided when members of the public report incidents to Ausgrid. Through continual improvement, Ausgrid is further enhancing the reporting and capture of public safety data which is expected to contribute to an increase in the quality and quantity of reporting of public safety incidents.

Table A.5 Unintended contact, unauthorised access and electric shocks

Detail	Event Count					Comments
	Current reporting period	Last reporting period	Two periods ago	Three periods ago	Four periods ago	
Electric shock[a] and arc flash incidents[b] originating from network assets[c] including those received in customer premises						
Public	4	20	14	4	14	Reported incidents remain reasonably low and therefore the current variability suggests a stable level of risk.
Public worker	5	2	10	6	0	
Network employee / network contractor[d]	9	7	15	11	1	
Accredited Service Provider	1	2	3	0	0	
Livestock or domestic pet	0	0	0	0	0	
Contact with energised overhead network asset[e] (e.g. OH conductor contact)						
Public road vehicle[f]	252	242	239	323	99	The increase in the count of contacts with energised overhead network from 'Plant and equipment' and decrease in count of 'Agricultural and other' this reporting period is due to an improvement in the incident information review process. The review found that the incidents were more accurately categorised under 'Plant and equipment' rather than 'Agricultural and other'. Note, no adjustment has been made to the data in the previous reporting periods. Ausgrid notes OH contacts by members of the public have increased overall in the current reporting period which correlates with inclement weather conditions over the same period.
Plant and equipment[f]	97	27	30	31	0	
Agricultural and other[f]	24	59	57	18	1	
Network vehicle	0	0	1	2	0	

Table A.5 Unintended contact, unauthorised access and electric shocks (Continued)

Detail	Event Count					Comments
	Current reporting period	Last reporting period	Two periods ago	Three periods ago	Four periods ago	
Contact with energised underground network asset[e] (e.g. cable strike)						
Plant and equipment	71	71	78	108	33	The current variability suggests a stable level of risk.
Person with hand held tool	28	20	25	23	0	
Unauthorised network access (intentional)[l]						
Zone / BSP / Transmission substation / switching station	2	1	1	2	1	Reported incidents remain reasonably low and therefore the current variability suggests a stable level of risk.
Distribution substation	2	0	3	6	4	
Towers / poles	5	2	2	13	11	
Other (e.g. communication sites)	1	2	1	10	2	
Safe Approach Distance (SAD)[g]						
Network employee / network contractor	3	2	0	0	0	Reported incidents remain reasonably low and therefore the current variability suggests a stable level of risk.
Accredited Service Provider	3	0	0	0	0	
Public	4	2	10	1	0	
Public Worker	19	27	44	15	5	

a All electric shocks greater than 50V rms that are to be reported to IPART and excluding those resulting from static discharge, defibrillators and where the system is nominally extra low voltage or involving the DC rail traction system.
b Incidents that result in a burn or other injury requiring medical treatment and result from exposure to an arc.
c Events caused by network assets, network asset defects or network activities, including shocks received inside customer installations, are to be reported. Customer installation events not associated with network assets are not to be reported.
d Includes all classes of authorised persons (network employee and network contractor). Accredited Service Provider employees are not included.
e Would not normally include contact with a pole, pillar, distribution substation etc, unless the contact results in subsequent contact with an energised asset.
f See Glossary for definitions.
g Encroachment into the applicable Safe Approach Distance for the type of individual involved.

The annual variations in the data in Table A.6 are in part due to the nature to network conditions and the data acquisition processes. Through continual improvement Ausgrid is further enhancing the reporting and capture of power reliability and quality of supply data which has contributed to an increase in the quality of reporting of power reliability and quality of supply events.

Table A.6 Reliability and Quality of Supply

Performance measure	Event Count					Comments
	Current reporting period	Last reporting period	Two periods ago	Three periods ago	Four periods ago	
High voltage into Low voltage[a]	35	45	43	36	n/a	The current variability suggests a stable level of risk.
Sustained voltage excursions outside emergency range[b]	14	8	12	3	n/a	
Reverse polarity[c]	3	1	1	3	0	The data capture process for these categories now includes an additional data source which has accounted for the increase. Ausgrid is undertaking improvements in detecting poor neutral integrity to manage this risk.
Neutral integrity due to poor workmanship or incorrect procedure[c]	3	2	0	2	0	
Neutral integrity due to asset defect or failure[c]	3	0	0	0	0	

a May also be referred to as HV LV intermix or HV injection.
b As defined by network operator with reference to the measurement methodologies used in Australian Standard AS61000.3.100.
c Events reported as incidents to IPART under People Category 4 – Significant Near Miss.

Table A.7 below includes include outages and supply quality events that adversely impact critical infrastructure and any consequential safety impacts associated with the event.

Table A.7 Reliability and Quality of Supply - Critical Infrastructure Incidents

Type of critical infrastructure[a] (e.g. hospital, tunnel)	Minutes of supply lost[b]	Cause	Consequential safety impacts associated with supply issue
Events and buildings where greater than 5,000 people could be affected by an outage	1183	Asset Failure - Asset condition or defect	No public safety consequence reported.
	83	Externally Caused (nature) - Weather	No public safety consequence reported.
	297	Externally Caused (nature) - flora / fauna	No public safety consequence reported.
	223	Externally Caused (people) - Third party	No public safety consequence reported.
	78	Self Clear (No Cause Found)	No public safety consequence reported.
Other community infrastructure of national, state or regional significance	597	Asset Failure - Asset condition or defect	No public safety consequence reported.
	63	Externally Caused (nature) - flora / fauna	No public safety consequence reported.
Peer group A1, A2, A3 and B hospitals	1740	Asset Failure - Asset condition or defect	No public safety consequence reported.
	132	Externally Caused (nature) - flora / fauna	No public safety consequence reported.
	74	Externally Caused (people) - Third party	No public safety consequence reported.
	12	Human Error - Technician Error	No public safety consequence reported.
	235	Self Clear (No Cause Found)	No public safety consequence reported.
Rail and air transport systems where travel is affected	186	Asset Failure - Asset condition or defect	No public safety consequence reported.

a Critical infrastructure as identified in the Electricity Networks Reporting Manual Feb 2022 table A1.
b Number of minutes that the critical infrastructure was without a network supply.

Table A.8 Network-Initiated Property Damage Events

Detail	Event Count					Comments
	Current reporting period	Last reporting period	Two periods ago	Three periods ago	Four periods ago	
Third Party property (assets including vehicles, building, crops, livestock)						
Damage (e.g. Fire, Physical impact or Electrical)	252	251	389	327	287	The current variability suggests a stable level of risk.
Network Property (including non-electrical assets e.g. vehicles, building)						
Damage (e.g. Fire, Physical impact or Electrical)	25	24	26	19	7	The current variability suggests a stable level of risk.

Note: Event counts should include any event where there is a reasonable likelihood that damage was caused by *electricity works*.

Tier 4 – Control Implementation

Table A.9 below details adjustment or modifications made by Ausgrid to its formal safety assessments or risk treatment action plans. This table includes those key changes made to existing assessments or risk treatments to ensure that the relevant risk is eliminated or reduced so far as is reasonably practicable. Only key amendments and improvements to Formal Safety Assessments (FSA) or associated risk treatments that materially impact risk are documented in Table A.9 below. Many of the amendments or improvements improve the controls across multiple FSAs and are not duplicated in the table where they provide improvement across multiple FSAs.

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

FSA	Amendments / Improvements
ALL	• Revised Stakeholder Engagement Framework and Stakeholder Engagement Plan. • The Risk Management Framework landing page was updated to include links to guidance and reference materials within the Health and Safety Management System. • The Risk Management Framework was updated to provide guidance on how SFAIRP can be demonstrably achieved. • An ongoing action to amend all documents to replace the reference to Dial Before You Dig (DBYD) to Before You Dig Australia (BYDA) where it is referenced in response to the transformation of DBYD into a single national organisation – now known as Before You Dig Australia (BYDA). • The Safety in Design procedures were reviewed and updated.
Public Safety	• Reviewed and updated relevant risks and controls • Amendments or improvements to documents informing Public Safety include: o NS282 Service Testing o NW000-W0188 Workplace Instruction - Service Testing and Connections o Public Safety Network Management Plan replacing the Public Electrical Safety Awareness Plan (PESAP) o Public Safety Communications Plan • Applied new format for presenting Formal Safety Assessments to align with organisational strategy documentation and risk documentation and reviewed the risk register with internal stakeholders • Conducted Public Safety FSA external engagement forums with representatives from ASP, Ausgrid Contractors and Emergency Services. • Production of narrated slideshow to be provided to staff, contractors and ASPs reinforcing the importance of the testing required when connecting customer installations to Ausgrid's low voltage network to accompany publication of NS282 and NW000-W0188.
Worker Safety	• Updates to Organisation Context to reflect 2020 Worker Safety FSA strategy. • Updated information that informs Worker Safety FSA which consist of: o Outcomes of the review of Ausgrid's Network Fatal Risks and the Live Work Project o Worker Safety Risk Framework amendment o Inclusion of Safe Work NSW feedback

Table A.9 Amendments and Improvements to Formal Safety Assessments (FSA) or Associated Risk Treatments (Continued)

FSA	Amendments / Improvements
Worker Safety (Cont'd)	o H&S statistical information o Inclusion of internal stakeholder engagement activities o Replace BeSafe documentation references with new HSMS document nomenclature. • Alignment with updates to the Corporate Risk Management Framework including, change references from ALARP to SFAIRP, changes to control effectiveness rating and updates to the risk matrix consequence titles. • A risk register was developed detailing control measures relevant to ASPs for gaining access to Ausgrid's network. • Formal risk assessments using the SFAIRP methodology for live work have been completed and incorporated into the Worker Safety FSA. • Included references to the review of industry wide safety alerts or communications within the Electrical Safety Rules Committee in HS011-P0100 – Incident Management • Updated Electrical Safety Rules Committee charter and agenda to include review of industry Safety Alerts • Updates or new health and safety documents include: o HS011-P0100 - Incident Management o HS006-W0106 - LOPA and CBA User Guide o HS006-P0106 - Demonstrating that risk has been minimised SFAIRP Guide o HS006-P0107 - Work Process Hazard Assessment Guide o HS006-P0111 - Demonstrating Reasonability Risk Evaluation Template o HS006-P0108 - Critical Control Management Process Guide. • Updates to Electrical Safety Rules regarding the Low Voltage Assessment Framework for assessing whether LV work should be carried out live or de-energised • Revise and publish the following High Voltage Working documents: o Live Work Books 1 – 4 o Worksite Checklist o Assurance Plan o Planning Checklist • Revise and publish the following Low Voltage Working documents: o Work Assurance Plan o Work Accreditation Framework o Assessment Framework o Live Work Manual Books 1 – 5

Table A.9 Amendments and Improvements to Formal Safety Assessments (FSA) or Associated Risk Treatments (Continued)

FSA	Amendments / Improvements
Worker Safety (Cont'd)	• Updates were made to technical documents supporting Worker Safety including: o NSEC007 Submitting Network Access Requests o NS002 Network Standard Disclaimer o NS102 Working on or near poles with telecommunication transmitters o NS194 Embedded generation o NS222 Major Substation Earthing Design o Operating Advice - Operation of MTU Community Batteries o NW000 - T0052 – Confirming the Absence of AC Voltages on the Exposed Conductive Sheath or Armour of Low Voltage Network Cables o NW000 - T0077 Overhead Mains Connection Boxes o NW000 - T0094 Horstmann - Earth Zero Flag - Earth Fault Indicator (EFI) o NW000 - T0127 Electric Vehicle Charging Station (EVCS) Service Fuse o Panel Installation in E Type Kiosk Substations (JOLT) o NW000 - T0132 Horstmann Sigma F+E 3 2.0 Earth Fault Indicator o NW000 - T0133 NOJA Automatic Circuit Recloser o NW000 - T0136 DM&C in E kiosks.
Property Protection	• Updates were made to technical documents including: o NS184 Fences for Zone and Sub-transmission Substations o T0037 Network Access and Security – Locks and Keys o NS141 Site Selection and Site Preparation Standards for Kiosk Type Substations o NS192 Blasting near Substations and Power Lines. • New technical documents were developed including: o NS193 Ground Movement and Vibration Limits Near Buried Cables

Table A.9 Amendments and Improvements to Formal Safety Assessments (FSA) or Associated Risk Treatments (Continued)

FSA	Amendments / Improvements
Environmental Safety	• Updates made to technical documents including: o Pesticide guideline o Contaminated sites guideline o Waste guideline and database o Aboriginal heritage guideline o Embodied impacts guideline o SER network standard and associated documents o Withdrew 6 guidelines (construction noise, oil handling, non Aboriginal heritage, water discharge and sampling). Requirements are now captured by other guidelines and processes. • Converted 6 training courses to online training (National Parks protocol, WebGIS courses, SER training and OCP awareness for works in 132kV cable trenches). • Integrated the EMS with asset data in SAP and developed Power BI dashboards for: o Transformer top ups o Transformer leak notifications o Fluid filled cables o PCBs o SF6 cylinder usage o SF6 equipment top ups o Water discharges o Oil containment o Fauna outages. • Integrated the EMS with the Learning Management System (Ausgrid staff) and Pegasus (contractors). • Developed Power BI landing pages for environmental data (all staff) and Environmental Services (EMS).

Table A.9 Amendments and Improvements to Formal Safety Assessments (FSA) or Associated Risk Treatments (Continued)

FSA	Amendments / Improvements
Environmental Safety (Cont'd)	• Developed FME based GIS risk models to assess: o Climate change impacts (sea level and flood) o Pole replacement program environmental impact evaluation o Tower recovery strategy environmental impact evaluation o Planning proposals (risk based auditing) o Substation risk assessment. • Delivered the SF6 strategy placing Ausgrid in a position to transition to SF6 Tier 3 reporting which will significantly reduce our reported emissions. • Modelled Ausgrid's greenhouse gas emission against targets to support strategies aimed at achieving Ausgrid's vision of net zero. • The Heritage Asset Management Strategy was reviewed and updated rationalising the portfolio in consultation with NSW Heritage and multiple councils (reduction of 30 substations from the register).
Loss of Supply Safety	• Revised and published the Red Folder (IMS-001) and supporting governance documentation • Participated in the 'thunder struck' black start desktop multiagency exercise with EUSFAC • Ausgrid is leading the Disaster response playbook development under Energy Charter • Training has been conducted of new Emergency Duty Managers to support the incident management framework. • Revised and published the Red Folder (IMS-001) and supporting governance documentation • Participated in the 'thunder struck' blackstart desktop multiagency exercise with EUSFAC • Ausgrid is leading the Disaster response playbook development under Energy Charter • Training has been conducted of new Emergency Duty Managers to support the incident management framework.
Bushfire	• The Bushfire FSA (strategy and risk register components) was reviewed and updated • The Bushfire Management Program Execution Plan was updated with key changes to reflect the revised Bushfire FSA • Improved hazard tree management process • Improved ISMP review process.

Table A.10 shows an increase in the number of safety related design, construction and commissioning measures performed in the current reporting period over the last reporting period in response to easing of restrictions in COVID19 public health orders.

Table A.10 Design, construction and commissioning

Performance measure[a]	Current reporting period	Last reporting period	Two reporting periods ago	Three reporting periods ago	Four reporting periods ago
Designs for which Safety in Design (SiD) reports have been completed	1,757	1,472	1,732	938[d]	n/a
Designs for which Safety in Design (SiD) reports have been audited[i]	1	2	17	17[d]	n/a
Contestable designs certified[b]	1,522	1,440	1,275	1,733[h]	1,625[h]
Contestable level 1 project safety reviews performed[c]	6,089	4,926	5,145	4,992	n/a
Contestable level 2 project safety reviews performed[c]	6,238	4,178	3,953[d]	n/a	n/a
Non-contestable project safety reviews performed[c]	14,588[g]	12,355[g]	11,465[g]	6,461[g]	4,489[g]
Project closeout reports completed for contestable projects[e]	0	0	0	0	0
Project closeout reports completed for non-contestable projects	1,211	1,165	1,635	1,562[d]	1,299[d]
Project closeout reports audited for contestable projects[e]	0	0	0	0	0
Project closeout reports audited for non-contestable projects	0	0	0	0	0

a The unit of measure is the number of designs/projects.
b The network operator is to advise where no contestable designs have been performed.
c A safety review would include checking that work on or near the network is being performed safely.
d Reporting period for this measure was from 1 October to 30 September.
e No project closeout reports are produced due to changes in Ausgrid's involvement with contestable connections and a change in the process. The process was audited in the current reporting period.
f Data only available from three reporting periods ago.
g Includes safety interaction data.
h All data refreshed to align with financial year. Now also includes design certification of amendments.
i In addition to the formal audits, each SiD report is reviewed and audited before issue by Section Managers or Leads. In addition, an overall review of the SiD procedures was undertaken during the current reporting period.

Table A.11 below reports Ausgrid's inspection volumes excluding the activities primarily targeting preparation and assurance of the network for the bushfire danger period reported in Table B.3 (Vegetation tasks) and Table B.4 (Asset tasks). Inspection tasks within latitude at reporting date are classed as Open and those outside latitude are classed as Outstanding at the end of the current reporting period. Ausgrid manages all outstanding inspection/corrective tasks at weekly and monthly intervals via a combination of multi-level meetings, dashboards, reporting and analysis, work prioritisation and resourcing. Outstanding tasks from the current reporting period are prioritised at the top of the next reporting period. Inspection tasks are only reported as achieved when all the associated corrective action tasks to address the faults of a particular asset have been identified. More inspection tasks may be achieved than planned due to approved maintenance plan variations and tasks nominally due in the future reporting period that are completed within the early half of latitude.

Table A.11 Inspections (assets)

Performance measure	Inspection tasks				Corrective action tasks				Comments
	Planned inspection tasks	Achieved	Open	Outstanding	Tasks identified (all categories)	Achieved	Open	Outstanding	
Transmission Substations	8,988	8,965	3,622	17	913	748	355	228	Small outstanding inspections are within risk tolerance
Zone Substations	41,001	40,455	16,108	53	3,509	2,679	1,432	600	Small outstanding inspections are within risk tolerance
Distribution Substations	19,839	19,827	9,275	81	3,413	2,674	1,908	1,246	Small outstanding inspections are within risk tolerance
Transmission OH	6,809	5,997	2,945	14	1,510	755	1,616	669	Small outstanding inspections are within risk tolerance
Transmission UG	838	837	813	0	350	320	65	5	
Distribution OH	94,367	89,219	31,452	68	18,606	12,620	17,727	7,557	Small outstanding inspections are within risk tolerance
Distribution UG	16,336	16,202	9,922	0	1,008	1,314	477	859	
Regulated SAPS	0	0	0	0	0	0	0	0	Ausgrid does not currently own or operate Regulated SAPS.

Table A.12 below reports achieved (completed) and outstanding vegetation inspections tasks that have been targeted for completion within the current reporting period. Additional notes are provided in the comments column where relevant and are specific for the measure in the row.

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

Bushfire risk category	Population (poles)	Target	Achieved	Outstanding	Comments
Aerial based					
Non-bushfire prone land	n/a	0	0	0	Ausgrid does not conduct aerial vegetation inspections in non-bushfire prone land.
Bushfire prone land	n/a	n/a	n/a	n/a	The aerial pre-bushfire preparation data is recorded in Table B.2.
Total	n/a	n/a	n/a	n/a	Due to Ausgrid's scope and cut approach, capturing inspections is not meaningful. In bushfire areas inspections are undertaken additional to the standard scope and cut. Details are provided in Section B.
Ground based					
Non-bushfire prone land	365,378	74,673	74,653	20	Vegetation maintenance in non-bushfire prone land is undertaken by a scope and cut approach.
Bushfire prone land	148,416[a]	28,991	28,937	54	Vegetation maintenance otherwise undertaken by a scope and cut approach by vegetation maintenance crews. The step increase in target inspections on bushfire prone land over the previous annual report is fundamentally due to the RFS increasing declared areas of bushfire prone land in a number of LGAs.
Total	513,794	103,664	103,590	74	

a The pole population provided does not align with Table B.2 due to reporting period differences.

Table A.13 Public electrical safety plans and activities

Network operator public safety programs / campaigns	Details
Storm Safety	**At risk group:** General Public **Program Overview:** With the increasing frequency and ferocity of weather events, storm and severe weather events continue to be major contributors to hazards on the network, and in turn our biggest public safety risk. Between July 2021 and June 2022, there were approximately 4 severe weather events where intensive reactive communications support was provided over and above our planned FY22 summer storm safety campaign. *Notable severe weather events FY22: Flooding in the Hunter area November 2021, Northern Beaches Storm December 2021, Flooding Hunter & Sydney March 2022, Severe Weather Newcastle & Hunter May 2022.* We continued our two-pronged approach to communicating our safety messaging with: 1) Proactive advertising to drive awareness outside an incident 2) Reactive communications following a weather event Our FY22 Summer Storm Safety advertising campaign was driven through 'Storm Season' (December 2021 through to May 2022). The campaign leveraged radio, addressable TV, digital display, paid social media and weather triggered advertising across WeatherZone. WeatherZone advertising utilises banner advertising within their app, activated when warnings for strong wind, gale, storm force winds, hurricane force winds, severe thunderstorms, or severe weather were issued for our network area. Collectively, our advertising campaign delivered a combined 5.76 million impressions. The bulk of the activity was front weighted, maximising the general public's awareness of what to do in the case of fallen powerlines. This delivery format was designed to drive proactive awareness, with additional activity running throughout to ensure top of mind awareness through storm season. Additionally, our reactive weather-triggered advertising across WeatherZone ensured we were present when it mattered most, appearing to customers geotargeted to the Ausgrid network area by postcode. Our reactive communications centred around storm and severe weather events. We leveraged social media to warn of severe weather warnings issued by the Bureau of Meteorology, deliver electrical safety messaging, warn of known hazards on the network and provide updates on Ausgrid's response efforts to restore the network. Information is also privatively provided on our website, with our Storm Page being continuously improved as we make updates and take on learnings from past events. We are seeing significantly more flooding events due to the La Nina weather conditions currently experienced across Australia's east coast. Flooding messaging has been incorporated more heavily in FY22 as a result, and a new Flood Safety page was deployed on the Ausgrid website.

Table A.13 Public electrical safety plans and activities (continued)

Network operator public safety programs / campaigns (cont'd)	Details
Storm Safety (Cont'd)	**Key Messages:** <u>Safety around fallen power lines:</u> • Stay away from fallen powerlines or any debris that may have come into contact with them. They may still be live. • Keep an eight-metre distance from any fallen powerlines or any items such as trees, which may have come into contact with live wires. • Always assume fallen powerlines are live. <u>Be prepared for a storm by:</u> • Tidying up loose items and trimming trees, but do not attempt to trim trees near powerlines. • Keep a torch and radio handy. • Keeping your house weatherproof. Always replace broken roof tiles, keep gutters clean and fix leaks to ensure water cannot access electrical systems or appliances. • Being sure you know the location of your mains switch, or switches that turn off the electricity supply <u>During a storm:</u> • Stay away from fallen powerlines and service wires or anything touching them. • Report any fallen powerlines or service wires, trees or branches in contact with powerlines, fires or property damage to your local electricity distributor as soon as possible. • Play it safe by unplugging sensitive appliances such as computers, video recorders and televisions. <u>After a storm:</u> • Stay away from powerlines or service wires or any debris that may have come into contact with them. It is recommended that you keep an eight-metre distance from any fallen powerlines or any items such as trees, that may have come into contact with the live wires. • Get appliances checked by a professional before you plug them back in. <u>Flood safety:</u> • Floods can damage the electricity network and interrupt your power supply. They can also create electrical hazards. • Watch out for underground cables which may be damaged or have become exposed by erosion. • If you see fallen powerlines always assume they are live and never approach them - stay at least 8 metres or 2 car lengths away - and call us on 13 13 88 and report life threatening situations by calling 000. • Trees that have fallen across powerlines could also be live. Do not try to pull trees or branches clear. It is not safe to lift or move branches entangled in powerlines or to move powerlines themselves. • Be aware of damage to the electricity network both above and below ground. STOP and STAND BACK. It's tempting to jump in to clean up but tackling trees and storm debris on and around powerlines MUST be left to the professionals.

Table A.13 Public electrical safety plans and activities (continued)

Network operator public safety programs / campaigns (cont'd)	Details
Storm Safety (Cont'd)	• Physical contact with, or even close proximity to, live equipment has the potential to cause an electric shock which may result in serious injury or death. • If powerlines can be damaged by flood water and can be dangerous. If powerlines are touching the ground or closer to the ground due to damage or flood heights, it is important to keep well away. Always assume fallen powerlines are live after a flood or storm. Do not approach them or walk under them. • Boats used in flood conditions may unintentionally come closer to overhead powerlines than in normal conditions. Be aware of low hanging powerlines, or submerged poles streetlights and wires that could be live. <u>Reconnecting after a flood:</u> • Flood damaged properties need to be checked by a qualified electrical professional before you switch back on. Large electrical equipment located close to the ground, such as air conditioning units and pool pumps, may be damaged by flood waters. • Do not switch back on until a professional inspection has taken place. • Only a licensed electrician can undertake electrical work. **Analysis:** Ausgrid works with its media agency to evaluate campaigns and ensure delivery of its advertising campaigns. Collectively our paid advertising delivered a combined 5.76 million impressions in FY22. Our social media activity is evaluated through Hootsuite (our social media management platform) to review impressions, engagement rates and comments for feedback. Similarly, we capture feedback on our website based on analytics and qualitative feedback from customers. **Program Status:** Ongoing - Storm safety continues to be an ongoing risk with the public and an area of high focus within Ausgrid's communications program.
Children's Safety	**At risk group:** Primary school children (Kindergarten to year 6) **Program Overview:** Ausgrid continues to support its annual Electricity Safety Week Primary schools program. Developed and instigated by Ausgrid in 2002, the program is designed to show young people how electricity works, how to use it and how to stay safe around it. Through this program we deliver electrical safety messages to primary school students in Ausgrid's network area. The program materials are developed in partnership with the NSW Department of Education and aligns to the PDHPE syllabus for Kindergarten to Year 6, supporting teachers delivering key outcomes within the curriculum for Science, English, Mathematics and Drama. Core to the program is our outreach to all primary schools located in Ausgrid's network (Sydney, Newcastle, the Central Coast and Hunter Regions) providing them the opportunity to register for a Free Electricity Safety Week Resource Pack. The pack contains lesson booklets for the teacher, access to interactive learning modules, safety posters, stickers, merit certificates and simple circuit kits. Ausgrid has proudly shared the program with other distribution networks, expanding its reach across NSW and QLD.

Table A.13 Public electrical safety plans and activities (continued)

Network operator public safety programs / campaigns (cont'd)	Details
Children's Safety (Cont'd)	**Key Messages:** <u>Electricity safety for school students</u> • Play in open spaces away from electricity poles and powerlines • Stay away from electricity substations and power equipment • Never put a metal object in a toaster or power point • Keep water away from electrical appliances and power cords • If you see a dangerous situation, tell an adult • If you see fallen powerlines, stay at least 8metres away from it and anything it may be touching <u>Substation and school holiday safety</u> • Don't enter a substation • Don't try to retrieve anything that has gone over a substation fence – call Ausgrid and we'll get it for you • Call Ausgrid if you see anyone climbing over fences • Obey substation warning signs **Analysis:** The 2021 program was significantly impacted by COVID-19 and resulting lockdowns, with the majority of students learning from home. Despite these challenges, we managed to reach 89% of primary schools (766 schools). Additionally, we re-worked the program to deliver a digital-supported program to support teachers, students and parents navigating home schooling. We developed three educational videos and provided new activity worksheets downloadable from our website. We promoted Electricity Safety Week through social media, engaging 4 influencers to talk to key safety messages through their 204,000 followers as well as produced our own Staff Safety Tips we promoted across YouTube, Facebook, Twitter, Instagram and LinkedIn. Further promotion of electrical safety messages was promoted via social media posts which we also shared with Councils, MPs and ECCNSW. It was great to see much of this messaging picked up and shared by key external stakeholders such as EWON, Energy Networks Australia and DBYD. Our social media post and safety tips video delivered a combined 88,000 impressions across our channels. • 766 primary schools registered for ESW 2020, representing 89% in the network area • 92% of teachers surveyed indicated they would participate in Electricity Safety Week in 2022 • 88% said the program complements the school's scope and progression for Science & Technology • 81% believed electricity safety activities helped their students be safer around electricity • 31% increase in schools who were unable to run the activities due to COVID-19 restrictions. **Program Status:** Ongoing – we review the program each year to ensure it remains relevant and effective. The 2022 program is scheduled for 5-9 September 2022.

Table A.13 Public electrical safety plans and activities (continued)

Network operator public safety programs / campaigns (cont'd)	Details
Community Electrical Safety / CALD Community	**At risk group:** Culturally and Linguistically Diverse (CALD) Members of our community **Program Overview:** There is a unique need to promote Electrical Safety amongst the Culturally and Linguistically Diverse (CALD) Community, due to variances in regulations and practices internationally. Additionally, potential challenges in cutting through via traditional advertising due to cultural or language barriers also exist. Ausgrid promotes education and awareness of general electrical safety messaging to its CALD community via the Voices for Power Train the Trainer Program. In partnership with Sydney Alliance and other energy companies (Endeavour Energy, Jemena, AGL & Origin), this co-designed program works with community leaders to further promote electrical safety and aims to improved energy literacy. Four training modules underpin the training program, with one of these focusing specifically on energy safety. **Key Messages:** <u>Safety around fallen power lines</u> • Stay away from fallen powerlines or any debris that may have come into contact with them. They may still be live. • Keep an eight-metre distance from any fallen powerlines or any items such as trees, which may have come into contact with live wires. • Always assume fallen powerlines <u>DIY electricity safety / Hidden Dangers</u> • Check for wires before drilling into walls, floors and ceilings. Look up and around you. When using ladders or carrying other tall objects, always look out for powerlines and take care to avoid them. • Avoid contact with underground cables. • When painting eaves, replacing or cleaning gutters, avoid getting close to the electrical wires that connect your home to the power poles. • When changing a blown light bulb, make sure the power is off to avoid being harmed by exposed filaments. • Never use more than one double adaptor in a single power point. • Stay well away from your service line. Your service line is the overhead or underground mains and wires which are located on your (private) property. **Analysis:** Monthly meetings with Sydney Alliance, the voices for power team and other energy partners continue to review the program. The post-training survey results show that participants' confidence regarding energy safety more than doubled, and over 67% of participants self-identified as having adopted more energy safe practices from having participated in the program. Despite the challenges of COVID we held 30 sessions, training 315 community members, across six languages and 11 community groups. It is estimated that program has reached and impacted 1,260 CALD community members to date. **Program Status:** Ongoing – given the growing diversity of our population, Ausgrid is continuing to support the Voices for Power Train the Trainer program for the balance of 2022.

Table A.13 Public electrical safety plans and activities (continued)

Network operator public safety programs / campaigns (cont'd)	Details
Industry Safety - Unintended contact with overhead and underground cables	**At risk group:** Trades and outdoor workers including building and construction workers, crane and machinery operators and truck drivers. **Program Overview:** Between July 2021 and June 2022, there were 332 incidents of third-party contact with overhead assets and 88 incidents of third-party contact with underground assets. To support awareness and education of these risks Ausgrid leveraged paid advertising in the NSW Construction Site Safety Guide 2021/22. This initiative is supported by the National Safety Council of Australia Foundation, Master Builders Association NSW, and Safe Work Australia. Over 3,076 guides were distributed to: • construction company members of the Master Builders Association New South Wales (MBA NSW); • Tier 1, 2 & 3 construction companies in NSW • TAFE Colleges and training institutions in NSW • MBA NSW also distributed amongst active construction sites, new members and for use in on-site and off-site WHS training We also supported safe work practices through Electrical Trades Industry with the promotion of our "permission to pause" messaging in the 2022 Electrical Trades Union (ETU) Diary. The advert encourages workers to always pause if they don't feel safe. Throughout the year Ausgrid also supported this at-risk group with information on our website, promotion of safe clearances and Dial Before You Dig messaging on social media, and regular engagement with key industry groups such as Dial Before You Dig NSW, Safe Work NSW, and ad hoc groups (as requested). **Key Messages:** <u>Overhead power line safety</u> • Keep a safe distance or clearance from overhead powerlines. • Consider appropriate clearance when working around powerlines as the safe distance can vary according to the size and voltage of the power line. • Look up to check the location and distance of powerlines before beginning any outdoor activity. • Set-up or build structures well away from powerlines. • Set up plant, equipment and vehicles for safe distance or clearance from powerlines during operation (e.g. work platforms, cranes, cement trucks, tip trucks, etc). <u>Underground cable safety</u> • Always dial 1100 before you dig and stay well clear of underground powerlines. • Always follow the safe work guidelines provided by utilities when working around underground cables. • Plan your work, have the latest utility plan on site and always manually locate cables before you excavate • The Dial Before You Dig service may not have details of any private underground mains on individual properties. In this instance, a licensed electrician should be contracted to provide a sketch of private properties to identify private underground mains. Refer Clause 2.4.4.1 of the Service & Installation Rules of NSW.

Table A.13 Public electrical safety plans and activities (continued)

Network operator public safety programs / campaigns (cont'd)	Details
Industry Safety - Unintended contact with overhead and underground cables (cont'd)	**Analysis:** In 2022 we increased our presence in the Site Safety Guide to improve our execution of safety messaging around overhead power and underground cable strikes. Over 3,076 guides have been distributed so far to key organisations and industry stakeholders, including training institutions that pay a key role in influencing the next generation within the industry. Positive verbatim feedback is also captured by ProVisual as part of our review. **Program Status:** Ongoing – Industry Safety continues to be a high-risk audience for Ausgrid. Work is currently underway to improve the availability of electrical safety information to workers and trades via a new safety microsite.
Bushfire Risk Management	**At risk group:** Private pole owners and customers in bushfire zoned areas **Program Overview:** To complement the operational efforts Ausgrid undertakes as part of its Bushfire Risk Management, communications are utilised to support these initiatives. We use a combination of channels including direct mail, newspaper advertisements, social media and the website. Ausgrid currently delivers communications on this in a few ways: 1) Information on obligations as a private pole owner via mail out (April 2022) 2) Information on aerial patrols for vegetation and pole top inspections (Feb–Jun 2022), as well as Thermal Surveying (Aug 2021) 3) General Awareness of Ausgrid's Bushfire Risk Management Program via website & social media **Key Messages:** <u>Private pole owners</u> • If your property has private power lines you have a legal obligation to ensure these power lines and poles do not cause a fire or other hazard • Private pole owners are responsible for the safe operation and maintenance of their electrical installations • Ausgrid expects that this includes regular inspections, testing and maintenance work, including keeping vegetation a safe distance, to help prevent them from becoming a bushfire risk. **Analysis:** In April 2022, 14,414 letters were sent to Private Pole owners reminding them of their obligations. The area we engage is part of our cyclical review program, which focuses on a different part of our network every 5 years. Annually we update our website in accordance with the year's patrol information, continuing to leverage the interactive map and flight schedule for our February – June 2022 Patrols. This is also promoted through our social media platforms. Additionally, paid print advertising was used to support the Aerial Thermal Surveying with placements in the following publications: • Coast Community Chronicle Friday 20 August 2021 • Maitland Mercury Friday 20 August 2021 • Coast Community News Wednesday 25 August 2021 • Newcastle Herald Wednesday 25 August 2021

Table A.13 Public electrical safety plans and activities (continued)

Network operator public safety programs / campaigns (cont'd)	Details
Bushfire Risk Management (cont'd)	General bush fire safety is promoted throughout the year on social media with posts promoting our activity between August 2021 and June 2022. **Program Status:** Ongoing – Our Bushfire Management Plan is an annual activity which we support each year.
Other	**At risk group:** Emergency services & first responders **Program Overview:** Ausgrid attended the State Emergency Services (SES) "Exercise Thunderstruck" State Disaster Rescue Challenge 28-29 May 2022. In partnership with Endeavour Energy we facilitated electrical safety training to the SES crews competing across the two-day event. In the sessions we covered critical information necessary for the SES to respond safely and efficiently to incidents such as storms, floods, motor vehicle incidents and the associated risks of the damage that results on the network, such as fallen conductors. **Key Messages:** Information provided on responding safety to the following situations along with a Q&A • Risks when responding to storms • Risks when responding to floods • Risks when responding to moto vehicle accidents involving electrical assets • Associated risks resulting from damage to the electricity network **Analysis:** Ausgrid's attendance and the information provided at the event was well received. **Program Status:** Ausgrid is looking to further expand its support with emergency response groups such as the SES in the future.

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	Actions
Contractor Safety • Provided assurance that Ausgrid contractor safety processes are effective at identification, control, management and reporting of contractor safety risks; aligned to legal and regulatory contractor safety requirements; and supported through a defined safety framework.	• The health and safety protocols that are applied to contractors engaged via contracts need to also be consistently applied to contractors engaged via Purchase Orders. • Other improvement opportunities were also identified.	• A full review of our qualification system and contractors is being performed, to determine and implement the appropriate benchmark/protocols and processes for all Ausgrid contractors. • In the interim processes are being established to ensure no high-risk work is performed without confirmation that appropriate Health & Safety Protocols are in place.

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

Audit scope	Identified non-compliances	Actions
ISO14001 Environmental Management System • Elements 8, 9 &10 of the ISO standard were reviewed to ascertain how they have been implemented in practice. The clearance of prior internal audit recommendations external review nonconformities, were also reviewed.	• Periodic testing of the emergency response plans at various Ausgrid locations, should include environmental scenarios. • Other improvement opportunities were also identified.	• A test plan will be developed and provided to our external service provider, who will include environmental scenarios in our emergency evacuation drills.
High Voltage Live Work Controls • This review validated selected actions/process changes for High Voltage Live Works (HVLW) and assessed the implementation review of LV works actions.	• No non-compliances were identified; however improvement opportunities were recommended.	• There were no non-compliances that required actioning.
ISO55001 – Asset Management System • Assessed whether the Asset Management System (AMS) is designed to meet the requirements of ISO55001:2014 and that Ausgrid's Asset Management Operations are performing in compliance with the documented AMS.	• No non-compliances were identified; however improvement opportunities were recommended.	• There were no non-compliances that required actioning.
Advanced Distribution Management System (ADMS) implementation • An assessment of the original ADMS program plan was performed to: o Review the original Program plan and assumptions o Review significant Program scope changes o Examine the role of internal and external resources and the performance monitoring of team performance; and o Reviewed progress to date and lessons learnt with respect to Change, Project and Risk management.	• No non-compliances were identified; however improvement opportunities were recommended.	• There were no non-compliances that required actioning.

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

Audit scope	Identified non-compliances	Actions
Storm Season Readiness • This review assessed the completion of identified pre storm season preparations designed to address risks and support the storm readiness of the Ausgrid electricity network.	• No non-compliances were identified; however improvement opportunities were recommended.	• There were no non-compliances that required actioning.
Life Support Customer (LSC) Compliance The audit included: • Understanding recent breaches and identifying gaps within the LSC process; • Assessment of relevant incident and breach records maintained internally, and subsequent actions undertaken; • Root cause analyses on a sample of recent incidents and breach records; • Assessment of the progress on recommendations from previous audits; and • Assessment of the suitability and effectiveness of compliance processes.	• No non-compliances were identified; however improvement opportunities were recommended.	• There were no non-compliances that required actioning.
Asbestos actions review This review focused: • on the timely mitigation of risks associated with asbestos related issues previously identified at a number of depot and office sites. • Reporting and escalation of overdue actions to management.	• There was a need to review all actions previously identified and consider whether actions taken to date, have addressed the identified risk. • Outstanding actions should be prioritised based on risk and deadlines reset. • Regular senior management reporting of action progress should be prepared. • Overdue asbestos training was identified along with improvements to supporting processes. • Other improvement opportunities were also identified.	• All prior identified asbestos actions were reviewed, outstanding actions were risk reviewed, prioritised for actioning and then all required actions were completed. This addressed the associated asbestos risks and a report for senior management prepared. • A project plan was put in place to improve supporting processes and weekly reports of overdue training is sent to line management.

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
The ENSMS Bush fire management audit direction (20 August 2021) included: *1. Assessing whether the components of Ausgrid's ENSMS are safe with respect to the management of bush fire risk relating to its network and aerial consumers mains on bush fire prone private land.* *2. Assessing whether Ausgrid has amended and implemented its ENSMS, or is progressing towards amending and implementing its ENSMS to address previously identified outstanding bushfire risk management non-compliances.*	• ***NCR-1, 21 March 2022*** The auditor found Ausgrid lacked a procedure setting out the governance arrangements for the ENSMS Actions Register.	• Ausgrid has documented in the ENSMS the implementation of the ENSMS Action register, in compliance with clause 4.3.2 of AS 5577. **STATUS:** This action has been completed.
Additional matters: *3. Assessing Ausgrid's compliance with licence condition 14 of its distributor's licence as to:* a. whether the information relating to bush fire risk controls reported in Ausgrid's annual ENSMS performance report (the **Report**), is complete and accurate, and meets the requirements set out in IPART's Electricity networks reporting manual - Safety management system performance measurement, September 2020; b. whether Ausgrid has provided sufficient relevant context and information in the report to assist readers, including IPART, the general public and Ausgrid's customers; and c. the adequacy and accuracy of the underlying data sources, systems and processes used to prepare the report.	• ***NCR-2, 21 March 2022*** Based on the auditor's review of the additional information provided by Ausgrid, they considered that Ausgrid had misinterpreted one requirement in Table B.1 of the Report. • ***NCR-3, 21 March 2022*** The auditor found insufficient information within the report, and contained within the BOP document, to enable the reader to understand the wider context of the reported information throughout the report. • ***NCR-2, 23 December 2020*** The auditor found there was insufficient information within the Report, and contained within the BOP document, to enable the reader to understand the wider context of the reported information throughout the report.	• Ausgrid has reviewed and amended the current Basis of Preparation (**BOP**) document to address NCR-2 to improve the production of the Report by the due date. The updates will be implemented in the 2022 Report along with additional improvements. **STATUS:** This action has been completed. • Ausgrid has reviewed and amended the current BOP document to address NCR-3 to improve the production of the Report by the due date. The updates will be implemented in the 2022 Report along with additional improvements. **STATUS:** This action has been completed. • Ausgrid has completed a review of the Report and amended the BOP document to include descriptions of tables presenting values to enable the reader to the reader to understand the wider context of the reported information. **STATUS:** This action has been completed.

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

Audit scope	Identified non-compliances	Actions
ENSMS Live work audit direction (15 October 2021): *1. Assessing whether Ausgrid has modified its ENSMS in accordance with the Notice of directions to modify electricity network safety management system (ENSMS) issued by IPART on 24 May 2021.* *2. Assessing whether Ausgrid has implemented its ENSMS (as modified in accordance with the Notice referred to in paragraph 1 above) as required by clause 8(1) of the Regulation.*	• ***NC(NM) 2022-1, 13 May 2022*** The auditor found Ausgrid had implemented a number of controls to manage the risks associated with ASPs carrying out live work. However, it had not demonstrated that this suite of controls collectively reduce these risks, within the constraints imposed by the ASP Scheme, SFAIRP.	• Further engagement with ASPs on risks will be dealt with in reviewing the Worker Safety FSA with external stakeholders. **STATUS:** This action will be completed by 1 December 2022. • Ausgrid will carry out a review of its internal processes so that external stakeholders, including ASPs, are represented where required in relevant risk assessments. Ausgrid will also reflect any relevant improvements within the stakeholder Engagement Framework and Plan. **STATUS:** This action will be completed by 1 December 2022.
ENSMS Live work audit direction (15 October 2021): *3. Assessing whether Ausgrid has amended and implemented its ENSMS or is progressing towards amending and implementing its ENSMS to address previously identified outstanding Public Safety and Worker Safety non-compliances.* *4. Assessing whether the planning processes for all Stage 2, Stage 3 and Stage 4 live work tasks currently being undertaken on or near Ausgrid's network, have been developed and implemented (through a work-site assessment) of Stage 2, Stage 3 and Stage 4 live work tasks in accordance with AS 5577.* *5.Assessing whether the impact on the community of interrupting supply has been adequately assessed against the risk of working live, to ensure that all relevant risks are reduced to as low as reasonably practicable as required by AS 5577.*	• ***NC(NM) 2022-2 & 3, 13 May 2022*** The auditor found Ausgrid had implemented a number of controls to manage the risks associated with ASPs carrying out live work. However, it had not demonstrated that this suite of controls collectively reduce these risks, within the constraints imposed by the ASP Scheme, SFAIRP.	• All "Other Recommendations" from Ausgrid's internal Stage 1 Recommendations report will be documented in the Live Work Process Hazard Assessment worksheet within the "Other Considered Controls" section. An action plan will be developed for any additional actions that require implementation. **STATUS:** This action will be completed by 1 December 2022. • Ausgrid will review and update as appropriate HS006-P0107 Process Hazard Assessment so that it includes the requirement to actively investigate additional risk options and the process for investigating additional risks and recording controls that are not implemented. **STATUS:** This action will be completed by 1 December 2022.

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

Audit scope	Identified non-compliances	Actions
ENSMS Live work audit direction (15 October 2021) cont'd:	• ***NC(NM) 2022-4, 13 May 2022*** The auditor found Ausgrid had developed guidance documentation on how SFAIRP can be demonstrably achieved. The guidance demonstrates that the overall risk position associated with carrying out a task using either de-energised or live techniques has been minimised SFAIRP. However, was not clear how the SFAIRP assessment is to be made in other situations (and nor was SFAIRP demonstrable for other situations during the audit).	• Ausgrid will review and update as appropriate HS006-P0106 *Guide: Demonstrating that risk has been minimised so far as is reasonably practicable (SFAIRP)* and HS006-W0106 *LOPA and CBA User Guide* so they are also applicable to other Health and Safety related risks. **STATUS:** This action will be completed by 1 December 2022. • Ausgrid will review and update as appropriate HS006-P0107 Process Hazard Assessment so that it includes the requirement to actively investigate additional risk options and the process for investigating additional risks and recording controls that are not implemented. **STATUS:** This action will be completed by 1 December 2022.
	• ***NC(NM) 2022-5, 13 May 2022*** The auditor found Ausgrid had developed a number of controls to manage the risks associated with working live and provided evidence that these controls have been implemented. However, the process by which it was demonstrated that these controls collectively reduce these risks SFAIRP had not been adequately implemented.	• Ausgrid will review and update as appropriate HS006-P0107 Process Hazard Assessment so that it includes the requirement to actively investigate additional risk options and the process for investigating additional risks and recording controls that are not implemented. **STATUS:** This action will be completed by 1 December 2022.
	• ***NC(NM) 2022-6, 13 May 2022*** Ausgrid has provided evidence that it has considered and implemented a number of controls to manage the risk of harm to contractors' employees while carrying out live work on its network. However, it has not demonstrated that all available controls have been considered.	• As a part of continuous improvement, Ausgrid will carry out a review of the Live Work risk assessment as it relates to contractors undertaken live works tasks. **STATUS:** This action will be completed by 1 December 2022.

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

Audit scope	Identified non-compliances	Actions
ENSMS Live work audit direction (15 October 2021) cont'd:	• ***NC(NM) 2022-7, 13 May 2022*** Ausgrid has provided evidence that it has considered and implemented a number of controls to manage the risk of harm to ASP workers while carrying out live work. However, it had not demonstrated that it has considered all available.	• As part of continuous improvement, Ausgrid will carry out a review of the Live Work risk assessment as it relates to ASPs undertaking live work tasks. **STATUS:** This action will be completed by 1 December 2022. • The feedback from ASPs from the workshop held in June 2022 will be assessed and incorporated into the Public Safety FSA by 1 October 2022. Further engagement with ASPs on risks will be dealt with in reviewing the Worker Safety FSA with external stakeholders. **STATUS:** This action will be completed by 1 December 2022.

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

Audit scope	Identified non-compliances	Actions
ENSMS Live work audit direction (15 October 2021) cont'd:	• ***NC(NM) 2022-8, 13 May 2022*** Ausgrid has a number of controls in place to manage the risks associated with fallen conductors. However, it has not demonstrated that it has fully evaluated the residual risk by carrying out a comprehensive SFAIRP evaluation.	• The investigation of fallen conductor detection/protection technologies recommended making this feature a mandatory specification for new switching devices. Ausgrid is in the process of developing a plan to fund the live network trials of the technology. **STATUS:** This action will be completed by 1 December 2022. • Ausgrid will carry out a review of its risk assessment of the risks of fallen conductors to incorporate the outcome of the investigation into the available fallen conductor detection/protection technologies. **STATUS:** This action will be completed by 1 December 2022.
EMS external audit (August 2021) Re-assessment of the existing certification to ensure the elements of the proposed scope of registration and the requirements of the management standard are effectively addressed by the organisation's management system.	• ***2087742-202108-N1*** Workplace inspections are not being completed to verify both the effectiveness of controls and compliance obligations have been met using Workplace Inspection Checklist HS008-P0303 or NS174C Environmental Handbook - Depot Checklist EF 004 V5.0 June 2021. • ***2087742-202108-N2*** Periodic testing of emergency response plans annually for environmental scenarios is not undertaken at all sites as per Ausgrid's procedure HS010-P0101- Generic Emergency Plan.	• Ausgrid will clearly document the Depot Manager's Health and Safety responsibilities within the HSMS and then communicate those requirements with the relevant Depot Managers and Regional Managers. **STATUS**: This action has been completed. • Ausgrid will review and improve alignment of emergency preparedness services by external service provider with requirements HS010-P0100 - Emergency planning documents. **STATUS**: This action will be completed by 31 October 2022. • Ausgrid will review reporting of periodic emergency response plans/exercises to ensure adequate visibility. **STATUS**: This action will be completed by 31 October 2022.

B. Bushfire Preparedness

This section is Ausgrid's response to the reporting requirements in the Reporting Manual Appendix B - Bushfire preparedness. This section summarises Ausgrid's preparations prior to the commencement of the statutory bush fire danger period (BFDP), nominally 1 October 2022 or earlier where the NSW Rural Fire Service (NSW RFS) Commissioner declares a variation based on the recommendation of a local Bush Fire Management Committees (BFMC).

B.1 Bushfire risk profile across network operator's supply area

Persistent above average rainfall across much of NSW has resulted in unusually high fuel loads in grasslands and shrublands. Soil moisture is high and with the chance of exceeding median rainfall for much of the state, good growing conditions are likely to continue for both cropping and grassland areas. Good winter rainfall has also led to high cropping yields, resulting in very high fuel loads in cropping areas. Grass and shrubland fuels respond quickly to periods of low rainfall and high temperatures. Given the high fuel loads, and despite the forecast of wetter than average conditions, there are likely to be periods of elevated fire danger in grassland and cropping areas, particularly in the northwest and southwest during the spring forecast period. It should also be noted that if the above median forecast rainfall does not eventuate, these high grass fuel loads will pose an above normal grass fire risk during the period. Wet conditions have also assisted the recovery of areas burnt in the 2019-20 season, but these areas are expected to remain at below normal fire potential due to reduced fuel loads and high fuel moisture. Despite the wetter conditions, normal fire potential is predicted in other forested areas due to high fuel loads. In summary, NSW is expecting predominantly normal fire potential over the outlook period apart from areas burnt in the 2019-20 season, though it is likely that the onset of the fire danger period in the north of the state will be delayed due to the wetter conditions. If the current climate drivers break down and result in a drier outlook, very high grass fuel loads could result in larger and more intense fires in NSW.

The Weatherzone report commissioned by Ausgrid also notes that we could experience thunderstorm activity associated with the predicted La Niña weather patterns. The report also notes that while there is an increased chance of heatwave conditions, it is less extreme than previous years. The report does highlight the chance of increased risk of widespread flooding due to higher soil moisture content and possible heavy rainfall events. The noted risk from a bushfire perspective is from grass fires due to the fuel load that has accumulated. The overall Bushfire risk is "Near to below normal".

Figure 1: AFAC Spring Bush Fire Outlook 2022

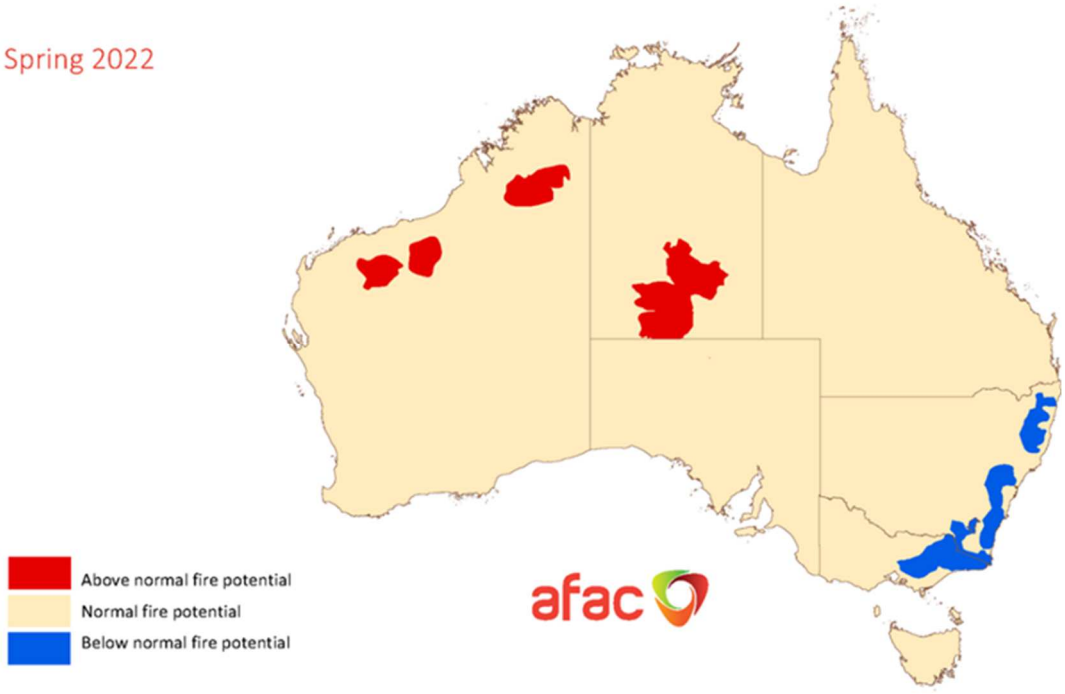
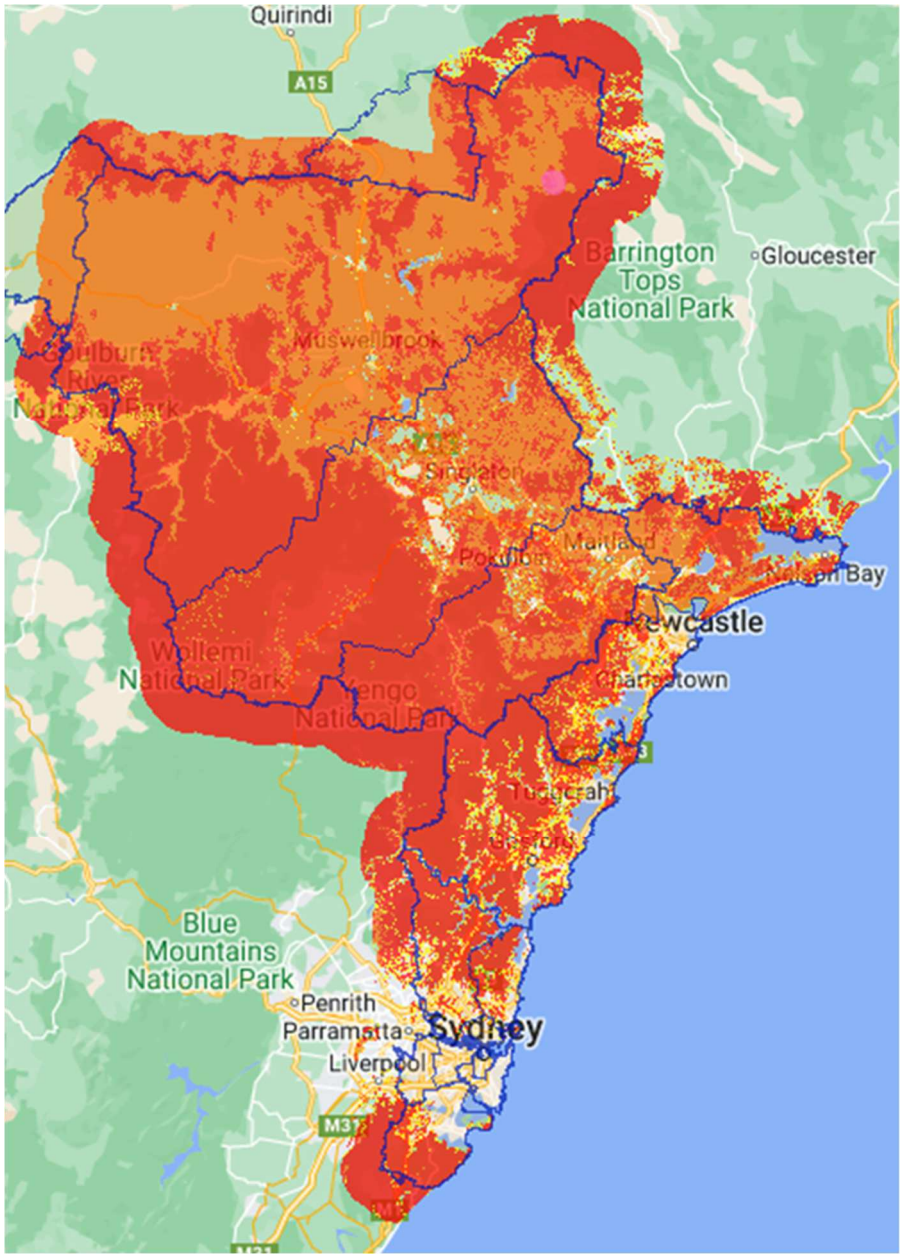


Figure 2: Ausgrid's network and related bushfire prone land area.



Note: Ausgrid does not differentiate bushfire categories or buffer areas for inspection and reporting purposes.

B.2 Permanent / temporary declaration of areas by RFS and network operator's actions

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

This year there is no temporarily altered BFDP commencement dates affecting LGA's in Ausgrid's area were declared by the NSW RFS Commissioner due to local climatic conditions. Three LGA's were confirmed as having permanent variations in place commencing 1 September. The LGA's that Ausgrid operates its network in, and the applicable BFDP are detailed in Table 1 below.

Table 1: BFDP commencement for areas in Ausgrid's network.

NSW LGA reference	Permanent or Temporary Date	Commencement of BFDP
Bayside	**Permanent**	1 October 2022
Burwood	**Permanent**	1 October 2022
Canada Bay	**Permanent**	1 October 2022
Canterbury-Bankstown	**Permanent**	1 October 2022
Central Coast	**Permanent**	1 October 2022
Cessnock	**Permanent**	1 October 2022
Cumberland	**Permanent**	1 October 2022
Dungog	**Permanent**	1 October 2022
Georges River	**Permanent**	1 October 2022
Hawkesbury	**Permanent**	1 October 2022
Hornsby	**Permanent**	1 October 2022
Hunter's Hill	**Permanent**	1 October 2022
Inner West	**Permanent**	1 October 2022
Ku-ring-gai	**Permanent**	1 October 2022
Lake Macquarie	**Permanent**	1 October 2022
Lane Cove	**Permanent**	1 October 2022
Maitland	**Permanent**	1 October 2022
Mosman	**Permanent**	1 October 2022
Muswellbrook	**Permanent**	1 September 2022
Newcastle	**Permanent**	1 October 2022
North Sydney	**Permanent**	1 October 2022
Northern Beaches	**Permanent**	1 October 2022
Parramatta	**Permanent**	1 October 2022
Port Stephens	**Permanent**	1 October 2022
Randwick	**Permanent**	1 October 2022
Ryde	**Permanent**	1 October 2022
Singleton	**Permanent**	1 September 2022
Strathfield	**Permanent**	1 October 2022
Sutherland	**Permanent**	1 October 2022
Sydney	**Permanent**	1 October 2022
Upper Hunter	**Permanent**	1 September 2022
Waverley	**Permanent**	1 October 2022
Willoughby	**Permanent**	1 October 2022
Woollahra	**Permanent**	1 October 2022

B.3 Aerial consumer mains on bushfire prone private land (HV and LV)

Ausgrid completed private main inspections on all identified overhead consumer mains in bushfire prone land during the period from April 2022 to August 2022. Defect notices were issued to property owners where any defect was identified. Throughout the other months of the year Ausgrid continues to complete 5 yearly private pole inspections as per the maintenance cycle for private poles located in bushfire areas. The customer has separate obligations for maintaining their installation in a safe condition and is required to address any identified bushfire risk defects within 60 days. However, if the customer does not address the defect, Ausgrid will arrange to rectify defects and seek to recover costs. Disconnection provisions are also provided for in the NSW Electricity Supply Act, associated regulations, and National Energy Retail Rules if there is an imminent safety hazard or access preventing defect rectification.

Ausgrid identifies all high voltage customer sites located on bushfire prone land. These customers are requested to confirm the presence of overhead electrical installations on their sites and if confirmed are required to provide Ausgrid with a copy of their Installation Safety Management Plan addressing bushfire risk and a statement of compliance to indicate the site complies with the requirements of the plan. Response is required prior to the commencement of the bushfire danger period.

Table B.2 provides performance measures on private lines and consumers mains in the reporting period. The counts of private lines checked by Ausgrid changes annually due to re-classification of bushfire prone land, and customer network alterations. HV customers requiring additional risk mitigation measures includes the number of high voltage customers who did not provide a statement of compliance or had identified defects requiring mitigation, where the network operator is ensuring appropriate risk mitigation (e.g. inspection by Ausgrid). Ausgrid now also requires all HV customers on bushfire prone land to confirm their network construction type and requirement to undertake pre-season bushfire checks in accordance with ISSC 31.

Table B.1 Aerial consumer mains on bush fire prone private land (HV and LV)

Performance measure	Current reporting period		Last reporting period		Two reporting periods ago		Three reporting periods ago		Four reporting periods ago	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
Private LV lines[a] checked by the network operator	17,541	17,541	16,269	16,269	22,122	22,122	34,273	34,273	33,438	33,438
Number of directions for bushfire risk mitigation issued to LV customers by the network operator	n/a	928	n/a	558	n/a	1,366	n/a	3,502	n/a	2,931
Number of directions for bushfire risk mitigation issued to LV customers by the network operator that are outstanding by more than 60 days[b]	n/a	87	n/a	0	n/a	0	n/a	0	n/a	0
HV customers (metering point count) advised to undertake preseason bushfire checks in accordance with ISSC31	359	359	262	262	96	96	77	77	69	69
HV customers (metering point count) providing statements of compliance in accordance with ISSC31	95	95	92	92	96	96	77	77	69	69
HV customers (metering point count) requiring additional risk mitigation prior to start of the reporting year	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0
HV customers (metering point count) where additional risk mitigation has been completed prior to start of the reporting year	n/a	0	n/a	0	n/a	0	n/a	0	n/a	0

a See Glossary for definition.
b Refers to directions issued under section 53C of the Electricity Supply Act 1995.

Table B.2 provides aerial inspection populations as the count of the total number of network poles that are located on or supporting a span that is partially or completely on bushfire prone land. The step increase in target inspections on bushfire prone land over the previous annual report is fundamentally due to the RFS increasing declared areas of bushfire prone land in a number of LGAs. The service mains population is provided as the number of service main lines and the target inspection only includes uninsulated service mains in this program with the insulated (XLPE) service mains population targeted with the associated pole inspection. The aerial hardware inspection covers the entire network over a 3 yearly cycle, that is approximately one third of the network every year. The private pole inspection data is captured in the Private LV lines row of Table B.1.

Table B.2 Pre-Summer bushfire inspections

Pre-summer bushfire inspections	Population (spans / poles)	Target	Achieved	Outstanding	Comments
Aerial Vegetation	n/a / 138,722	138,722	138,722	0	Inspection targets are identified to the nearest pole supporting a span that is partially or completely on bushfire prone land.
Aerial Hardware	n/a / 138,722	55,199	55,199	0	All inspections are completed in-line with Ausgrid's inspection program.
Service Mains	133,954 / n/a	7,549	7,549	0	All inspections are completed in-line with Ausgrid's inspection program.
Pole Inspections	n/a / 138,722	n/a	n/a	n/a	Ausgrid does not specifically identify poles for pre-summer bushfire inspections. Refer to Table A.12 for Pole Inspections.
Total		**201,470**	**201,470**	**0**	All inspections are completed in-line with Ausgrid's inspection program.

The data reported in Table B.3 is the status of the vegetation tasks before the commencement of the relevant BFDP. The vegetation tasks are identified by routine and pre-summer inspections. The majority of vegetation tasks were identified with aerial LiDAR and where this was not possible identified via routine ground based visual inspections. The LiDAR data processing methodology applied in this reporting period has resulted in a step reduction in the number of encroachments reported this period through the grouping of related encroachments. Ausgrid does also carry out vegetation tasks without Encroachment Classifications e.g. removal of tree branches from service wires. The quantities were as follows: identified 29,129, completed 29,025, open 104 and none outstanding. Hazard trees are only identified by ground based visual methods and includes hazard trees located on bushfire prone land and non-bushfire prone land.

Table B.3 Vegetation tasks

Bushfire risk category	Status	Encroachment Classification A1[a]	Encroachment Classification A2[a]	Encroachment Classification A3[a]	Encroachment Classification A4[a]	Hazard trees[a]
Bushfire prone land	**Identified**	3,693	11,018	18,314	33,259	127
	Completed	3,693	11,018	0	0	104
	Open	0	0	18,314	33,259	16
	Outstanding	0	0	0	0	7

a See Glossary for definitions.

Table B.4 includes defects generated from routine and pre-summer inspections and includes the population of defects identified within the reporting period. Defects identified prior to the reporting period include: completed (Category 1 - 16, Category 2 – 106, Category 3 – 1383, Category 4 – 432) and open (Category 2 – 3, Category 3 – 254, Category 4 – 592). The step increase in asset tasks on bushfire prone land over the previous annual report is fundamentally due to the RFS increasing declared areas of bushfire prone land in a number of LGAs.

Table B.4 Asset tasks

Bushfire risk category	Status	Category 1[a]	Category 2[a]	Category 3[a]	Category 4[a]	Totals
Bushfire prone land	**Identified**	2,432	973	3,295	2,702	9,402
	Completed	2,432	902	877	224	4,435
	Open	0	71	2,418	2,478	4,967
	Outstanding	0	0	0	0	0

a See Glossary for definitions.

Glossary

Aerial inspection vegetation / hardware	Assessments of powerlines, poles, vegetation and other equipment undertaken with helicopters, planes and/or unmanned aerial vehicles (UAVs) fitted with LiDar and Photographic equipment.
AFAC	Australasian Fire and Emergency Service Authorities Council
Agricultural and other	Examples include agricultural equipment, aircraft, watercraft.
AS 5577	Australian Standard Electricity network safety management systems, 2013, published by Standards Australia.
ASP or Accredited Service Provider	Persons and organisations accredited under the NSW Government's Accredited Service Provider Scheme, established under Part 3 of the Electricity Supply (Safety and Network Management) Regulation 2014.
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.
BFDP	The statutory bush fire danger period (BFDP), nominally 1 October 2022 or earlier where the NSW Rural Fire Service (NSW RFS) Commissioner declares a variation based on the recommendation of a local Bush Fire Management Committees (BFMC). In Ausgrid's distribution area the local government areas of Muswellbrook, Singleton and Upper Hunter are on a permanently variation to nominally commence the BFDP on 1 September.
Bushfire prone land / Non-bushfire prone land	Area that has been identified by local council which can support a bushfire or is subject to bushfire attack.
Category 1 – 4 defects	Category 1: Defects that pose a direct and immediate risk to the safety of the public/staff and requiring immediate rectification within 48 hours Category 2: Defects that pose a risk to the safety of the public / staff and require rectification within 48 hours to 3 months Category 3: Defects that pose a predictable future risk to the safety of the public / staff and require rectification within 3-12 months Category 4 : Defects that pose a predictable future risk to the safety of the public / staff and require reinspection before the next maintenance cycle.
Conductor – LV	LV means 'low voltage' and is defined as a voltage below 1kV ac nominal.
Conductor – HV	HV means 'high voltage', High voltage are voltages 1kV ac nominal and above.
Conductor – Transmission	Transmission conductors form part of a transmission network. Sub-transmission conductors form part of a distribution network. Transmission and sub-transmission voltages are generally 33kV ac nominal and above.
Encroachment Classification A1 – A4	Vegetation encroachments into the minimum vegetation clearance as specified in ISSC3 2016 Guide for the Management of Vegetation in the Vicinity of Electricity Assets.
ENSMS	Electricity network management system
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, and LV wires down events resulting in burning around the point of contact on a combustible surface. Excludes LV wires down arcing events on non-combustible surfaces. Network Scope: Applicable to any fire caused by, or impacting, a network asset.
Functional failure	Performance of a piece of equipment (or component of an asset or asset) that represents a reduction below acceptable limits of the specification for a piece of equipment resulting in reduced capability required for service. In general, a functional failure is represented by a defect condition where the

	equipment that is required for service can no longer perform its expected function and which results in an unplanned maintenance action to restore condition to an acceptable limit. Note: operation of protection equipment (e.g. fuse) within its design characteristics is not a functional failure.
Hazardous tree / Fall-in vegetation hazard	As per ISSC 3 visually defective vegetation (which is vegetation that is dead, dying or appears structurally unsound as identified from the perspective of the Network Asset as far as it is reasonably practicable to do so), that is outside the minimum Clearing Requirement distances from Electricity Assets and which may require pruning, cutting, or removal to obviate the risk of it falling, dropping, and contacting the assets.
ISSC 3	Industry Safety Steering Committee Guideline for the Management of Vegetation in the Vicinity of Electricity Assets, November 2016.
ISSC 31	Industry Safety Steering Committee Guideline for the Management of Private Overhead Lines, September 2019.
HSMS	Health and Safety Management System
Incident	Defined in accordance with IPART's Electricity networks reporting manual - Incident reporting, available on the IPART website.
LGA	NSW Local Government Area
Major incident	Defined in accordance with IPART's Electricity networks reporting manual - Incident reporting, available on the IPART website
Major Event Day (MED)	A day in which the daily total system (i.e. not on a feeder type basis) SAIDI value ("daily SAIDI value") exceeds a threshold value. The technical detail for performing the calculation is contained in Schedule 6 of Ausgrid's Distributor's License obtainable from IPART's web site. MED are to be excluded from the network overall reliability standards and individual feeder standards. Its purpose is to allow major events to be studied separately from daily operation, and in the process, to better reveal trends in a daily operation that would be hidden by the large statistical effect of major events.
Momentary interruption	Defined as interruption to a distribution customer's electricity supply with a duration of 3 minutes or less, provided that the end of each momentary interruption is taken to be when the electricity supply is restored for any duration.
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.
OH	Overhead
Open (with respect to defects / tasks)	A defect / task that has not been rectified by the Network Operator at the end of the reporting period 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 at the end of the reporting period 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.
Peer group A1, A2, A3 and B hospitals	A hospital peer group classification applied to NSW public hospitals as defined by NSW Ministry of Health.
Plant and equipment	Cranes, elevated work platforms, cherry pickers, excavators, hand held tools, etc
Public road vehicle	Includes plant and equipment packed up for travel (i.e. plant and equipment travelling on a public road to or from worksite)

Pole-top structures	Pole top structures/components is any structure that is attached to a pole to support electricity mains and apparatus.
Power BI	An interactive data visualisation software product developed by Microsoft with a primary focus on business intelligence.
Power transformers	Power Transformers are transformers where the secondary/output voltage is 5kV ac nominal or above.
Private LV lines	Private lines means aerial consumers mains on bushfire prone private land.
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.
Reactive plant	Reactive plant includes reactors and capacitors.
Regulated SAPS	SAPS (includes temporary, emergency or permanent SAPS), which consist of a distribution system owned, controlled or operated, or proposed to be owned, controlled or operated, by a network operator.
SAP	Systems, Applications and Products which is a business application to manage to financials, logistics, human resources, assets, safety and other business areas.
SCADA	Supervisory control and data acquisition is a control system architecture comprising of computers, networked data communications and graphical user interfaces for high level process supervisory management.
Service mains / Service line	The electricity authority's conductors connecting the electricity distribution system to an individual customer's connection point (refer to the NSW Service and Installation Rules for further information on service connections and definitions).
SFAIRP	So Far As Is Reasonably Practicable. Typically referring to the requirement to ensure that risks / hazards are being eliminated (or if unable to be eliminated, minimised) so far as is reasonably practice.
SAIDI	The average derived from the sum of the durations of each sustained customer interruption (measured in minutes), divided by the total number of Ausgrid's customers (averaged over the financial year).
SAPS or Stand-Alone Power System	a system that: (a) generates and distributes electricity; and (b) does not form part of the interconnected national electricity system
Span	A section of overhead conductor between two supporting poles or structures. The term may also refer to the horizontal distance between the two pole attachment points
Tunnel	A tunnel owned and maintained by Ausgrid to provide an underground feeder path.
UG	UG means Underground
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.
XLPE	Cross-linked polyethylene insulated cable

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