



Public Electrical Safety Awareness Plan

September 2016



Document History

Issue No.	Date	Approved by	Summary of Changes
1	June 2014	Chief Engineer	Updated and revised in line with requirement for biennial review under Electricity Supply (Safety and Network Management) Regulation 2008
2*	March 2015	Chief Engineer	Publication as standalone document for compliance with the Electricity Supply (Safety and Network Management) Regulation 2014
3	October 2016	Manager Network Risk & Planning	Plan updated and revised in line with Electricity Supply (Safety and Network Management) Regulation 2014 and AS5577-2013 Electricity Network Safety Management Systems

*NOTE: Prior to March 2015 the Public Electrical Safety Awareness Plan was published as chapter 3 of Ausgrid's Network Management Plan as required by the Electricity Supply (Safety and Network Management) Regulation 2008. This regulation has been repealed and replaced with the Electricity Supply (Safety and Network Management) Regulation 2014 which specifies the adoption of AS5577-2013: Electricity Network Safety Management Systems. The Public Electrical Safety Awareness Plan has been republished as a standalone document to comply with the requirements of the Electricity Supply (Safety and Network Management) Regulation 2014.

Warning

It is illegal for persons other than licensed electricians, or persons authorised by legislation, to work on the fixed wiring of any electrical installation. Penalties for conviction are severe.

Ausgrid may amend this document at any time. It is the responsibility of the user of this document to check that only the current version is being used.

Duration and availability of this Plan

This Plan has been introduced in 2016 and will continue to be in effect until it is removed from service. This plan will undergo regular review in accordance with the Electricity Supply (Safety and Network Management) Regulation 2014 and AS5577-2013 Electricity network safety management systems.

This plan will be reviewed systematically against legislation and regulation applicable to distribution and transmission network service providers, industry standards including AS5577, Ausgrid's strategic plans and relevant internal policies, procedures and standards and our regulatory determination.

This plan will be updated as necessary in line with the outcome of these reviews.

In accordance with the NSW Electricity Supply (Safety and Network Management) Regulation 2014, this Plan will be made available to all stakeholders who are likely to be involved in its implementation.

This *Public Electrical Safety Awareness Plan* is available on Ausgrid's website (www.ausgrid.com.au). Printed copies of this Plan are available at Ausgrid's principal office – 570 George Street, Sydney NSW 2000.

All correspondence in relation to this document should be directed to:

Manager Network Risk & Planning
Ausgrid
GPO Box 4009
SYDNEY NSW 2001
Telephone: 131 365
Facsimile: (02) 9394 6546

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Introduction to Ausgrid's Public Electrical Safety Awareness Plan

Under the *Electricity Supply (Safety and Network Management) Regulation 2014* (the Regulation) Ausgrid must, as part of its Electricity Network Safety Management System, provide advice to the public about the hazards associated with electricity in relation to its network. Ausgrid has developed and published this Public Electrical Safety Awareness Plan to comply with this requirement.

Ausgrid's commitment to safety

Ausgrid is committed to ensuring the safe operation of its network and to providing a reliable and safe supply of electricity to all its customers. It gives the highest priority to safety issues, including network safety and security, workplace and public safety and bushfire risk. Subject always to its paramount commitment to safety, Ausgrid's network planning objective is to comply with the legislative and regulatory obligations that apply to infrastructure development and maintenance while at the same time efficiently managing the financial performance of its business as a network operator.

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1. Public Electrical Safety Awareness

1.1 Overview

Ausgrid is committed to the protection of our customers, the community and electrical works from the dangers associated with electricity and our distribution network. Public awareness of electrical hazards and ways to mitigate those risks are an integral part of our operations.

The Public Electrical Safety Awareness Plan (PESAP) outlines Ausgrid's commitment to safety and our responsibilities under the Electricity Supply (Safety and Network Management) Regulation 2014. This regulation requires the implementation of an Electricity Network Safety Management System in accordance with AS 5577-2013 (Electricity Network Management Systems.) The resulting system has superseded the former Network Management Plan. This plan has been reviewed against the requirements of AS557-2013 and is now a standalone document which forms part of Ausgrid's new Electricity Network Safety Management System.

The PESAP details Ausgrid's approach to safety and potential risks associated with the distribution and use of electricity, how 'at risk' target groups are identified, and provides precautions in key messages to mitigate those risks and avoid electrical safety incidents.

Programs which fall under this plan are designed to create greater awareness of electrical safety amongst the general public and targeted groups based on an analysis of safety incidents involving Ausgrid's network and relevant data sources. Programs are developed and implemented to increase awareness of the hazards that have the potential to cause harm to the public.

To communicate our safety message to the public (and 'at risk' target groups) we use a number of communication tools and media including TV, radio and print advertisements, partnerships, education kits, personal presentations, direct mail-outs, printed material and digital channels such as our website and social media accounts.

1.2 Our approach to safety

Ausgrid seeks to be a leader in safety in all aspects of its business. Our Annual Report, the Customer Installation Safety Plan, Public Electrical Safety Awareness Plan and Bushfire Risk Management Plan reflect our commitment to safety as the number one driver in how we run our business.

We have more than 100 years of experience identifying and creating awareness of the risks associated with the distribution and use of electricity, and ways the public can mitigate these risks.

The Public Electrical Safety Awareness Plan focuses primarily on creating awareness of the potential risks associated with the distribution and use of electricity through education and communication.

Ausgrid's risk management process provides the foundation for the effective management of risk across the business and informs decision making. The Bow-Tie risk assessment methodology is applied to identify preventative and mitigative controls in the management of identified potential hazardous events. Ausgrid's Risk Management Plan captures prevention activities and controls, rates risks and identifies risk treatment actions.

The risk addressed in this Public Electrical Safety Awareness Plan is identified in the Ausgrid Business Risk Management Plan as Business Risk (BR) 1.1 - uncontrolled discharge or contact with electricity. This is an incident where there is an uncontrolled release or discharge of electricity on or near the network which has the potential to or does cause an electric shock or injury to a worker or member of the public. The Bow-Tie Risk Assessment identified public safety campaigns and programs as a major mitigative control in reducing the severity of outcomes, risks and incidents in relation to public safety.

1.3 PESAP objectives

The objectives of the PESAP are to:

- Raise awareness of electrical safety and the risks associated with the distribution and use of electricity;
- Raise awareness of electrical safety amongst 'at risk' target groups;
- Raise awareness of the safe use of electrical equipment; and
- Remind the public of hazardous situations involving electricity.

1.4 Risk analysis

Risk areas are identified through analysis of declared network incidents which have potential to impact public safety. Other data sources and trends are reviewed regularly to identify 'at risk' target groups. These may include but are not limited to the Australian Bureau of Statistics, NSW Fair Trading and the Australian Institute of Health and Welfare.

Programs are developed and implemented to address the risks that have caused or have the potential to cause harm to the public. Our existing programs are reviewed and updated to align with new information and research outcomes, and new campaigns and programs are developed and implemented where needed.

1.5 Identified 'at risk' target groups

'At risk' target groups have been identified through Ausgrid's risk management framework. These assessments may include other sources of data and market research. In addition, some 'at risk' target groups have been identified through regulatory requirements.

- **High risk** - Death or near miss on network assets and customer installations
- **Moderate risk** – Identified through other sources and market research
- **Compulsory** – required under regulation/legislation

Current 'at risk' target groups identified are:

- Tradespeople/Outdoor workers
- Children
- Young males
- General community
- Private pole owners and bushfire management
- Boat operators and waterway crossings
- Emergency services personnel

1.6 Program development and evaluation

This section provides an overview of the identified safety incidents and risks, the 'at risk' target groups, and provides key messages and actions to help mitigate those risks and avoid electrical safety incidents.

1.6.1 Overhead powerline safety

A common public perception that overhead powerlines are only a hazard if they are contacted or connected with is not correct. Electricity can jump from powerlines to metal objects like ladders or boat masts in an instant.

Some of the key risks identified around the overhead network are:

- Outdoor activities such as boating, hot air ballooning, construction work, parachuting, kite flying and playing in the street or park. This includes outdoor activity within easements, whether on private or public land.
- Unauthorised contact with electricity assets, such as copper theft which may leave conductors exposed.
- Contact between overhead powerlines and a vehicle or machinery, making the vehicle 'live' and allowing the electricity to pass through it to the ground.

More information on overhead powerline safety is available at www.ausgrid.com.au/overheadlines and www.ausgrid.com.au/easements

Target groups	Key messages
<ul style="list-style-type: none"> • Tradespeople • Outdoor workers • General community • Boat operators • Young males 	<ul style="list-style-type: none"> • 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 powerline. • Look up to check the location and distance of powerlines before beginning any outdoor activity. • Set-up or build structures well away from powerlines and easements. • Set up plant, equipment and vehicles for safe distance or clearance from powerlines during operation (including work platforms, cranes, cement trucks and tip trucks). • Know your mast height (boat operators only). <p>Contact with overhead powerlines:</p> <ul style="list-style-type: none"> • Remain in the vehicle or machinery as escape is very risky. • Never approach, attempt to rescue or allow others to approach any machinery or vehicles in contact with powerlines. • Stay a minimum of eight metres from the vehicle or machinery (to be safe stay at least a bus length away). • Treat all powerlines as if they are 'live'. • Call 000 and Ausgrid on 13 13 88 immediately. • Get a competent person to inspect all tyres, bearings and brakes before any continued use of the vehicle or machinery. <p>Outdoor activity:</p> <ul style="list-style-type: none"> • Look up to check the location and distance of powerlines before beginning any outdoor activity, such as recreational activity or work around your home. • Set up or build structures away from powerlines and easements. • Only use lights and extension cords outside that are designed for outdoor use. • It is dangerous for anyone to enter, tamper with or gain unauthorised access to electrical assets such as substations. • Climbing poles or substations or other risky behaviour around electricity isn't worth the risk. <p>Copper theft:</p> <ul style="list-style-type: none"> • Report copper theft or unauthorised access to Ausgrid electricity assets and substations to the Ausgrid security hotline on 02 9269 2266. • Assets that are left unsecured as a result of attempted break-ins pose a risk to the community.

Essential Energy works closely with the Civil Aviation Safety Authority (CASA) to educate aviators on overhead powerline safety in regional NSW. Essential Energy's programs and education sessions are run in the Upper Hunter and are available for Ausgrid network customers to attend.

1.6.2 Underground cable safety

Ausgrid has a large network of underground cables. For safety reasons, it is extremely important to check the location of these and other utility cables (including gas, water and sewerage) before starting to dig or excavate.

Dial Before You Dig (DBYD) is a community service organisation supported by Ausgrid. DBYD plans indicate the presence of electricity, water, gas and telecommunications cables and pipes to identify where it is safe to dig.

NSW legislation requires people who are planning to do excavation work to obtain copies of underground electricity cable plans through DBYD and to make sure that the plans are no more than 30 days old when excavation commences. This requirement applies to any excavation, including on private land, in connection with any development for which development consent is required.

Before commencing excavation, people must consult and comply with *Ausgrid's Network Standard NS156 (Working Near or Around Underground Cables)* which contains comprehensive information on the issues that can arise when excavating near underground cables. Our document called *Reading Ausgrid Plans* ensures workers engaged in excavation activities know how to read and interpret Ausgrid's plans. Access to these documents is provided with our DBYD response.

In addition, SafeWork NSW has published a *Work Near Underground Assets Guideline* to assist people in deciding appropriate measures to eliminate or control risks when working near underground assets.

If an electricity cable is damaged during excavation, Ausgrid must be notified immediately on **13 13 88**. The person who damaged the electricity cable is liable for the cost of repair and may also be liable for a penalty.

Anyone digging without the use of machinery or powered tools to a depth of less than 300mm must follow the precautions detailed below. This includes within easements on private property.

More information is available at www.ausgrid.com.au/DBYD

Target groups	Key messages
<ul style="list-style-type: none"> • Tradespeople • Outdoor workers • General community • Home renovators 	<ul style="list-style-type: none"> • Always dial 1100 before you dig and stay well clear of underground cables. • 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. • If the people performing the excavation works do not know how to read and interpret Ausgrid's plans, then the work must be directed by a person who knows how to read and interpret the plans. • If you require assistance when reading and interpreting plans please contact Ausgrid DBYD on (02) 4951 0899. • The DBYD service may not have details of private underground cables on individual properties. A licensed electrician should be contracted to identify and sketch private underground cables on private property¹.

¹ A sketch of the underground service/consumers mains route must be clearly marked on the inside of the meter enclosure or on the meter panel. Alternatively, a suitable sketch placed in a clear plastic envelope must be permanently attached either within the main switchboard enclosure or on the meter panel and be actioned prior to any digging or excavation. Refer to Clause 2.4.4.1 of the 'Service & Installation Rules of NSW'

1.6.3 Electricity safety for school students

Ausgrid works closely with schools to educate children about electricity and how it is generated and travels.

More information is available at www.ausgrid.com.au/safetyzone

Part of this education process includes highlighting the dangers of electricity both inside buildings and outdoors.

Target groups	Key messages
<ul style="list-style-type: none">• Children	<ul style="list-style-type: none">• Play in open spaces away from electricity poles, towers and powerlines.• Stay away from electricity substations and power equipment.• Never put a metal object like a knife into a toaster or power point.• Keep water away from electrical appliances and power cords.• If you see a dangerous situation, tell an adult.• Never play on or near electricity substations and power equipment. Always obey the warning signs and stay behind the fences.

1.6.4 Storm and major incident safety

Storms can cause considerable damage to buildings, trees and infrastructure, creating dangerous conditions and situations. Ausgrid has identified a list of actions to be undertaken before, during and after a storm.

More information is available at www.ausgrid.com.au/stormsafety

Target groups	Key messages
<ul style="list-style-type: none">• General community	<p>Be prepared for a storm by:</p> <ul style="list-style-type: none">• Tidying up loose items and trimming trees, but do not attempt to trim trees near powerlines.• Keeping a battery-operated torch and radio handy with spare batteries nearby.• Keeping your house weatherproof. Always replace broken roof tiles, keep gutters clean and fix leaks to ensure water cannot access electrical systems or appliances.• Knowing the location of your mains switch or switches that turn off the electricity supply <p>During a storm:</p> <ul style="list-style-type: none">• Stay away from fallen powerlines and service mains or anything touching them.• Report any fallen powerlines or service mains, trees or branches in contact with powerlines, fires or property damage to Ausgrid as soon as possible.• Play it safe by unplugging sensitive appliances such as computers and televisions. <p>After a storm:</p> <ul style="list-style-type: none">• Stay away from powerlines, service mains and any debris that may have come into contact with them.• It is recommended that you keep an eight-metre distance from any fallen powerlines and any items such as trees that may have come into contact with the live wires.• Get appliances checked by a licenced electrician before you plug them back in.

1.6.5 Safety around fallen powerlines

Powerlines can be damaged by trees, flying debris during high winds, lightning strikes, car accidents, vandalism, fires, and birds or other animals. Fallen powerlines are very dangerous.

More information is available at www.ausgrid.com.au/fallenpowerlines

Target groups	Key messages
<ul style="list-style-type: none"> General community 	<ul style="list-style-type: none"> Stay away from fallen powerlines and any debris that may have come into contact with them. They may still be live. It is recommended that you keep an eight-metre distance from any fallen powerlines or any items such as trees, which may have come into contact with the live wires. Always assume fallen powerlines are live. You do not have to touch a “live” object to get an electric shock; simply approaching a fallen powerline puts you at risk.

1.6.6 Bushfire risk

Overhead powerlines can clash together or be brought down by strong winds, falling trees and branches. Poles and fittings such as cross-arms can fail due to these reasons or through wood rot, rust or other deterioration over time. This can create a serious safety and bushfire risk.

Ausgrid has responsibility for building and maintaining the electricity network in the street and supplying power to the connection point on private properties. Property owners are responsible for the electrical assets on their property beyond this connection point, including all private power poles, powerlines and pole-top fittings.

It is the property owner’s responsibility to ensure that private poles and powerlines are properly maintained and do not pose a bushfire or safety risk. Defects can arise from deteriorated or overloaded wires, damaged poles and fittings or trees growing too close to powerlines.

Ausgrid has a program for inspection of privately owned poles and overhead powerlines in bushfire prone areas to check for potential bushfire hazards. We also provide information to help our customers meet their obligations to maintain safe private powerlines.

The information includes defect notifications and details on how best to keep private overhead powerlines free of vegetation. It outlines the obligations customers have to maintain their private poles and powerlines. Ausgrid expects this to include arranging an annual inspection before the start of each bushfire season to check for defects.

More information is available at www.ausgrid.com.au/bushfires and www.ausgrid.com.au/privatepoles

Target groups	Key messages
<ul style="list-style-type: none"> Private Pole Owners 	<ul style="list-style-type: none"> Private pole owners are responsible for the safe operation and maintenance of their electrical installation. Ausgrid expects customers in bushfire-prone areas to arrange an annual inspection of their private poles to check for bushfire hazards – this should always be done by a qualified contractor. Powerlines that clash in high winds can spark and cause bushfires. If one wire hangs lower than others or wires are slack they can also clash and lead to bushfires. If the insulation is missing or damaged the exposed wire may be live. Contact with this could be fatal and vegetation touching the wire in this area is more likely to start a fire. Trees or vegetation too close to powerlines may cause fires or other safety risks such as fallen live wires². All overhanging limbs and branches should also be removed in bushfire-prone areas. Tree trimming near powerlines must only be done by an authorised tree trimmer. Termites, wood rot or rust can cause serious structural damage to your private poles and fittings. All termite-infested poles and fittings must be treated by a registered pest controller.

² Trees need to be trimmed in accordance with the NSW industry Guideline for Managing Vegetation Near Powerlines, ISSC3.

Target groups	Key messages
	<ul style="list-style-type: none"> Unsafe poles and fittings must be replaced by a licensed electrical contractor.

1.6.7 Graffiti on electrical infrastructure

Vandalism of electrical infrastructure can pose a risk to both the perpetrator and the general public. Ausgrid works to build awareness of the risk involved with vandalism attacks on electricity infrastructure, with cleaning graffiti off streetside electrical equipment, and how to report graffiti on electrical infrastructure.

More information is available at www.ausgrid.com.au/graffitiremoval

Target groups	Key messages
<ul style="list-style-type: none"> General community Young males 	<ul style="list-style-type: none"> It is dangerous to graffiti or tag electrical equipment, it's not worth the risk. It is dangerous to remove graffiti on substations and other electrical equipment such as pillar boxes, kiosk subs, etc. Report graffiti on electrical equipment via Ausgrid's online reporting tool or by calling 13 13 65.

1.6.8 Electrical hazard awareness for emergency personnel

Ausgrid works with key stakeholders in the Emergency Services area to build awareness of the risk associated with electricity and the electricity network during emergency incidents through emergency services training resources.

These include storms, floods, bushfires, property fires and car crashes

Target groups	Key messages
<ul style="list-style-type: none"> NSW Fire Service NSW Police Service NSW Rural Fire Service NSW Ambulance Service State Emergency Service 	<ul style="list-style-type: none"> Always assume powerlines are live. Always undertake a hazard assessment before commencing emergency procedures. Contact your control room in electrical emergencies and stress the urgency of the situation. Keep the area clear and stay at least eight metres away from fallen powerlines. Wait for the OK from the electricity distributor before attempting rescue.

1.7 Communication channels

To communicate our safety message to the public (and 'at risk' target groups), we use a number of communication tools and media including TV, radio and print advertisements, partnerships, education kits, personal presentations, direct mail-outs, printed material and digital channels such as our website and social media accounts.

The specific channel selected is based on an analysis of the 'at risk' target group and the safety message being communicated.

1.8 Evaluation

Ausgrid evaluates the programs under the PESAP and reports on this in the annual Electricity Network Performance Report. The Electricity Network Performance Report can be found on Ausgrid's website at ausgrid.com.au. The programs are evaluated against the objectives of the PESAP, including the number of serious electrical network incidents involving the public on the network and the effectiveness in reaching 'at risk' target groups.



Correspondence

All correspondence in relation to
this document should be directed to:

Manager Network Risk & Planning
Ausgrid
GPO Box 4009
SYDNEY NSW 2001
Telephone: 131 365
Facsimile: (02) 9394 6546

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