

# Tree Safety Management Plan

September 2023



## Document History

Issue No.	Date	Summary of Changes
1	April 2002	Initial Issue
2	Dec 2010	2 <sup>nd</sup> edition
3	May 2015	3 <sup>rd</sup> edition
4	Dec 2015	4 <sup>th</sup> edition
5	July 2020	Implementation of <a href="#">NS179</a> following <a href="#">ISSC3</a> 2016 revision. Implementation of recommendations from Stakeholder engagement sessions. Revised requirements for the implementation of the policy regarding private and shared <i>powerlines</i> .
6	July 2022	Section 6.3 to clarify vegetation maintenance responsibility around street lighting assets. Section 4.9 Waste updated to include private vegetation and storm events.
7	Sept 2023	Section 5.2 was added to clarify what should be planted near Ausgrid underground assets

## 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This plan was first introduced in 2002 and will continue to be in effect until it is withdrawn. This plan will undergo regular review in accordance with the [Electricity Supply \(Safety and Network Management\) Regulation 2014 \(NSW\)](#). This plan will be systematically reviewed against legislation and regulations applicable to distribution and transmission network service providers, industry standards including [AS 5577-2013](#), 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 [Electricity Supply \(Safety and Network Management\) Regulation 2014 \(NSW\)](#), this plan will be made available to all stakeholders who are likely to be involved in its implementation.

The Tree Safety Management Plan is available on Ausgrid's website ([www.ausgrid.com.au](http://www.ausgrid.com.au)). Printed copies of this plan can be obtained from Ausgrid's principal office – 24-28 Campbell Street, Sydney NSW 2000.

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

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SYDNEY NSW 2001  
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# Introduction to Ausgrid's Tree Safety Management Plan

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Ausgrid's Tree Safety Management Plan outlines our approach to *vegetation* management near Ausgrid's *Network*. The plan will operate as a Tree Management Plan under the [Electricity Supply \(Safety and Network Management\) Regulation 2014 \(NSW\)](#). This plan details *vegetation* management safety requirements and has been prepared in consideration of community and stakeholder feedback, relevant legislation and industry guidelines. It will help Ausgrid enhance our *vegetation* management practices, inform the community about what Ausgrid does, why Ausgrid does it and to provide the basis for community input. By implementing this plan, Ausgrid will better:

- keep our staff, customers and community safe and minimise the possibility of accidental electrocution;
- protect our surrounding environment by minimising environmental harm, including minimising damage or destruction of *vegetation*;
- reduce the risk of fires caused by the electricity *Network*;
- minimise impact on community *trees* and other *vegetation* assets;
- work with the community to maximise any potential benefits around *vegetation* management; and
- prevent destruction, damage or interference with Ausgrid's *Network* and in turn reduce the risk of power interruptions to the community.

***Our aim is to minimise the impacts of our vegetation management activities on all areas of the environment by implementing appropriate management practices. Ausgrid's primary drivers for vegetation management are public safety and the safe maintenance and operation of Ausgrid's Network.***

The plan seeks to provide a comprehensive overview of Ausgrid's *vegetation* management policies and practices. It is not intended to fully detail Ausgrid's *vegetation* management procedures and contractual arrangements. The plan covers areas such as:

- why we have a plan, to whom and where it applies, and when it will be implemented;
- how you can have your say;
- raising community awareness;
- use of Contractors;
- *emergencies*;
- environmental issues;
- our approach to trimming and removal;
- alternatives to trimming or removal;
- safety;
- responsibilities;
- notification of upcoming works;
- auditing;
- planting guidelines; and
- costs.

Across Ausgrid's *Network*, there are various organisations and individuals with *vegetation* management responsibilities, in addition to Ausgrid's own responsibilities. These include *Councils*, landowners (both public and private) and other land *occupiers*. This plan sets out the responsibilities of the various groups and describes how Ausgrid plans to interact with them. While the plan applies directly to Ausgrid, it also offers guidance to the other groups.

## Ausgrid's Commitment to Safety

Ausgrid is committed to upholding the safe operation of its *Network* and providing a reliable and safe supply of electricity to all customers. It gives the highest priority to safety issues, including *Network* safety and security, environmental, workplace and public safety, *bushfire* risk and the safety of customer installations connected to the Ausgrid *Network*.

Subject always to its paramount commitment to safety, Ausgrid's *Network* planning objective is to comply with the many 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.

## Consultation & Feedback

Ausgrid appreciates the important role *vegetation* plays in our communities and the value placed on the visual amenity, aesthetics, appearance and impact on local streetscapes. The review and publication process in the drafting of this Plan provided many opportunities for consultation, inviting comment and feedback from key stakeholders. Ausgrid worked closely with these stakeholders, including the relevant *Council* or *Councils* for the Local Government Areas (LGAs) in which we operate, along with the residents and local community groups and peak industry bodies.

This ongoing communication includes:

- direct consultation and planning with *Councils* and peak industry bodies;
- written notice to the relevant Ausgrid customers when *vegetation* management work is planned on their private property. This includes private *trees* that need to be trimmed where Ausgrid does not need to enter the property (trimming a private *tree* over public airspace);
- making the plan available to the general public via the Ausgrid website; and
- annual *bushfire* inspections and preparedness.

We aim to actively seek stakeholder feedback, individually and from *Councils*, so that specific stakeholder and broader community concerns can be considered in our decisions and that plans may be changed where appropriate. This plan will be reviewed periodically, particularly where there are significant changes to factors such as legislation, policy, industry practice, standards and responsibilities.

Feedback on this plan can be provided at any time and will be considered during times of periodic reviews. Written submissions should be addressed to:

Head of Asset Risk & Performance  
Ausgrid  
GPO Box 4009  
SYDNEY NSW 2001  
General enquiries may be made by calling 13 13 65.

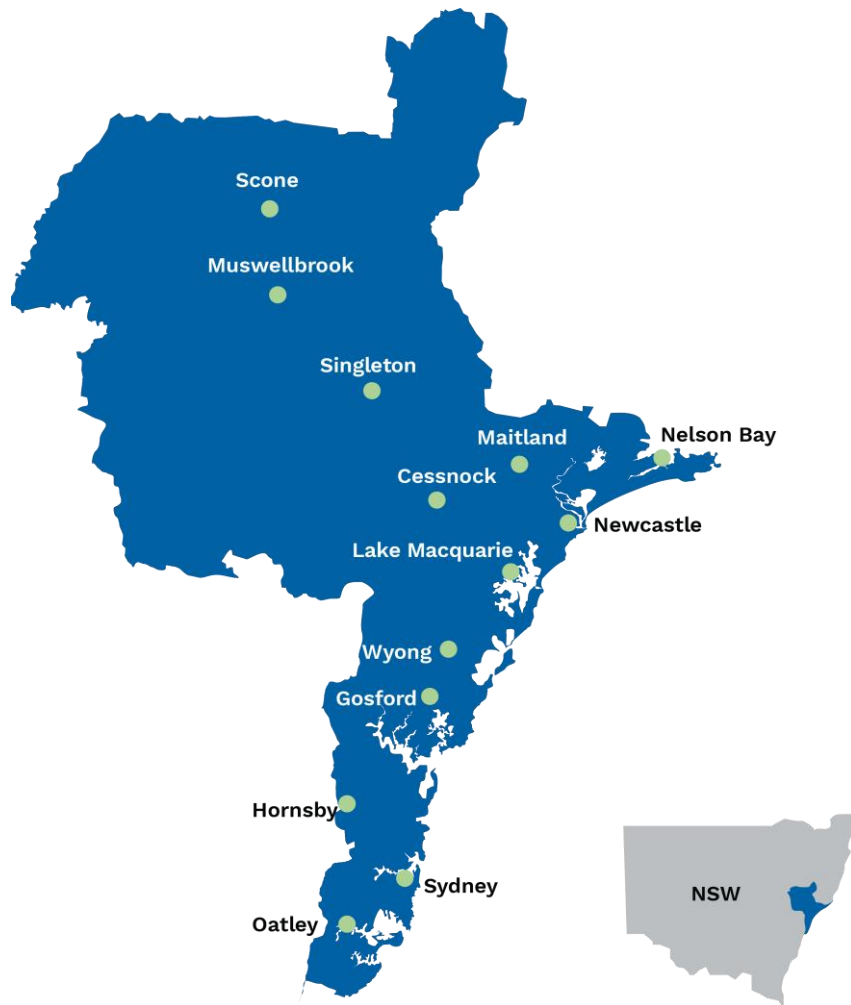
Further to talking to us, you can also contact the Energy & Water Ombudsman NSW (EWON). EWON provides a free, fair and independent advice service for all electricity and gas customers in New South Wales. You can contact EWON on 1800 246 545 or online at [www.ewon.com.au](http://www.ewon.com.au).

## About Ausgrid and our Network

Ausgrid operates one of the largest electricity *Networks* in Australia (ranked by size of asset base) with more than 100 years' experience in delivering a safe and reliable electricity supply.

Ausgrid services a community of more than four million people with a broad-ranging customer base covering rural, urban, residential and commercial customers, including mining, manufacturing and agricultural industries. Our distribution area (Figure 1) covers an area of 22,275 square kilometres and includes some of the most densely populated areas of NSW.

Figure 1: Ausgrid's distribution area



Ausgrid operates a *Network* which is comprised of:

- a system of 33kV, 66kV and 132kV assets;
- substations which are connected to these lines;
- a *high voltage (HV)* distribution system of predominantly 11kV, with some 5kV, 22kV and 33kV and 12.7kV Single Wire Earth Return assets;
- a low voltage (LV) distribution system of 400V assets (230V single phase); and
- communication cables.

These *Network* elements in combination are referred to throughout this plan as “the *Network*”. Ausgrid’s *Network* is planned in accordance with the National Electricity Rules and the requirements of the Ministerial imposed licence conditions for the Ausgrid Operator Partnership to operate a distribution system (effective from 1 December 2016 and as varied since).

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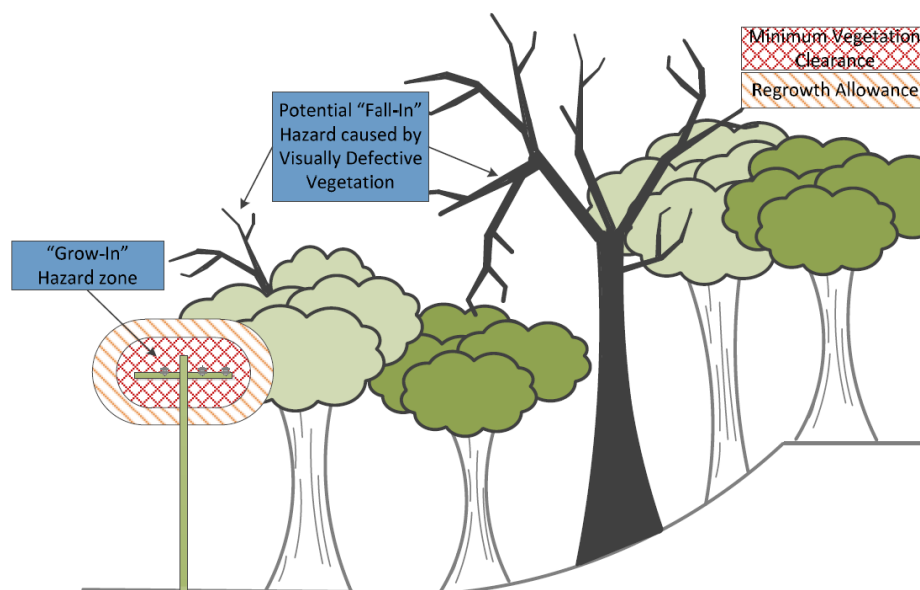
# 1 Our Approach to Vegetation Management

Ausgrid trims *vegetation* around the electricity *Network* to keep the community and our staff safe, while allowing us to continue providing a reliable electricity supply to our customers. Ausgrid complies with the various industry codes of practice relating to *Network* safety and *vegetation* management. As a licensed electricity distributor, our Electricity Network Safety Management System<sup>1</sup> requires *vegetation* to be managed in accordance with Ausgrid's Network Standard NS179 Vegetation Management (NS179).

NS179 specifies that all *vegetation* associated with Ausgrid's *Network* Assets is to be managed in accordance with the Industry Safety Steering Committee 2016 Guide for the Management of Vegetation in the Vicinity of Electricity Assets (ISSC3). NS179 requires the *Minimum Vegetation Clearances* stipulated in ISSC3 to be applied by default, except in particular, well defined, situations where alternative clearances may be applied. Generally, the requirements specified in NS179 are supplementary to those in ISSC3 or clarify the requirements of ISSC3 as they specifically relate to Ausgrid.

As part of Ausgrid's *vegetation* management program we also identify, assess and maintain *Fall-in Vegetation Hazards (Hazard Trees)*, *vegetation* that sits outside of the *Minimum Vegetation Clearances* but that poses a risk to the *Network*.

**Figure 2: Vegetation Management Around Ausgrid's Network (source ISSC3 – 2016)**



Through Ausgrid's ongoing commitment to improve *vegetation* management and following feedback from the community and other stakeholders, we have reviewed some of our key procedures, policies and practices. As part of this review, NS179 was revised in 2020.

Ausgrid is currently working with *Councils* to identify and manage large *trees* impacting the safety of the *Network*. Generally, Ausgrid aims to not remove very large limbs (provided they are healthy and not an immediate risk) along with minimising trimming on heritage registered or important *trees* (identified by *Council*) within the *Minimum Vegetation Clearances*. In these instances, individual assessments will be made in accordance with Ausgrid's Network Standard and we will communicate with *Council*.

<sup>1</sup> An Electricity Network Safety Management System, in accordance with Australian Standard AS 5577-2013 – Electricity Network Safety Management Systems, is a requirement of the Electricity Supply (Safety & Network Management) Regulation 2014 (NSW). Ausgrid's Electricity Network Safety Management System has replaced Ausgrid's previous Network Management Plan.



Many factors influence the development of our *vegetation* management Network Standards, such as:

- safety;
- *Network* reliability;
- *bushfire* prevention
- regulatory requirements;
- streetscapes;
- access to *Network* assets;
- *vegetation* management options;
- *tree* trimming and removal;
- *Network* configuration;
- our environment and community;
- sustainability;
- planting; and
- costs.

As part of our approach, appropriate consideration of these factors is carried out prior to identifying the preferred *vegetation* management option.

Ausgrid's *vegetation* management program is designed around arboriculture, environmental and safety standards. The trimming techniques used by Ausgrid generally follow AS 4373 - Pruning of Amenity Trees and are intended to remove the minimum amount of *vegetation* necessary to achieve *Minimum Vegetation Clearances* whilst preserving the health and safety of the tree.

Ausgrid engages *vegetation* management Contractors whose work is split across three regions, North, Central and South, to manage *vegetation*. Contractors have trimming cycles between one to two years, depending upon factors such as rate of *regrowth*, possible fire risk, climate and the type of *vegetation*.

Ausgrid's *vegetation* management also includes works to provide safe access to Ausgrid's *Network* (including underground cables), prevent structural damage and safety risks at Ausgrid premises, prevent *unauthorised* access to Ausgrid's *Network* and ensure safety signage remains visible.

## 2 Safety & Responsibilities

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Maintaining safety around Ausgrid's *Network* is one of our key priorities. Keeping *vegetation* (particularly *tree* branches) clear of *powerlines*, substations and associated infrastructure like waterway crossing signs and street lights helps to keep the community safe and prevents damage to property. This section outlines the dangers associated with *vegetation* near Ausgrid's *Network* and defines the safety responsibilities of Ausgrid and others who plant and maintain *vegetation*.

### 2.1 Keeping the Community Safe

Every year storms and *bushfires* affect people and their properties in New South Wales. Due to the inherent risks of live electricity, safety must always be the first priority when considering the clearance between *vegetation* and Ausgrid's *Network*.

**Ausgrid takes this obligation to the community very seriously.**

To keep the community safe, the *Minimum Vegetation Clearances* around Ausgrid's *Network* need to be maintained. If branches are within the *Clearing Requirement*, they are trimmed back to the nearest growth point or branch collar to protect the health of the *tree* and prevent poorly attached *regrowth* that would create future safety hazards. Maintaining these clearances around Ausgrid's *Network* is one of our key priorities and responsibilities to our customers and the community.

Some of the dangers of *vegetation* near Ausgrid's *Network* include:

- falling branches bringing live wires to the ground;
- possible ignition of fires and *bushfires*;
- branches pushing live *overhead* wires together, causing the wires to short out, burn through and fall to the ground. This is a particular issue during times of high wind or storms;
- accidental electrocution from *unauthorised* access to live wires or equipment;
- electrical injury from touching *vegetation* in contact with *powerlines*, particularly *high voltage powerlines*;
- electrical injury if a boat mast or floating crane comes too close or touches *overhead powerlines* crossing a navigable waterway where *vegetation* growth has obscured the warning signage; and
- *unauthorised* access to Ausgrid's *Network*.

**Ausgrid sees this as a shared responsibility. We ask you in the community to take responsibility for your trees and vegetation along with your safety and behaviour.**

### 2.2 What are Ausgrid's Safety Responsibilities?

Due to the safety risks outlined above, Ausgrid is required to manage *vegetation* so it does not grow into *Minimum Vegetation Clearances* near Ausgrid's *Network*. It is essential that *vegetation* is kept clear of Ausgrid's *Network*, so that we can deliver a safe and reliable electricity supply.

Ausgrid manages *vegetation* in accordance with [NS179](#), which requires the *Minimum Vegetation Clearances* stipulated in [ISSC3](#) to be applied by default, except in well defined situations where alternative clearances may be applied.

It should be noted that [ISSC3](#) specifies that *vegetation* management work must only be performed by *accredited* persons working in accordance with Ausgrid's [Electrical Safety Rules](#) when *vegetation* is being trimmed near Ausgrid's *Network*.

In addition, Ausgrid considers *bushfire* risk management<sup>2</sup> to be of critical importance.

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<sup>2</sup> Ausgrid's Bushfire Risk Management Plan is a requirement of the [Electricity Supply \(Safety & Network Management\) Regulation 2014 \(NSW\)](#) and is part of Ausgrid's Electricity Network Safety Management System in accordance with [AS 5577-2013](#) which provides a national framework for the harmonisation of energy safety systems, including the *maintenance* of network asset integrity, *vegetation* management and *bushfire* risk mitigation.

## 2.3 What Safety Responsibilities do Landowners and Occupiers have?

Landowners and *occupiers* are responsible for keeping private *overhead powerlines* free of *vegetation* and should ensure only appropriate *trees* are planted in areas that are close to *powerlines*. Landowners and *occupiers* are also responsible for ensuring that their *powerlines* and poles are inspected, tested and maintained at regular intervals – just as we are. Details of Ausgrid's policy regarding private and shared *overhead powerlines*, is covered in Section 3.2 of this document.

**Landowners and occupiers should monitor the Minimum Vegetation Clearance between vegetation and Ausgrid's Network to ensure the Minimum Vegetation Clearance is kept free of vegetation.**

Ausgrid should be contacted for advice if the *Minimum Vegetation Clearance* is compromised. Where the landowner or occupier is responsible for *vegetation* management, then they should either enter into an arrangement with Ausgrid or engage an *accredited* or *authorised* Contractor to carry out the work. The tree trimming guideline in Attachment 5 shows who is responsible for *vegetation* management in various situations. If landowners and *occupiers* with responsibility for *vegetation* management do not maintain the *Minimum Vegetation Clearances*, or do not permit Ausgrid to, Ausgrid may arrange for the work to be done and could charge the landowner or *occupier* for the costs, in accordance with the Electricity Supply Act 1995 (NSW).



Trimming or removal of *vegetation* near *powerlines* can be extremely dangerous. Any *tree* trimming performed within three metres of Ausgrid *powerlines* must only be done by workers *accredited* under the WorkCover 'Code of Practice – Work Near Overhead Power Lines' and the work must be carried out according to the Code of Practice. *Tree* trimming within the *No Go Zone* (as defined in the Code of Practice) must only be done at the direction of Ausgrid, and *vegetation* management workers must not enter the *No Go Zone* at any time unless they are specifically *authorised* by Ausgrid.

Over recent years Ausgrid has worked closely with some *Councils* and our *vegetation* Contractors to trial customer-funded *vegetation* management works within the *No Go Zone*. Following the success of these trials Ausgrid has received approval from the Department of Planning, Industry and Environment, NSW to extend this across the *Network* area for a further 12 months. Working with *Councils* during the *No Go Zone* trial demonstrated:

- cost savings for all parties;
- reduced administrative burden;
- reduced timeframe for works completion;
- improved customer service; and
- no compromise to safety.

**Should you require work within the No Go Zone, or if you have any queries about vegetation management near powerlines or a request for tree trimming, please contact Ausgrid.**

[www.ausgrid.com.au/In-your-community/Our-services/Tree-trimming](http://www.ausgrid.com.au/In-your-community/Our-services/Tree-trimming)

Or

Call us on [13 13 65](tel:131365).

## 2.4 What Safety Responsibilities do Vegetation Management Workers have?

*Vegetation* management workers must be appropriately *accredited* and/or *authorised* to carry out *vegetation* management work where the *vegetation*, the workers, or their equipment are within three metres of Ausgrid's *Network*.

While carrying out *vegetation* management, workers must not endanger themselves or members of the public and must comply with all relevant legislation, codes of practice and safety procedures. Workers must follow the requirements of Ausgrid's Electrical Safety Rules (for work carried out by or on behalf of Ausgrid), or the WorkCover Code of Practice – Work Near Overhead Power Lines (for work carried out by or on behalf of external parties).

## **2.5 What Safety Responsibilities do People Planting Vegetation near Ausgrid's Network or Private Poles and Overhead Powerlines have?**

*Trees* and other tall-growing *vegetation* should not be planted near Ausgrid's *Network* or private poles and *overhead powerlines*. Planting low-growing shrubs that will not result in the destruction of, damage to, or interference with the poles or *powerlines* is advised as it will minimise future hazards.

Where *trees* are planted which may impact our *Network* Ausgrid may recover the costs from the landowner or *occupier* for the ongoing *vegetation maintenance*.

Refer to Attachment 2 of this plan for guidance on what to plant near Ausgrid's *Network*.

## 3 Customer & Community Information

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This section describes Ausgrid's approach to improving the community's understanding of *vegetation* management issues, Ausgrid's expectations of landowners and *occupiers*, the steps Ausgrid takes regarding *vegetation* trimming and removal, our use of qualified Contractors and how Ausgrid will audit their work to maintain standards and enhance the process.

### 3.1 How Ausgrid Works to Improve Community Understanding of Vegetation Management Issues

Ausgrid will continue to promote safety and environmental issues relating to the planting and management of *vegetation* near Ausgrid's *Network* to increase customer and community understanding.

Ausgrid will:

- liaise with landowners and *occupiers*, state and local government bodies (regulators, *Councils*, fire control bodies) and other community-based environmental organisations such as Landcare and Bushcare groups, as appropriate;
- distribute information covering safety issues, clearances, trimming techniques and planting guidelines;
- provide information on Ausgrid's website [www.ausgrid.com.au](http://www.ausgrid.com.au); and
- listen and respond to community concerns and customer enquiries.

### 3.2 Ausgrid's Overhead Private and Shared Mains Policy

Ausgrid has developed a policy for the management of privately owned *overhead powerlines* whereby we proactively audit private *overhead powerlines* in *bushfire prone areas* and subsequently deal with any *powerlines* found to represent an unacceptably high risk, especially *bushfire* risk.

Ausgrid audits private *overhead powerlines* in *bushfire prone areas* in accordance with Network Standard NS262 Private Mains Bushfire Risk Inspection, and any *bushfire* risk issues identified, including *vegetation* clearance issues, are dealt with in accordance with Division 2A of the Electricity Supply Act 1995 (NSW).

Landowners and *occupiers* are responsible for keeping the *powerlines* they own free of *vegetation* and ensuring only appropriate *trees* are planted in areas that are close to *powerlines*. Landowners and *occupiers* are also responsible for ensuring that their *powerlines* and poles are inspected, tested and maintained at regular intervals – just as we are.

In cases where landowners and *occupiers* have not rectified safety defects that have been identified, it may be necessary for Ausgrid to disconnect these *powerlines*. This may include removing any *overhead* service line to the customer's installation. Even when a service has been disconnected, the landowner or *occupier* remains responsible for maintaining the customer installation in a safe condition.

### 3.3 Ausgrid's Expectations of Landowners and Occupiers

Landowners and *occupiers* are required to share the responsibility under this plan. This means upholding the correct location and planting of appropriate *tree* species and through the monitoring of *Minimum Vegetation Clearances* and making arrangements, where they are responsible, for timely *vegetation* management works, to be carried out by appropriately qualified and *accredited* workers. The tree trimming guideline in Attachment 5 shows who is responsible for vegetation management in various situations

### 3.4 What Steps will Ausgrid take Regarding Trimming and Removal?

Ausgrid's program focuses on trimming and maintaining *vegetation* where practicable, so we don't have to remove *trees* entirely. Some faster growing *trees*, or those that pose recurring safety issues may need to be removed, but that is a last resort. Ausgrid will seek to resolve *vegetation* management issues, particularly regarding trimming or removal of *vegetation*, directly and on a cooperative basis with the responsible landowner or *occupier*.

However, Ausgrid may carry out trimming or removal work if:

- it is considered necessary for safety, to prevent damage to Ausgrid's *Network* and to maintain electricity supply; and
- the responsible landowners or *occupiers* do not arrange for the work to be performed and/or grant permission for the work to be carried out. If this occurs the landowner or *occupier* may be responsible for the associated costs<sup>3</sup>.

### 3.5 Will Notification be Given Before Vegetation Management is Carried Out?

Ausgrid works closely with *Councils* and Contractors to issue notifications in accordance with our legal obligations and legislative requirements. Ausgrid or its Contractors will keep relevant *Councils* informed of their activities, work locations and nature of the work being carried out.

Ausgrid will provide notice to The Environment, Energy and Science (EES) Group (formerly the Office of Environment and Heritage (OEH)) for inspection, *maintenance* and *emergency* works on land reserved and acquired under the National Parks and Wildlife Act 1974 (NSW) (NPW lands) in accordance with any agreed procedures and protocols. Due to the nature of *emergency* works, notification to the EES may be carried out following work completion.

Ausgrid's *vegetation* management work requires the continual *maintenance* of *Minimum Vegetation Clearances* and does not involve planned work carried out to defined schedules within each *council* area, written notification to landowners and *occupiers* on and adjacent to any site where *vegetation* is to be trimmed is not required. Where any work is to be carried out that will substantially damage a tree, as defined by the Electricity Supply (Safety and Network Management) Regulation 2014 (NSW). Under Part 5 - Tree Preservation, Ausgrid will follow the notification process required under the Electricity Supply Act 1995 (NSW). This Clause does not impact on the requirements for notification of electrical work on private property.

By law, a *tree* situated on any premises that could destroy, damage or interfere with Ausgrid's *Network*, or could make Ausgrid's *Network* become a potential cause of *bushfire* or a potential risk to public safety, may be trimmed or removed.

On land where Ausgrid does not have an *easement*<sup>4</sup> or ownership, a written notice to the owner or *occupier* of the premises requiring the owner to trim or remove the *tree* may be made. If the work is not carried out as required by the notice, Ausgrid may carry out the work itself. In an *emergency*, Ausgrid, at our own expense, may trim or remove the *tree* our self.

### 3.6 What will Ausgrid do in an Emergency?

*Trees* and other *vegetation* may need to be trimmed or removed under *emergency* conditions where the *trees* or *vegetation* could destroy, damage or interfere with Ausgrid's *Network* or could make Ausgrid's *Network* become a potential cause of *bushfire* or risk to public safety.

In such an *emergency*, *trees* and other *vegetation* may be trimmed or removed without notice.

### 3.7 Ausgrid's Contractor Expertise

*Vegetation* management Contractors working for us must be able to meet a range of requirements, including appropriate certifications, expertise and experience, as well as health, safety and environmental management methods. Contract personnel receive arboriculture training in correct

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<sup>3</sup> Under Section 48 of the Electricity Supply Act 1995 (NSW) Ausgrid can serve a notice on owners and *occupiers* (including local *Councils*) requiring landowners to trim or remove *trees* on their property where those *trees* could destroy, damage or interfere with the Ausgrid's *Network* or make Ausgrid's *Network* become a potential cause of *bushfire* or a potential risk to public safety. Ausgrid can also perform *vegetation* management where responsible landowners or *occupiers* do not carry out the work. Ausgrid is generally required to pay for works carried out on *trees* planted prior to the installation of Ausgrid's *Network* and *trees* which have propagated naturally.

<sup>4</sup> Including *easements* under existing use rights

trimming techniques, additional job-specific electrical safety training and awareness training in our environmental management practices.

**All vegetation management Contract personnel are required to successfully complete a Cert II in ESI – Powerline Vegetation Control and be approved by Ausgrid prior to being authorised to undertake trimming near Ausgrid's Network.**

**Contractors are required to employ staff suitably qualified with Arboriculture Australia to be available within the Contract area to oversee trimming activities and to maintain appropriate standards.**

Ausgrid is currently working closely with industry experts to develop a comprehensive training package for the identification of *hazard trees* underpinned by a national competency unit. The improved training and identification framework will further increase the ability for *vegetation* hazards to be identified and addressed, keeping the community and *Network* safe.

Ausgrid's *vegetation* management Contractors are also required to have in place an Environmental Management System and a Contract-specific Environmental Management Plan (EMP). The Contractors EMP must also comply with the requirements of NS174C Environmental Handbook for Construction and Maintenance.

The overall aim of Ausgrid's *vegetation* management program is to achieve and maintain the necessary *Minimum Vegetation Clearances* whilst taking into consideration, as far as is practicable, the natural habit of the *vegetation* in the interests of its long-term health.

### **3.8 What Checks are Undertaken on our Contractors?**

Ausgrid audits its Contractors on an ongoing basis to confirm appropriate work practices are being maintained and that all contractual and environmental requirements are being met. Contractors are provided with feedback from Ausgrid audits and this information will also be used to enhance this plan and Ausgrid's *vegetation* management system.

### **3.9 Does Ausgrid have In-house Expertise?**

Horticulturists and arborists are employed by Ausgrid to audit the work of Ausgrid's Contractors and provide advice to *Councils* and the community. This enables Ausgrid to give feedback and to provide timely, specialist advice.

## 4 Environment and Vegetation Management Principles

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This section looks at the range of potential environmental factors associated with Ausgrid's *vegetation* management activities along with how Ausgrid intends to manage them, including:

- environmental assessment, approvals licences and permits;
- *threatened species populations or communities*;
- noise and vibration;
- waste management;
- heritage status;
- erosion and sediment control;
- pollution control;
- noxious *weeds* and pathogens;
- visual impact; and
- Urban Heat Island Effect.

### 4.1 Background

Ausgrid maintains an Environmental Management System (EMS), certified to AS/NZS ISO 14001, which establishes a framework for managing Ausgrid's environmental issues and supports our environmental policy.

The EMS requires Ausgrid to identify the environmental issues relating to the activities we carry out and to use a risk assessment process to determine the significance of Ausgrid's impact. This system covers the environmental issues associated with Ausgrid's *vegetation* management activities.

***Ausgrid manages environmental issues in accordance with [NS174C - Environmental Handbook for Construction and Maintenance](#). The Handbook prescribes the minimum environmental controls for work carried out on Ausgrid's Network.***

Ausgrid aims to implement environmental best-practice while still taking into account other factors such as legislative requirements, community expectations and the use of the most appropriate, cost-effective measures.

In addition to the requirements outlined in this plan, Ausgrid or its Contractors will carry out all appropriate environmental assessments and obtain all necessary approvals, licences and permits associated with our *vegetation* management activities. The following sections provide a general overview of some of the most common environmental issues or factors that may arise.

### 4.2 Environmental Assessment, Approvals, Licences and Permits

Ausgrid or its Contractors will conduct an environmental assessment, where required, and obtain all necessary approvals, licences and permits.

Section 48 of the [Electricity Supply Act 1995 \(NSW\)](#) provides certain exemptions from obtaining local government permit approvals required by Tree Preservation Orders under a local environmental plan (LEP) and certain other environmental planning instruments. Where *trees* could destroy, damage or interfere with Ausgrid's electrical *Network*, or make Ausgrid's electrical *Network* become a potential source of a *bushfire* or risk to public safety, exemptions apply. These exemptions, however, do not apply to certain areas and *trees* subject to consent orders.

The State Environmental Planning Policy (Infrastructure) 2017 (NSW) defines *vegetation* management works as exempt development if those works are undertaken in accordance with this plan and if they meet certain conditions.

Regardless of the above exemptions, Ausgrid is still required to comply with requirements of other Acts which may necessitate assessments, approvals or permits. Examples include: the [National Parks and Wildlife Act 1974 \(NSW\)](#), [Biodiversity Conservation Act 2016 \(NSW\)](#) and the [Fisheries Management Act 1994 \(NSW\)](#).

Ausgrid has been granted a permit, under Part 7 of the [Fisheries Management Act 1994 \(NSW\)](#), which provides an exemption to Section 205 of that Act subject to Ausgrid meeting a number of specific



conditions. The permit allows Ausgrid employees or Contractors to undertake mangrove clearing works for maintaining the visibility of warning signs, *maintenance of access tracks* and clearing *powerlines* to maintain statutory clearances.

Ausgrid follows procedures agreed with EES for the inspection, *maintenance* and *emergency* works on land reserved and acquired under the [National Parks and Wildlife Act 1974 \(NSW\)](#). A list of some of the relevant legislation and environmental planning instruments is set out in Attachment 4 - Reference Documents.

### 4.3 Heritage

Ausgrid will always act to preserve natural and cultural heritage features including Aboriginal heritage objects and places, historic structures and relics, memorial gardens, parks, *tree* plantings and landscapes, including aquatic landscapes, in accordance with relevant statutory requirements such as those contained in the [Environmental Planning and Assessment Act 1979 \(NSW\)](#), the [Heritage Act 1977 \(NSW\)](#) and the [National Parks and Wildlife Act 1974 \(NSW\)](#).

**Works would stop immediately where heritage objects are suspected or identified.**

Significant, memorial and heritage *trees*, or *vegetation* in *protected areas* and marine environments, may require particular management to minimise potential dangers or damage. Alternatives to trimming, as described in Section 6, will be considered, but trimming may be necessary where other options are not feasible because of technical, economic or aesthetic considerations.

### 4.4 Native Vegetation

Ausgrid's goal is to protect and preserve native *vegetation* and in particular *threatened species*, *populations* and/or *communities*. Ausgrid will act in accordance with all relevant legislation including the [Environmental Planning and Assessment Act 1979 \(NSW\)](#), [National Parks & Wildlife Act 1974 \(NSW\)](#), [Local Land Services Act 2013 \(NSW\)](#), [Biodiversity Conservation Act 2016 \(NSW\)](#), [State Environmental Planning Policy \(Coastal Management\) 2018 \(NSW\)](#), [State Environmental Planning Policy \(Vegetation in Non-Rural Areas\) 2017 \(NSW\)](#) and the [Environment Protection and Biodiversity Conservation Act 1999 \(Commonwealth\)](#).

Ausgrid recognises that in some instances Ausgrid's *powerline* corridors, substations and depot sites can prove to be valuable ecological areas containing *threatened species*, *populations* or *communities* of flora and fauna.

### 4.5 Wildlife Habitat

Ausgrid will prevent or minimise disturbing wildlife habitat such as hollow bearing *trees* or bush rock. Where wildlife is detected and is likely to be impacted by the works, Ausgrid's Environmental Services group will be contacted to undertake an assessment.

Local wildlife rescue organisations will be contacted for the rescue or care of native wildlife where necessary.

### 4.6 Erosion and Sediment Control

Ausgrid will prevent or minimise erosion and sedimentation by limiting disturbance to low-growing species, vegetative ground covers and topsoil. Ausgrid will act in accordance with [NS174C Environmental Handbook for Construction and Maintenance](#).

Where it is considered that erosion may occur, the stumps and the root structures of trimmed *vegetation* will be retained where practicable.

Appropriate sedimentation and erosion control practices will be implemented on sites where soil has been exposed and there is the potential for erosion to occur.

### 4.7 Noise and Vibration

While undertaking *vegetation* management works Ausgrid considers the impacts of noise and vibration on the community. Every effort will be made to minimise any disturbance, while achieving the objectives of the works.

Due to the nature of *tree* trimming, it is generally not practicable to provide acoustic screening. For example, some of our work is done some distance off the ground and close to live *powerlines*, but work will be completed in a safe and timely manner at appropriate times in accordance with [NS174C Environmental Handbook for Construction and Maintenance](#).

#### 4.8 Pollution Control

Measures will be put in place to prevent pollution of waters. These measures are detailed in [NS174C Environmental Handbook for Construction and Maintenance](#).

This will include ensuring watercourses and water bodies are not polluted by materials such as rubbish, felled or cut *vegetation*, toilet waste, silt, fuel spillage, herbicide and herbicide containers. Refuelling operations or decanting of herbicides shall be conducted at least 30 metres away from watercourses with all appropriate protection methods in place.

Spillage of oil, fuels or chemicals is to be avoided, but where a spillage or leakage has occurred, the relevant Emergency Response Plan and [NS174C Environmental Handbook for Construction and Maintenance](#) shall be followed so that adequate control measures are implemented and the appropriate notifications are carried out.

#### 4.9 Waste Management

Where practicable all waste generated from Ausgrid's *vegetation* management works, unless it is from noxious *weeds*, will be mulched and reused.

Any mulch supplied to others is done so in accordance with a Risk Management Protocol prepared in accordance with the EPA's Mulch Order.

Waste must be disposed of offsite unless site specific requirements allow otherwise. Waste may only be left to decompose naturally onsite where the landowner or *occupier's* written permission has been obtained and it will not present a safety risk.

Where waste from noxious and environmental *weed* species is likely to self-seed, it will be removed to an EPA approved licensed landfill site or treated to prevent propagation. Waste requiring disposal must be appropriately classified prior to lawful disposal.

***Cut materials stockpiled on site following Ausgrid routine vegetation maintenance works will be removed within 48 hours.***

***During major storm events Ausgrid will prioritise the restoration of supply and removal of associated vegetation hazards, removal of consequent vegetation waste is the responsibility of the tree owner.***

Ausgrid will generally not remove *trees* or branches that are blown down or where a *tree* falls over from natural causes.

In certain situations, such as emergencies, Ausgrid may be required to trim or remove private vegetation that could destroy, damage or interfere with Ausgrid's *Network* or could make Ausgrid's *Network* become a potential cause of *bushfire* or risk to public safety. Responsibility of the associated vegetation waste is classified in accordance with Attachment 5.

#### 4.10 Noxious Weeds and Pathogens

Ausgrid's aim is to prevent or minimise the spread of noxious and environmental *weeds* and pathogens when carrying out *vegetation* management works. Areas which are particularly vulnerable to noxious *weeds* and pathogens include areas where *threatened species* are likely to be present, orchards, vineyards, undisturbed bushland, State forests and within or adjacent to *protected areas* such as National Parks and conservation areas.

Ausgrid will minimise the transport of *weed* materials and seeds by cleaning vehicles and equipment and removing *weed* material following activities in *weed* infested areas. Other methods may also be used to control the spread of *weeds*. These include digging and removal, selective use of herbicides, replanting and re-vegetating with low-growing locally indigenous plants, as well as creating ground cover with leaves and mulch.

Ausgrid will minimise the spread of pathogens in vulnerable areas by cleaning and disinfecting boots, personal items and all components of vehicles and equipment of soil and *vegetation*.

#### **4.11 Visual Impact**

Ausgrid recognises the importance of maintaining local aesthetics and minimising the visual impact of *tree* trimming.

The primary objective of Ausgrid's trimming program is to strike the appropriate balance between maintaining the necessary *Minimum Vegetation Clearances* and working with the natural habit of each *tree* in the interests of its long-term health where practicable. *Minimum Vegetation Clearances* and trimming are outlined further in Ausgrid's [NS179](#).

Ausgrid will endeavour to minimise the visual impact on the local area whilst upholding our obligation to safety of workers and the community and *Network* reliability.

Ausgrid and our *vegetation* Contractors work hard to get this balance right, but unfortunately it is not always practicable to achieve an aesthetically pleasing result, because of:

- the species of tree;
- the position of the *tree* i.e. the *tree* has either been planted in close proximity to Ausgrid's *Network*, or planted directly underneath; and/or
- the lack of *tree maintenance* – where *trees* have not been maintained suitably from a young age and they have grown unchecked near Ausgrid's *Network*, it may be necessary to remove large amounts of *vegetation* or assess the overall health of the *tree* and if necessary remove it.

#### **4.12 Urban Heat Island Effect (UHI)**

Urban heat is an issue for cities and Ausgrid recognises that this is a key challenge for New South Wales regions in balancing the demands of a growing urban population with the need to protect its unique natural environments. Working closely with *Councils*, Ausgrid also recognises individual Local Government Area's Urban Heat Island Effect (UHI) planning and commitments.

Urban heat is recognised by the Greater Sydney Commission through its draft District Plans, as well as NSW Environment, Energy and Science and the Australian Federal Government.

To learn more about the management of UHI in your area, please get in touch with your *Council*.

## 5 Planting Guidelines

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Ausgrid recognises the value of *trees* to local communities and encourages the planting of *trees* to enhance local streetscapes in accordance with the recommendations in this plan. Where planting is planned near Ausgrid's *Network*, Ausgrid recommends using suitable low-growing *vegetation*. Tall-growing species should be planted away from Ausgrid's *Network* to avoid safety problems and to enable the *tree* to grow to its mature height without the need for trimming.

This section covers issues relating to planting near Ausgrid's *Network* in *rural areas* and urban areas along with offering planting tips. It also provides information on suitable and unsuitable species.

Ausgrid appreciates that all street plantings need to be considered holistically. Ausgrid's recommended list identifies species of *trees* that will minimise the trimming of *vegetation* necessary to avoid encroachment of *Minimum Vegetation Clearances* near Ausgrid's *Network*.

***Your local Council has the overall responsibility to develop appropriate strategies for tree plantings in areas under its control or management.***

***Further advice on the planting of trees should be sought from the relevant Council website and specific Tree Management Plan.***

### 5.1 What Should be Planted Near the Overhead Network

#### 5.1.1 In Rural Areas?

Low-growing species can be planted near Ausgrid's *Network* where they will not present a risk to public safety, interfere with Ausgrid's *Network*, pose a *bushfire* hazard, or restrict access for *maintenance* or repairs. A list of potentially suitable species is shown in Attachment 2.

*Council* nurseries and some private nurseries often sell species native to the local area and can provide specific recommendations on low-growing species suited to local conditions.

Ausgrid recommends *Councils* and other landowners and *occupiers* plant tall species away from Ausgrid's *Network* to maintain both safety and access to Ausgrid's *Network* for routine *maintenance* and repairs.

If tall-growing *vegetation* is planted close to Ausgrid's *Network* the *Council* or other landowner or *occupier* may be responsible for any subsequent trimming or removal work and the associated costs, in accordance with the [Electricity Supply Act 1995 \(NSW\)](#).

Locations such as deep gullies are the preferred sites for groups such as LandCare, Bushcare and others, who undertake planting to connect habitats. This helps to ensure that planted *vegetation* will have minimal impact on Ausgrid's *Network*. If this is not practicable then connectivity of habitat should exclude tall-growing species near Ausgrid's *Network*.

#### 5.1.2 In Urban Areas?

We recommend only low-growing species are planted near or under Ausgrid's *Network*. Many *trees* are unsuitable for planting under or near Ausgrid's *Network* because they are likely to present a safety risk and there is insufficient room for the *tree* to grow. Taller *trees* can be planted nearby, provided that they will remain clear of Ausgrid's *Network* when fully grown.

***Please note that Council approval must be obtained before planting on streets and footpaths.***

On private property, only suitable low-growing species should be planted under or near Ausgrid's *Network*. A list of potentially suitable species is shown in Attachment 2.

*Council* nurseries and some private nurseries often sell species native to the local area and can provide specific recommendations on low-growing species suited to local conditions.

Ausgrid will consider including in the list additional low-growing species that may be suggested by *Councils* and other interested parties.

The planting of species which are not listed in Attachment 2 may be negotiated with individual *Councils* including situations where mature avenues of significance exist so that the new *trees* blend with the existing ones.

## 5.2 What Should be Planted Near the Underground Network?

*Vegetation* can have an impact on the operation, maintenance and future expansion of the underground network. Careful consideration must be given to the location and selection of suitable species planted near underground electricity assets.

Generally, Ausgrid does not recommend planting above or near the underground *network*, however where vegetation is being proposed within 2m of underground electricity assets, plant only ground cover or *shrubs* in accordance with [NS156 Working near or around underground cables](#) and tilling of the soil to a maximum depth of 250mm. Planting is not recommended within 2 metres of joint bays, surface installations, cable marker plates and posts, and within 3 metres of ground / kiosk substations. *Vegetation* must not restrict access to assets and should not be of a type that may spread across a site, be invasive or present a fire hazard.

No *trees* are recommended to be planted on top of or within the vicinity of underground assets. For planting trees near existing underground cable *easements*, consideration should be given to both the Structural Root Zone (*SRZ*) and Tree Protection Zone (*TPZ*) at maturity with respect to underground electricity assets. Both the *SRZ* and *TPZ* may be calculated using Ausgrid's [NS174C Environmental Handbook for Construction and Maintenance](#).

Ausgrid should be contacted to discuss and review proposals where the *SRZ* may overlap an underground cable *easement*. Additional controls may be required such as root barriers or restrictions on certain species. Arborist advice should be considered.

Removal of interfering *vegetation* may be required to maintain or repair underground electrical assets.

***Prior to carrying out any excavation work within cable easements and close to cable infrastructure, a Before You Dig Australia (BYDA) enquiry shall be carried out in accordance with the requirements of the Electricity Supply Act 1995 and associated Regulations.***

## 5.3 What Should You Consider Before Planting?

Ausgrid offers some simple advice to consider before planting:

- look up before planting to identify existing electricity assets;
- plant away from underground pits, pillar-boxes and kiosk transformers so roots don't become a problem;
- investigate whether underground services are present, including Ausgrid's underground power cables;
- contact the designated underground asset information provider for information on the location of cables and other underground infrastructure before digging, particularly on footpaths and streets;
- remember that underground services may also exist on private property – further information is available from Ausgrid's website ([www.ausgrid.com.au](http://www.ausgrid.com.au));
- consider how big the *tree* or other *vegetation* will grow and what impact it would have at full maturity;
- plant taller species furthest away from Ausgrid's *Network* – the rule of thumb is to plant a *tree* no closer than its potential mature height to the nearest point on Ausgrid's *Network* e.g. if the potential mature height of the *tree* is 10 metres, then do not plant the *tree* any closer than 10 metres to the nearest point on Ausgrid's *Network*;
- obtain *Council* approval before planting on streets and footpaths;
- remember that access to Ausgrid's *Network* will be required for *maintenance* and repairs in the future;
- give preference to planting species native to the local area which are often available from *Council* nurseries and some private nurseries;

- plant species that will not invade the surrounding environment;
- consider the requirements of other utility and service providers, e.g. Transport for NSW traffic clear sight distances or interference with telecommunications cables; and
- look at the species lists shown in Attachment 2 for guidance on what to plant near Ausgrid's *Network*, including *aerial bundled cables (ABC)* – local nurseries can offer specific recommendations on low-growing species suited to local conditions.

## 6 Network Options and Vegetation Management Methods

As part of Ausgrid's ongoing commitment to minimise the extent of *tree* trimming, several longer-term solutions are considered as part of the planning phase for future works. For example:

- Ausgrid requires that underground electricity is installed in all new urban residential developments;
- *aerial bundled cable (ABC)* which has a smaller *Minimum Vegetation Clearance* than standard bare *overhead* wires, is considered for new and relocated *low voltage overhead* wiring;
- replacing older *overhead* services with *ABC* style cables, removal of street light cables and enabling *overhead* services to be connected mid *span* on the mains cable (where practicable) to reduce impact on *trees*;
- where deemed practicable and efficient new *high voltage* wires are placed underground; and
- in some areas, *overhead* wires are placed underground in conjunction with building developments.

This section describes these *Network* options, the indicative costs and Ausgrid's approach to *vegetation* trimming, including the relevant *Minimum Vegetation Clearances*, *vegetation* removal and replacement.

### 6.1 What Network Options are Available as Alternatives to Trimming?

**To minimise tree trimming, Ausgrid is happy to pursue longer-term Network options with Councils or other landowners and occupiers.**

#### 6.1.1 Low Voltage Aerial Bundled Cable (ABC)

By installing *aerial bundled cables (ABC)* the *Minimum Vegetation Clearances* can be significantly reduced between *trees* and the conductors, improving the amenity of the streetscape without compromising safety. Since 2000, Ausgrid has installed more than 1,500km of *low voltage ABC*.

*Councils* are advised of programmed *tree* trimming works where extensive trimming is needed to obtain *Minimum Vegetation Clearances*. This allows *Councils* to consider replacing bare *low voltage overhead* with *ABC* in those locations or investigate whether the *trees* should be removed and replaced, in consultation with residents.

Where it is agreed that *ABC* will be installed, and where it is safe to do so the *Minimum Vegetation Clearances* can be reduced to 10 centimetres.

**Figure 3 – LV ABC Clearances**



### 6.1.2 Underground Cables

Underground electricity is installed in all new urban residential developments. Where deemed practicable and efficient new *high voltage* wires are also placed underground. In some areas, *overhead* wires are placed underground in conjunction with building developments.

Vegetation planted near underground cables should be carefully considered to ensure that it does not interfere with Ausgrid's *Network*. In some cases, *vegetation* will need to be removed if interference is assessed to be likely or if Ausgrid is required to access the cables.

### 6.1.3 Comparative Costs

A summary of the comparative costs is shown in Table 1 below.

Table 1: Comparative costs for alternative Network options – Low Voltage Overhead

Comparative Costs for Low Voltage Overhead in an Urban Area		
Options	Indicative Cost*	Comments
Trimming, if <i>overhead</i> is retained.	\$70-\$250 per <i>span</i> per year	The most economic community outcome provided environmental issues are suitably managed.
Replacing bare <i>overhead</i> wires with <i>ABC</i> .	\$4,000 to \$7,000 per <i>span</i> + ongoing trimming costs.	Trimming to reduced clearances will still be required.
Replacing <i>overhead</i> wiring with underground cables.	\$57,000 to \$106,000 per <i>span</i> . (Typically 8 customers per <i>span</i> at \$7,125 to \$13,250 per customer.)	Ausgrid considers all requests for undergrounding on a case by case basis in accordance with Ausgrid's <a href="#">Network Asset Relocation and Undergrounding Policy Guidelines</a> .
Relocating <i>powerlines</i> to avoid <i>vegetation</i> or <i>vegetation</i> removal.	Need to be costed on a case by case basis. Could be done on a "beneficiary pays" basis.	Each job is unique. Costs need to be assessed on a range of issues – contestable or non-contestable, technical, social and environmental.

\*Indicative cost only which could vary significantly depending on the particular situation.

Where *Councils* and other landowners and *occupiers* decide to pursue other *Network* options to minimise *tree* trimming, Ausgrid should be approached to provide advice and specifications relating to the proposed works.

## 6.2 What are the Relevant Minimum Vegetation Clearances?

*Minimum Vegetation Clearances* are based on industry standards recognised by the industry regulator – the Independent Pricing and Regulatory Tribunal NSW (IPART). The industry accepted clearances are defined by [ISSC3](#). The *Minimum Vegetation Clearances* depend on construction type (i.e. bare or insulated), *span* length, voltage and *bushfire* risk. In *bushfire prone areas*, an additional 0.5 metre clearance is required for all bare *overhead* wires. Refer to [ISSC3](#) for full details.

Ausgrid applies the [ISSC3](#) *Minimum Vegetation Clearances* as default, however [ISSC3](#) also allows alternative clearances to be applied provided the principles and considerations outlined in the Guide are taken into account and they do not establish a lesser public safety and risk outcome than would be achieved by adhering to the predefined *Minimum Vegetation Clearances*. Ausgrid has determined that certain alternative clearances may be applied as exceptions to the [ISSC3](#) default clearances.

The exceptions allow reduced *Minimum Vegetation Clearances* and *Regrowth Allowances* in certain situations, provided strict criteria are demonstrated to apply. The exceptions apply to *low voltage* bare and *ABC overhead* wires and *high voltage ABC* wires, in non-*bushfire* prone land areas only. Refer to [NS179](#) for further details including the criteria which must apply before the exceptions can be implemented.

Ausgrid's *vegetation* management program is designed around arboricultural, environmental and safety standards. The trimming techniques used by Ausgrid and our Contractors generally follow [AS 4373 -](#)



Pruning of Amenity Trees and are intended to remove the minimum amount of *vegetation* necessary to achieve *Minimum Vegetation Clearances* whilst preserving the health and safety of the tree.

Once the *Minimum Vegetation Clearances* plus an allowance for *regrowth* is determined for each branch, it is then trimmed at the nearest collar (or growth point) outside the *Clearing Requirement*. This is a requirement under AS 4373 as it protects *trees* from infection or disease and reduces the development of weakly attached growth that can result from trimming *trees* mid-branch. See Figure 4 below.

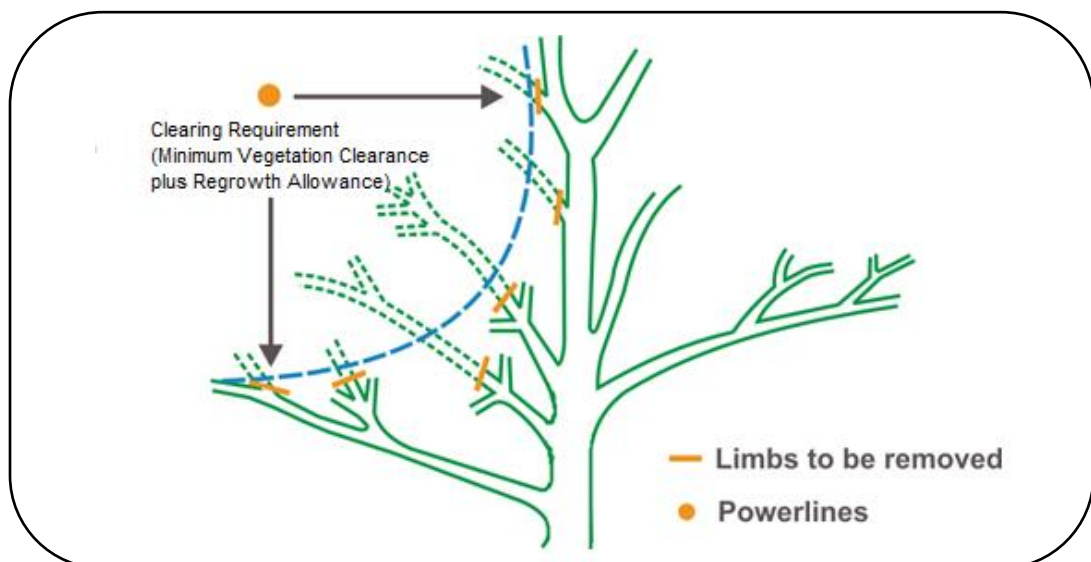
Current arboricultural techniques discourage the use of 'flat-topping'. 'Flat-topping' (or 'coppicing' as referred to in AS 4373) leads to large quantities of weakly attached growth (epicormic growth) threatening both *tree* health and public safety. However, in certain environmentally sensitive areas, Ausgrid may agree to undertake 'flat-topping' at the request of the landowner or *occupier*.

'Unbalanced' trimming of *trees* leaving only one side with substantial limbs does not of itself necessarily lead to long term instability in the tree, unless the *tree* is already unstable due to factors unrelated to *powerline* trimming, such as root damage. *Trees* showing signs of stress because of pre-existing conditions are assessed for possible removal rather than trimming.

AS 4373 is currently under review with a specific module for works around *powerlines* being developed that permits the application of 'hedging' techniques which have been trialled with Ausgrid Arborists and *vegetation* Contractors. Where it is practicable to apply hedging techniques, it will result in a more visually appealing cut, along with being more cost-effective in the long run.

The figure below illustrates the impact of arboricultural requirements where *trees* are trimmed.

**Figure 4: Relationship between trimming requirements for tree health and clearance distances**



Unfortunately, it is not always practicable to achieve an aesthetically pleasing result, because of:

- the species of tree;
- the position of the *tree* i.e. the *tree* has either been planted in close proximity to Ausgrid's *Network*, or planted directly underneath; and/or
- the lack of *tree maintenance* - where *trees* have not been maintained suitably from a young age and they have grown unchecked near Ausgrid's *Network*, it may be necessary to remove large amounts of *vegetation*.

Ausgrid recognises that in some cases trimming may prove to be undesirable, such as where *trees* require trimming more often than is practicable or where trimming may impact the health of the tree.

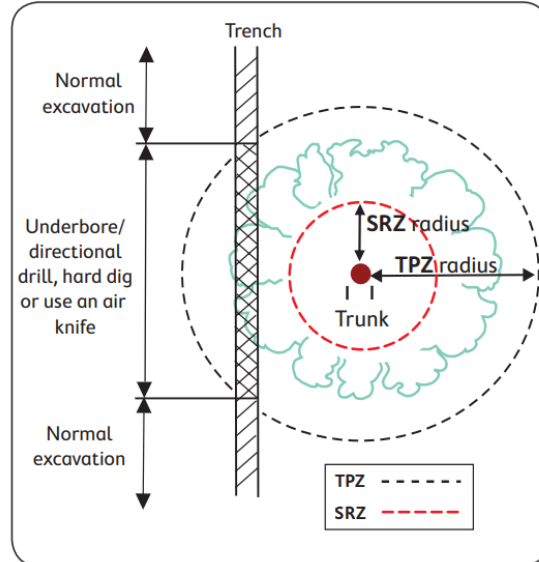
Typically, a one to three-year trimming cycle is considered to be reasonable industry practice, but this may vary depending upon various factors such as the rate of *regrowth*, possible fire risk, climate and the type of *vegetation*.

### 6.3 What are the Requirements for Underground Cables Near Vegetation?

When installing underground cables, Ausgrid will employ techniques to minimise impacts on *tree* root systems. These techniques include:

- Trenching outside the structural root zone (SRZ); and
- If trenching is required within the *tree* protection zone (TPZ), Ausgrid will under-bore or directional drill, hand dig or use an air knife.

**Figure 5: Trenching considerations around trees**



Where the above techniques cannot be used, an arborist or horticulturalist will carry out a health and stability assessment of the *tree* prior to works commencing. In some cases, small encroachments up to 10% of the TPZ are allowed subject to certain conditions.

In circumstances where *tree* roots are impacting on the integrity of Ausgrid's *Network* and Ausgrid considers that alternative management strategies are not appropriate, a *tree* may be required to be removed. All *vegetation* removals are undertaken in accordance with Section 6.5.

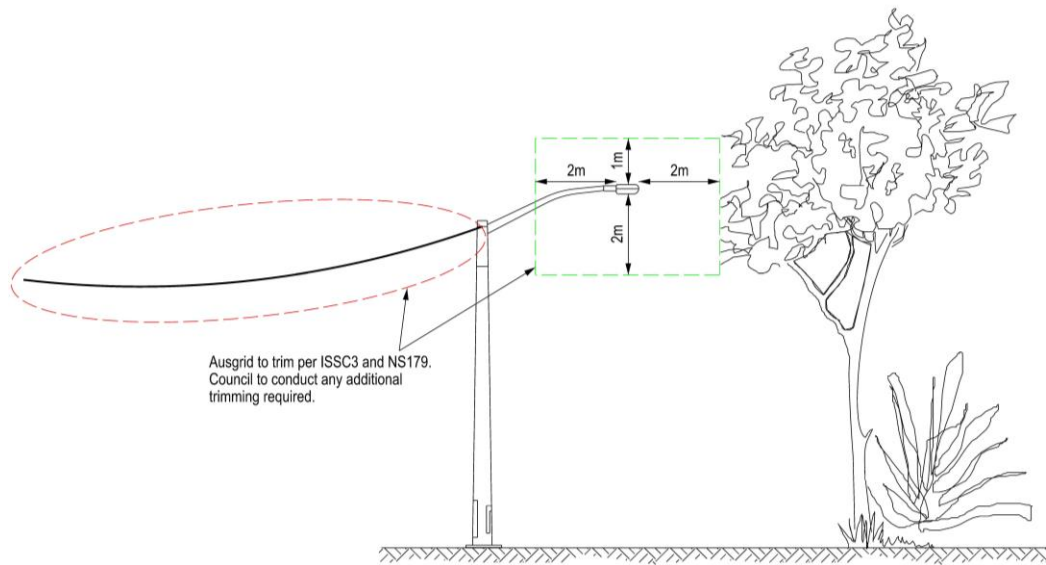
### 6.4 What are the Requirements for Vegetation Near Street Lighting?

The *vegetation* management requirements around street lighting assets are outlined within [ISSC3 Section 1.7 Street Lighting Luminaires](#). Responsibility for achieving the *Minimum Vegetation Clearances* and light management are as follows.

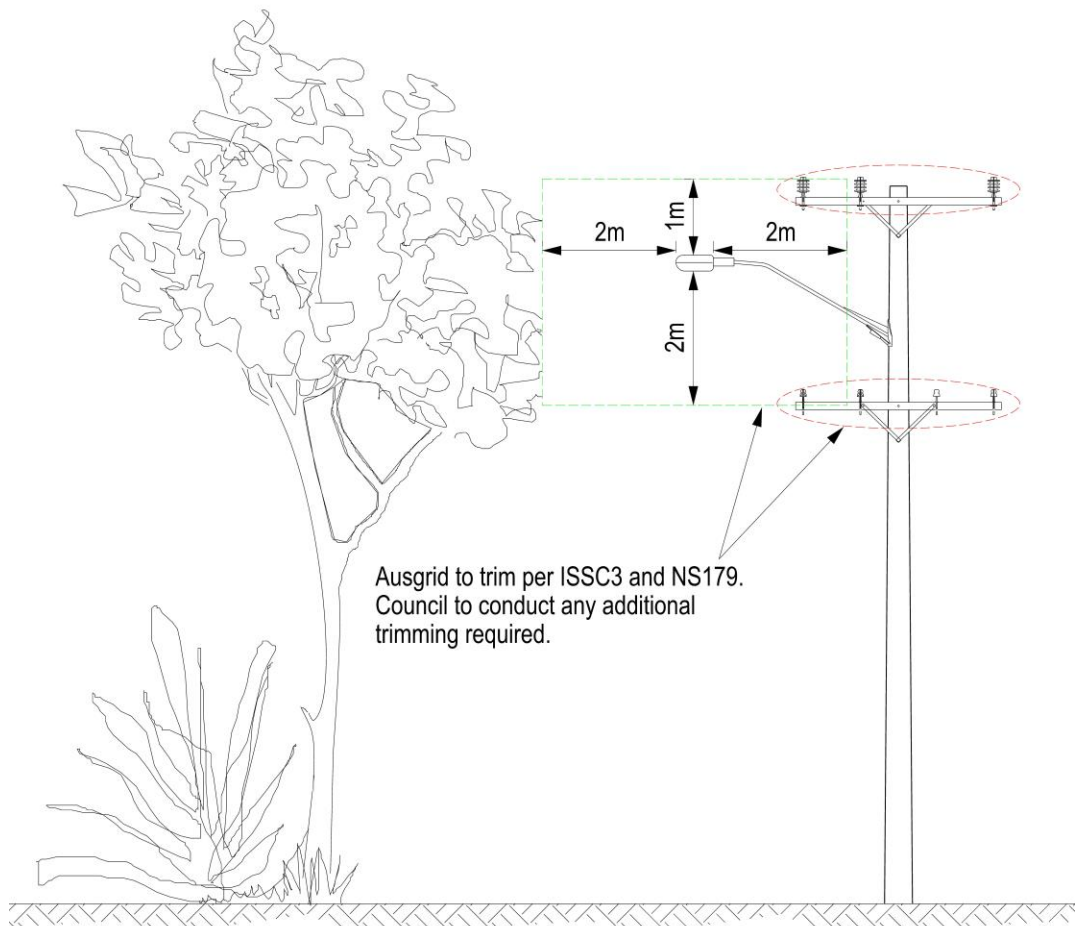
Streetlights connected to Ausgrid's overhead *Network* (Figure 6 & Figure 7) - Ausgrid contractors will clear around the overhead mains in accordance with ISSC3 and NS179 and will clear around the streetlight luminaire as per ISSC3 *Section 1.7*. Additional clearing outside of this profile for light management is the responsibility of *councils*.

Streetlights connected to Ausgrid's underground *Network* (i.e. Underground Residential Distribution (URD) streetlights) (Figure 8) - All *vegetation* management around the streetlight is the responsibility of *councils*.

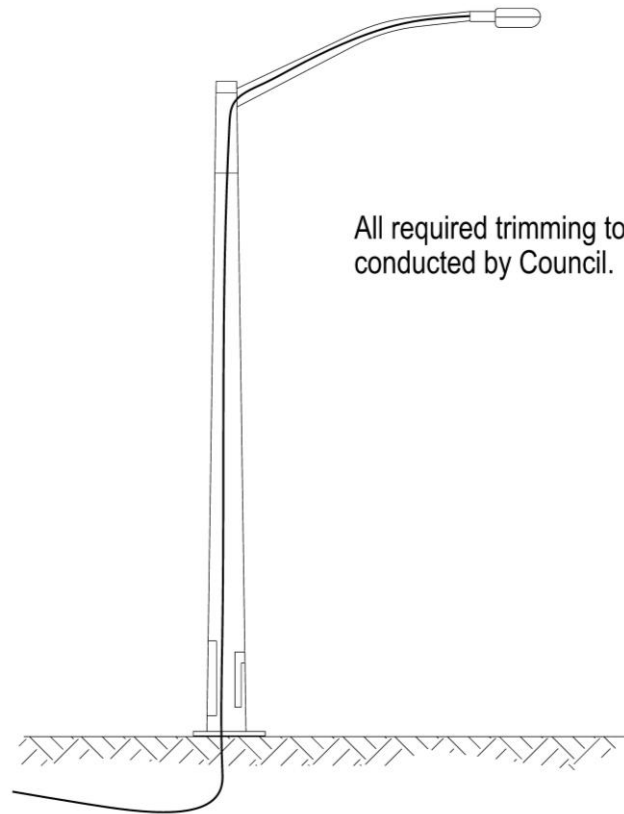
**Figure 6: Vegetation management where connected to the overhead Network – streetlight standard**



**Figure 7: Vegetation management where connected to the overhead Network – Network pole**



**Figure 8: Vegetation management where connected to the underground Network**



## 6.5 What is Ausgrid's Approach to Vegetation Removal?

Ausgrid will not seek to remove any *tree*, or trim any *tree* in a way that substantially damages the *tree*, unless it considers:

- other *Network* options are not feasible because of technical, economic or aesthetic considerations;
- safety is compromised;
- the *vegetation* would otherwise facilitate unauthorised access to Ausgrid's *Network*;
- the *vegetation* would otherwise restrict lawful and safe access to Ausgrid's *Network*;
- the *Network* or electricity supplies are threatened;
- the work is required for access to Ausgrid's *Network* (including support structures) for construction, *maintenance* or operational needs, or for reliability and staff safety during operation and *maintenance*;
- there is an unsuitable species planted near Ausgrid's *Network*;
- the *vegetation* will not respond to directional trimming;
- the *vegetation* cannot be maintained for appropriate periods of time due to its growth characteristics;
- the health of the *vegetation* is such that to leave it would pose a threat to the safety of the community, property or Ausgrid's *Network*; and
- the aesthetics of the *vegetation* are such that continued trimming irreparably damages it, and removal is considered preferable to ongoing trimming.

All *vegetation* removals are either approved by the appropriate environmental planning approval pathway under the Environmental Planning and Assessment Act 1979 (NSW) or are assessed by an Ausgrid arborist or horticulturalist. If Ausgrid plans to remove *vegetation* on private property, we will consult with the landowner or *occupier* and seek their agreement prior to the work starting, except in an *emergency*. The landowner or *occupier* may be charged for the work.

While Ausgrid does not generally require permission from *Councils* for removal of *vegetation* on private property, Ausgrid will generally notify *Councils* of any proposed *tree* removals and allow them to

comment on these removals. Where required by legislation, Ausgrid will also undertake consultation and obtain the relevant statutory approval from appropriate bodies.

Ausgrid may issue a notice to the landowner or *occupier* to remove *vegetation* if it is, or may be, an ongoing threat to the safety of people, property, or the integrity of Ausgrid's *Network*. In these circumstances permission from *Council* may not be required but where practicable, landowners or *occupiers* should verify this with *Council* prior to removing the *vegetation*. Notice by Ausgrid is not required in an *emergency* and we may remove the *tree* at our expense.

*Council* and/or Ausgrid will consult with adjoining landowners or *occupiers* and the local community if street *trees* are to be removed.

***Ausgrid encourages owners or occupiers to seek Council permission before removing their trees near Ausgrid's Network so that the requirements of Tree Preservation Orders under the LEP are fulfilled.***

***Safety is paramount and appropriately authorised Contractors must be used, as this work can be extremely dangerous. Refer to the safety section within this Plan to learn more on the safety requirements when carrying out this type of work.***

*Saplings*, the mature height of which will infringe the *Minimum Vegetation Clearance* or restrict access for *maintenance* or operational requirements, are best removed or relocated at an early stage of their growth to minimise the future safety risks, cost and disruption. Methods used for the reduction of *saplings* and *regrowth* that may be used where appropriate include slashing or mulching, hand cutting and biological (such as grazing).

Ausgrid will also assess and remove where practicable dead, dying and structurally unsound *vegetation* which sits outside of the *Minimum Vegetation Clearance* but may present a *fall-in* risk to the *Network*.

The following strategies may be used to mitigate the impact of the removal process:

- replacement with a suitable species prior to the removal of the unsuitable species;
- for a group of *trees*, a staged removal, with staged replacement, is preferable as this reduces the visual impact;
- removal of the *vegetation* and subsequent replacement;
- replacement planting on the other side of the street prior to any removal; and
- consultation with the community.

## 6.6 What is Ausgrid's Approach to Replacement of Trees?

***Ausgrid supports the replacement of trees with appropriate species that are native to the local area.***

***We understand their value to the environment and that this will assist in the preservation of the local ecology.***

Ausgrid understands the community's desire to replace *trees* that are removed, and we support this, provided the *trees* are planted away from Ausgrid's *Network* or the replacements are of a more suitable species. Planting should be in line with the guidelines for your *Council* area and the species shown in Attachment 2 of this plan. We will consider supplying replacement *trees*, but we will generally not replace *trees* that have been planted inappropriately after Ausgrid's *Network* was built. If Ausgrid does replace a *tree*, once the *tree* is planted all care and *maintenance* of that *tree* is the responsibility of the land owner or *occupier*.

Replacement *trees* will usually be a small size, as these plants generally establish more quickly and over several years will outgrow a plant that was larger initially.

## Attachment 1 - Definitions

The words and expressions noted below have the corresponding meaning in the context of this plan:

Word / Expression	Meaning
<b>Access Track</b>	A dry weather 4WD or pedestrian access track that has been previously established for the purposes of accessing Ausgrid's <i>Network</i> .
<b>Accredited</b>	Workers accredited under the <u>WorkCover Code of Practice – Work Near Overhead Power Lines</u>
<b>Aerial Bundled Cable (ABC)</b>	An insulated multi-core cable, often used in substitution for multiple bare single conductors
<b>Authorised</b>	Authorised by Ausgrid
<b>Bushfire Prone Area</b>	Ausgrid defines its <i>bushfire</i> prone area by applying the Rural Fire Service <i>bushfire</i> maps to the <i>Network</i> area. These represent areas of land that can support a <i>bushfire</i> or are likely to be subject to <i>bushfire</i> attack. This also includes a buffer area around the <i>bushfire</i> danger areas to mitigate the risk of fire spread.
<b>Clearing Requirement</b>	The sum of the <i>Minimum Vegetation Clearance</i> and the <i>Regrowth Allowance</i> . It is the expected outcome immediately after the <i>vegetation</i> trimming cycle has been carried out.
<b>Council</b>	The Council of a local government area.
<b>Easement</b>	An easement gives someone who does not own land a right to use it, or a part of it, for specific purposes . Common examples are rights of way, drainage easements and easements for electricity mains and other services. Easements are created in accordance with the <u>Conveyancing Act 1919 (NSW)</u> and the <u>Real Property Act 1900 (NSW)</u> . They may be created for a definite period of time or in perpetuity.
<b>Emergency</b>	Where Ausgrid has reasonable cause to believe that particular <i>vegetation</i> could destroy, damage or interfere with its electricity works, or could make its electricity works become a potential cause of <i>bushfire</i> or a potential risk to public safety, and that urgent corrective action is required to manage the <i>vegetation</i> appropriately.
<b>Fall-in Vegetation Hazards (Hazard Trees)</b>	As defined in ISSC3 - visually defective <i>vegetation</i> (which is <i>vegetation</i> that is dead, dying and appears structurally unsound as identified from the perspective of the <i>Network</i> Asset as far as it is reasonably practicable to do so), that is outside the minimum <i>Clearing Requirement</i> distances from Electricity Assets and which may require trimming, cutting, or removal to obviate the risk of it falling, dropping, and contacting the assets.
<b>High Voltage (HV)</b>	Any voltage which is nominally more than 1000 volts alternating current.
<b>Kilovolt (kV)</b>	1000 volts.
<b>Low Voltage (LV)</b>	Not more than 1000 volts alternating current.
<b>Maintenance</b>	Activities or works that keep Ausgrid's <i>Network</i> in good condition and allow its unimpaired operation. This includes <i>vegetation</i> management activities.
<b>Minimum Vegetation Clearance</b>	The minimum clearance area surrounding an electricity asset which as far as reasonably practicable is kept free of all <i>vegetation</i> .
<b>Network</b>	For the purposes of this plan, means all those elements of Ausgrid's electrical infrastructure associated with the distribution and supply of electricity. This includes, but is not limited to, <i>powerlines</i> , <i>access tracks</i> ,

Word / Expression	Meaning
	communication cables, streetlights, poles, pillars, stay wires, substations, transformers and other related facilities.
<b>No Go Zone</b>	<p>The area around <i>overhead powerlines</i> into which no part of a <b>person</b> or material or cranes or vehicles or items of mobile <b>plant</b> may encroach without the approval of the <i>Network</i> operator.</p> <p><b>Note:</b></p> <ul style="list-style-type: none"> <li>• <b>person</b> includes hand tools, equipment or any other material held by a person.</li> <li>• <b>plant</b> includes the load, controlling ropes and any other accessories.</li> </ul>
<b>Occupier</b>	A person who is in actual occupation of the land.
<b>Overhead</b>	In relation to a powerline, means a <i>powerline</i> that is above ground level.
<b>Powerline</b>	An overhead or underground electricity line, structure and equipment used for or in connection with the supply of electricity. It excludes third-party telecommunication cables.
<b>Protected area</b>	<p>An area within:</p> <ul style="list-style-type: none"> <li>• a national park or nature reserve within the meaning of the <u>National Parks and Wildlife Act 1974 (NSW)</u> or</li> <li>• land that is reserved or zoned for environmental protection purposes under the <u>Environmental Planning and Assessment Act 1979 (NSW)</u> or</li> <li>• a public reserve within the meaning of the <u>Local Government Act 1993 (NSW)</u>.</li> </ul>
<b>Protected Tree</b>	A <i>tree</i> that is the subject of or within an area, as defined in Section 48 of the <u>Electricity Supply Act 1995 (NSW)</u> , that is the subject of an interim heritage order, or a listing on the State Heritage Register, under the <u>Heritage Act 1977 (NSW)</u> or an order in force under section 136 of the <u>Heritage Act 1977 (NSW)</u> ; or an interim protection order under the <u>National Parks and Wildlife Act 1974 (NSW)</u> ; or a protection conferred by any similar law. It also means a <i>tree</i> within a <i>protected area</i>
<b>Regrowth</b>	<i>Saplings</i> , suckers and other <i>vegetation</i> that has grown or regrown after previous trimming cycles
<b>Regrowth Allowance</b>	The additional clearance allowance required that is added to the <i>Minimum Vegetation Clearance</i> , to prevent <i>vegetation regrowth</i> incursions into the <i>Minimum Vegetation Clearance</i> between trimming cycles
<b>Rural area</b>	Any area that is not an urban area
<b>Sapling</b>	An immature tree
<b>Shrub</b>	<i>Vegetation</i> that is multi-stemmed at the base (within 750mm of ground level) and has low impact, non-invasive root systems and is less than 3m tall when mature.
<b>Span</b>	The <i>overhead</i> wires between two adjacent supporting poles or structures
<b>SRZ</b>	Structural Root Zone – The area around the base of a tree required for the tree’s stability in the ground. The woody root growth and soil cohesion in this area are necessary to hold the tree upright. The SRZ is nominally circular with the trunk at its centre and is expressed by its radius in metres. Calculated in accordance with Ausgrid’s <u>NS174C Environmental Handbook for Construction and Maintenance</u>

<b>Word / Expression</b>	<b>Meaning</b>
<b>Threatened species, populations or communities</b>	A species or community specified under the <u>Environmental Protection and Biodiversity Conservation Act 1999 (Cwth)</u> , <u>Biodiversity Conservation Act 2016 (NSW)</u> or <u>Fisheries Management Act 1994 (NSW)</u>
<b>Tree</b>	<i>Vegetation</i> usually taller than 3 metres when mature with a distinct trunk, of a circumference at a height of 1 metre from the ground of more than 0.3 metres.
<b>TPZ</b>	Tree Protection Zone –A specified area above and below ground level at a given distance from the trunk set aside for the protection of a tree's roots and crown to provide for the viability and stability of a tree to be retained where it is potentially subject to damage by development. Calculated in accordance with Ausgrid's <u>NS174C Environmental Handbook for Construction and Maintenance</u>
<b>Unauthorised</b>	Not authorised by Ausgrid
<b>Urban Area</b>	The built up areas within and surrounding cities and towns. It includes suburban areas
<b>V</b>	Volts
<b>Vegetation</b>	All plant life including, but not limited to, <i>trees</i> , palms, vines, shrubs, and grasses such as bamboo but excluding lawns
<b>Weed</b>	Those species of plant defined as a pest under the <u>Biosecurity Act 2015 (NSW)</u>



## Attachment 2 - Plants Generally Suitable for use Near Ausgrid's Overhead Network

The plants identified below are generally suitable for planting near Ausgrid's Overhead *Network*. The local *Council* has the overall responsibility to develop appropriate strategies for *tree* plantings in areas under its control or management. Further advice on the planting of *trees* should be sought from the local *Council* website and specific Tree Management Plan. The following considerations should be factored in:

- This list is not exhaustive. Contact the local *Council* for suitable species native to the local area.
- Not all of the species listed are native to the whole of the Ausgrid supply area.
- Some species in this list may require formal and/or correctional trimming to achieve suitability.
- Minimal trimming of these species may still be required where *powerlines* are relatively low in height, for example, near where they connect to a building.
- Ausgrid acknowledges that many hybrid species do exist. It is the responsibility of the *tree* owner &/or person selecting the *tree* to ensure the maximum growth height will not exceed 6-7 metres once mature.

Botanical Name	Common Name	Height (Metres)	Cultural Notes
<i>Acer palmatum</i>	Japanese Maple	4 - 5	Deciduous <i>tree</i> with finely textured foliage
<i>Acmena smithi</i> var 'Minor'	Dwarf Lilly Pilly	3 - 4	Shade tolerant, hardy, drought tender
<i>Albizia julibrissin</i>	Silk Tree	5 - 6	Deciduous <i>tree</i> with ferny foliage and masses of pink flowers
<i>Angophora hispida</i>	Dwarf Apple	2 - 4	Hardy, drought resistant, light frost resistant, coastal.
<i>Banksia</i> spp	Banksia	2 - 6	Drought tender, heavy frost resistant, coastal. Ensure variety will not exceed 6 metres in height
<i>Callistemon</i> spp	Bottlebrush	4-8	Very hardy, drought resistant, heavy frost resistant. Ensure variety will not exceed 6 metres in height
<i>Camellia japonica</i>	Japanese Camellia	4 - 6	Variety of flower colours
<i>Camellia sasanqua</i>	Sasanqua Camellia	4 - 6	Variety of flower colours
<i>Fraxinus</i> spp	Designer Ash	2 - 6	Slow growing. Ensure variety will not exceed 6 metres in height
<i>Gordonia axillaris</i>	Fried Egg plant	3 - 8	Very hardy. Slow growing.
<i>Grevillea</i> spp	Grevillea	3 - 8	Hardy, drought resistant, frost resistant. <b>Ensure variety will not exceed 6 metres in height.</b> <i>Grevillea Robusta</i> shall not be used.
<i>Lagerstroemia</i> spp	Crepe Myrtle	3 - 8	Deciduous tree, pink, mauve, crimson or white flowers and beautiful bark. Ensure variety will not exceed 6 metres in height.
<i>Leptospermum</i> spp	Tea-Tree	3 - 8	Very hardy, drought resistant, coastal
<i>Magnolia</i> 'Little Gem'	Dwarf Magnolia	3 - 4	Creamy white flowers, frost tolerant
<i>Syzygium luehmannii</i>	Small-leaved Lillypilly	5	Masses of creamy white flowers in summer new growth is pale pink
<i>Tibouchina</i> spp	Lasiandra	4 - 6	Masses of velvety royal purple flowers in autumn

Botanical Name	Common Name	Height (Metres)	Cultural Notes
<i>Cupaniopsis anacardioides</i>	Tuckeroo	5 - 8	Hardy, frost & drought resistant. <b>Ensure variety will not exceed 6 metres in height.</b>
<i>Corymbia spp</i>	Western Australian Red Flowering Gum	6 - 8	Hardy, drought resistant, frost resistant. Dwarf variety only to be used. <b>Ensure variety will not exceed 6 metres in height.</b>

## Attachment 3 - Plants Generally Unsuitable for use Near Ausgrid's Network

The plants identified below are generally unsuitable for planting near Ausgrid's Network.

Other factors that should be considered include:

- Other species not listed may also be unsuitable dependent on variables such as species, cultivar, location, soil type and other environmental factors.
- The local Council should be consulted for suitable species native to the local area.
- Ausgrid acknowledges that many hybrid species do exist. It is the responsibility of the tree owner &/or person selecting the tree to ensure the maximum growth height will not exceed 6-7 metres once mature.

Botanic Name	Common Name	Height (Metres)	Cultural Notes
<i>Abies species</i>	Fir Trees	20+	Large pyramid shape, needle-like leaves, upright cones.
<i>Acacia species</i>	Wattle	6+	Large shrub, broad leaf blades, colourful seeds.
<i>Acer species</i> (not including Japanese)	Maples	8+	Easily recognisable palmate leaves and distinctive winged fruits.
<i>Acmena species</i>	Lillypilly or Bush Cherry	7+	Very hardy. Creamy white flowers with fleshy fruits.
<i>Agonis flexulosa</i> (not including dwarf cultivars)	Willow Myrtle	12+	Fibrous brown bark, long narrow leaves and small white flowers.
<i>Allocasuarina species</i>	She Oak	8+	Dense furrowed grey-brown bark and drooping grey-green needle-like foliage.
<i>Alnus species</i>	Black & Evergreen Alder	10+	Deciduous. Alternate serrated leaves.
<i>Angophora species</i> including <i>bakeri</i>	Apple Gum	8+	Rough bark. Leaves in opposite pairs.
<i>Araucaria species</i>	Bunya-Bunya, Hoop or Norfolk Island Pine	25+	Large trees with tall straight stem. Horizontal branches.
<i>Bambusa species</i>	Bamboo	10+	Hollow, tall, fast growing grasses.
<i>Bauhinia species</i>	Orchid Tree	8+	Lobed leaves. Colourful fragrant flowers.
<i>Betula species</i>	Birch	10+	Deciduous hardwood. Simple alternate leaves.
<i>Brachychiton species</i>	Lace-Dark, Flame & Kurrajong	15+	Tall deciduous. Stout stem.
<i>Callitris species</i>	Native Pine, Native Cypress	8+	Evergreen, scale-like leaves.
<i>Calodendron capense</i>	Cape Chestnut	8+	Smooth grey bark. Spectacular flowers.
<i>Castanospermum australe</i>	Moreton Bay Chestnut	20+	Very hardy. Glossy dark green leaves & low spreading branches.
<i>Casuarina species</i>	She-Oaks	8+	Tall trees with slender twigs bearing minute scale-leaves.
<i>Cedrus species</i>	Cedar, Fir, Spruce	10+	Large pyramid shape, needle-like leaves, upright cones.
<i>Celtis species</i>	Nettle-tree	10+	Drought tolerant. Simple alternate leaves.

Botanic Name	Common Name	Height (Metres)	Cultural Notes
<i>Chamaecyparis species</i> (not including dwarf cultivars)	False Cypress	20+	Decorative evergreen conifer.
<i>Cinnamomum camphora</i>	Camphor Laurel	20+	Tall evergreen with large spreading canopy.
<i>Citharexylum spinosum</i>	Fiddlewood	10+	West Indian native with attractive foliage and fragrant flowers.
<i>Cryptomeria japonica</i>	Japanese Cedar	20+	Very large evergreen tree.
<i>Cupressus species</i>	Cypress trees	10+	Very large evergreen tree.
<i>Cupressocyparis leylandii</i>	Leyland Cypress	10+	Very large evergreen tree.
<i>Erythrina species</i>	Coral-tree, Cock's Comb	15+	Bright red flowers. Thorny stems.
<i>Eucalyptus species</i>	Gum trees	8+	Large fast growing evergreen.
<i>Fagus species</i>	Beech	20+	Tall, round-headed and wide spreading.
<i>Ficus species</i>	Fig trees	25+	Large tree with smooth white bark.
<i>Flindersia species</i>	Flindersia	10+	Large trees with scale-like hairs.
<i>Fraxinus species</i>	Ash	8+	Light green oval shaped leaves.
<i>Ginkgo biloba</i>	Maidenhair Tree	15+	Grey furrowed bark, fan shaped leaves.
<i>Gleditsia species</i>	Honey Locust	12+	Tall deciduous leguminous tree.
<i>Grevillea robusta</i>	Silky Oak	14+	Fast growing evergreen with a single main trunk.
<i>Harpephyllum caffrum</i>	Kaffir Plum	8+	Broad shady canopy with dark green glossy leaves.
<i>Hymenosporum flavum</i>	Native Frangipani	10+	Wide growing. Gnarled branches, long leaves and distinctive flowers.
<i>Jacaranda mimosifolia</i>	Jacaranda	10+	Semi-evergreen with fragrant purple flowers.
<i>Juniperus species</i> (not including Japanese)	Juniper	10+	Hardy, slow growing coniferous tree.
<i>Lagunaria patersonii</i>	Norfolk Island Hibiscus	12+	Dense grey-green leaves.
<i>Libocedrus species</i>	New Zealand Cedar	8+	Evergreen coniferous tree.
<i>Ligustrum species</i>	Privet	10+	Evergreen tree with smooth grey bark.
<i>Liquidambar species</i>	Liquidambar	15+	Large deciduous with palmate leaves.
<i>Liriodendron tulipifera</i>	Tulip tree	15+	Large deciduous ornamental tree.
<i>Lophostemon confertus</i>	Brush Box	15+	Evergreen fast growing tree with rounded shape.
<i>Magnolia grandiflora</i>	Bull Bay Magnolia	9+	Dense tree with a dome shape and dark green glossy leaves.
<i>Melaleuca species</i>	Paper barks	8+	Tall spreading tree with thick papery bark.
<i>Melia azedarach</i>	White Cedar	12+	Deciduous tree with a rounded crown.
<i>Metrosideros species</i>	New Zealand Christmas Tree, Pohutukawa	10+	Coastal evergreen with brilliant masses of flowers.
<i>Nageia falcatus</i>	Plum Fruited Yew, Oteniqua Yellowwood	10+	Evergreen woody trees with thin hard bark.
<i>Nyssa sylvatica</i>	Sour Gum, Tupelo	10+	Bright red autumn foliage.

Botanic Name	Common Name	Height (Metres)	Cultural Notes
<i>Palm species including Archontophoenix, Butia, Cocos Howea, Livistona, Phoenix and Washingtonia species</i>	Palms	8+	Tall slender stemmed tree.
<i>Pinus species</i>	Pine	15+	Large evergreen tree.
<i>Pistachia chinensis</i>	Chinese Pistachio	10+	Deciduous tree with a broad canopy.
<i>Platanus species</i>	Plane tree	15+	Scaling bark, palmate leaves.
<i>Podocarpus elatus</i>	Brown Pine	10+	Evergreen tree with brown bark.
<i>Populus species</i>	Poplar	15+	Fast growing tree with smooth bark.
<i>Pyrus calleryana</i>	Callery Pear	10+	Conical or rounded crown with white flowers.
<i>Quercus species</i>	Oak	15+	Broad shady tree fruiting acorns.
<i>Salix species</i>	Willow	10+	Deciduous tree with elongated green leaves.
<i>Sapium sebiferum</i>	Chinese Tallowwood Tree	8+	Deciduous tree with domed crown.
<i>Schefflera actinophylla</i>	Umbrella Tree	10+	Tall multi-trunked tree with palmate whorled leaves.
<i>Schinus species</i>	Pepper-corn tree	10+	Fast growing long living tree with a wide canopy.
<i>Stenocarpus sinuatus</i>	Queensland Firewheel Tree	15+	Wheel-like bright red, yellow and orange flowers.
<i>Syncarpia glomulifera</i>	Turpentine	15+	Large straight trunked tree. Leaves taste and smell of turpentine.
<i>Thuja species</i> (not including dwarf cultivars)	Arborvitae, Thuja, Western Red Cedar	8+	Evergreen tree with stringy red-brown bark.
<i>Ulmus/Zelkova spp</i>	Elm	10+	Hardy tall tree with forked trunk creating a vase profile.

## Attachment 4 - Reference Documents

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The following legislation and documents are relevant to this Plan and may provide additional context.

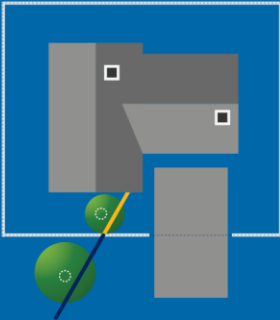
- Amenity Tree Industry: Code of Practice – WorkCover (NSW) 1998
- AS/NZS ISO 14001:2004 Environmental management systems - Requirements with guidance for use
- AS 4373 2007 – Pruning of amenity trees
- AS 5577 2013 – Electricity network safety management systems
- Ausgrid Network Asset Relocation and Undergrounding Policy Guidelines
- Ausgrid Bushfire Management Plan
- Ausgrid Electrical Safety Rules
- Ausgrid Electricity Network Safety Management System
- Australian Heritage Council (Consequential and Transitional Provisions) Act 2003 (Commonwealth)
- Biosecurity Act 2015 (NSW)
- Biodiversity Conservation Act 2016 (NSW)
- Conveyancing Act 1919 (NSW)
- Electricity Supply Act 1995 (NSW)
- Electricity Supply (Safety and Network Management) Regulation 2014 (NSW)
- Energy Services Corporations Act 1995 (NSW).
- Environmental Planning and Assessment Act 1979 (NSW)
- Environmental Protection and Biodiversity Conservation Act 1999 (Commonwealth)
- Fisheries Management Act 1994 (NSW)
- Heritage Act 1977 (NSW)
- Industry Safety Steering Committee (ISSC) 3 – November 2016 Guide for the Management of Vegetation in the Vicinity of Electricity Assets, published by the Department of Planning, Industry and Environment, NSW
- Industry Safety Steering Committee (ISSC) 20 – September 2012 Guideline for the Management of Activities within Electricity Easements and Close to Electricity Infrastructure, published by the Department of Planning, Industry and Environment, NSW
- Industry Safety Steering Committee (ISSC) 31 – September 2019 Guideline for Management of Private Overhead Lines, published by the Department of Planning, Industry and Environment, NSW
- Local Government Act 1993 (NSW)
- Local Land Services Act 2013 (NSW)
- Managing Urban Stormwater – Soils and Construction 2008 (Department of Planning, Industry and Environment, NSW)
- Model Agreement for Local Councils and Utility/Service Providers, 2018, prepared by the NSW Streets Opening Coordination Council
- National Parks and Wildlife Act 1974 (NSW)
- National Parks and Wildlife Regulation 2019 (NSW)
- NS156 Working near or around underground cables
- NS174C Environmental Handbook for Construction and Maintenance
- NS179 Vegetation Management
- NS262 Private Mains Bushfire Risk Inspection

- Pesticides Act 1999 (NSW)
- Pesticides Regulation 2017 (NSW)
- Procedures for Power Line Maintenance in Lands Administered by the National Parks and Wildlife Service of NSW, July 1994, produced by the Electricity Association of NSW
- Protection of The Environment Operations Act 1997 (NSW)
- Protection of The Environment Operations (General) Regulation 2009 (NSW)
- Real Property Act 1900 (NSW)
- Rural Fires Act 1997 (NSW)
- Soil Conservation Act 1938 (NSW)
- State Environmental Planning Policies (NSW), referred to as SEPPs, including:
  - SEPP (Hazards and Resilience) 2021
  - SEPP (Transport and Infrastructure) 2021
  - SEPP (Vegetation in Non-Rural Areas) 2017
- State of NSW (2017) Biodiversity Assessment Method
- Tree Trimming and Vegetation Management around Power Lines - brochure
- Work Health and Safety Act 2011 (NSW)
- Work Health and Safety Regulation 2017 (NSW)
- Work Near Overhead Power Lines: Code of Practice – WorkCover (NSW) 2006

# Attachment 5 - Tree Trimming Guideline

## Tree trimming guideline

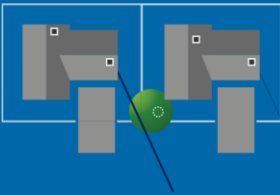




A tree on your own property is impacting the service wire to your premises.

You are responsible for clearing this growth to keep your service wire safe.

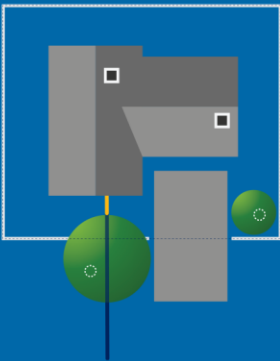
- House owner responsibility
- Ausgrid's responsibility
- Tree trunk



A tree owned by your neighbour is growing over the boundary line between your properties in a way that impacts the service wire to your property because your service wire crosses your neighbour's property.

Ausgrid will clear all growth to keep your service wire safe.

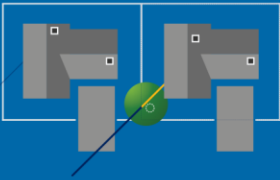
- Ausgrid's responsibility
- Tree trunk



A tree owned by council on the verge or footpath at the front of your property is impacting the service wire to your property.

Ausgrid will clear growth on either or both sides of the boundary line as required to keep your service wire safe.

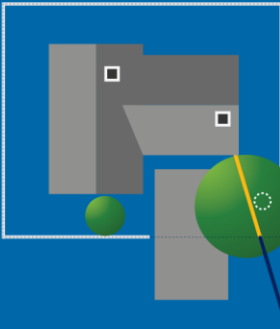
- House owner responsibility
- Ausgrid's responsibility
- Tree trunk



A tree on your own property is growing over the boundary line between your neighbour's property in a way that impacts the service wire to your property because your service wire crosses your neighbour's property.

Ausgrid will clear growth on your neighbour's property and you are responsible for clearing growth on your property to keep your service wire safe.

- House owner responsibility
- Ausgrid's responsibility
- Tree trunk



A tree on your own property is growing over your front boundary over the council strip (public airspace) in a way that impacts the service wire to your property.

Ausgrid will clear the growth over the council strip (public airspace) (SWVO) and you are responsible for clearing growth on your property to keep your service wire safe (SWVI).

- House owner responsibility
- Ausgrid's responsibility
- Tree trunk