Managing vegetation near electrical infrastructure and pest, weed and disease mitigation

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Environmental Management Standard

EMS 0004 MANAGING VEGETATION NEAR ELECTRICAL INFRASTRUCTURE AND PEST, WEED AND DISEASE MITIGATION

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1.0 PURPOSE

To outline Endeavour Energy’s responsibilities when undertaking vegetation management activities and to document the process for the mitigation of pests, weeds and diseases on land owned, occupied or accessed by the company.

2.0 SCOPE

This standard applies to all vegetation management activities required to maintain the safe and reliable operation of Endeavour Energy’s electricity network. It outlines the vegetation management options to achieve this objective, as well as the environmental considerations to maintain compliance with relevant legislation.

This standard also provides guidance on the management of pests, weeds and diseases on land owned by the company, to the extent necessary to mitigate their impacts on adjoining lands. Furthermore, it provides guidance on mitigating the potential for pests, weeds, and diseases to spread across the network area due to company maintenance and construction works. It particularly includes information to address the legislative requirements surrounding the generation and supply of mulch.

This standard applies to Endeavour Energy workers and Accredited Service Providers (ASPs).

3.0 REFERENCES

Internal
Board Policy (Environment) 4.0 – Environment
Company Procedure (Environment) GPE 0004 – Pesticide Use
Company Procedure (Health & Safety) GSY 0079 – Health Monitoring and Surveillance
Environmental Management Standard EMS 0001 – Environmental Impact Assessment and Environmental Management Plans
Environmental Management Standard EMS 0006 – Maintenance and Construction of Access Tracks
Environmental Management Standard EMS 0007 – Waste Management
Environmental Management Standard EMS 0008 – Environmental Incident Response and Management
Environmental Management Standard EMS 0012 – Notification of access to National Parks and Water NSW Special and Controlled Areas
Mains Maintenance Instruction MMI 0013 – Clearances to be Maintained between Network Assets and Vegetation
Endeavour Energy Bush Fire Risk Management Plan
Endeavour Energy Environmental Guidelines Handbook
Endeavour Energy Vegetation Control Manual V2 AM 1 (June 2016)
Endeavour Energy Tree Management Plan 2014

External
Electricity Supply Act 1995 (NSW)
Environmental Planning and Assessment Act 1979 (NSW)
Environment Protection Biodiversity Conservation Act 1999 (Cth)
Heritage Act 1977 (NSW)
Native Vegetation Act 2003 (NSW)
National Parks and Wildlife Act 1974 (NSW)
Noxious Weeds Act 1993 (NSW)
Plant Diseases Act 1924 (NSW)
Protection of the Environment Operations Act 1997 (NSW)
Threatened Species Conservation Act 1995 (NSW)
Water NSW Act 2014 (NSW)
4.0 DEFINITIONS AND ABBREVIATIONS

Accredited Service Provider (ASP)
An Accredited Service Provider (ASP) is a person with accreditation under Part 3 of the Electricity Supply (Safety and Network Management) Regulation 2014. An ASP is allowed to perform work on behalf of an Authorised Network Operator (ANO) where the ANO is the Determining Authority for that work, as prescribed by Section 110(1) of the Environmental Planning and Assessment Act 1979.

Application or apply to land
Refers to the application of mulch to land by:

- spraying, spreading or depositing on the land; or
- ploughing, injecting or mixing into the land; or
- filling, raising, reclaiming or contouring the land.

Bush fire zoned areas
In accordance with the Endeavour Energy Bush Fire Risk Management Plan.

Contractor
Any person or organisation that contracts to carry out work for Endeavour Energy.

Discretionary Tree Removal
The removal of trees outside the program of routine maintenance that could constitute a fall-in vegetation hazard to the electrical network as determined by a Visual Tree Assessment.

Disease
Anything declared by order under section 28B of the Plant Diseases Act 1924 (NSW) to be a disease.

Emergency works
As defined in accordance with the State Environmental Planning Policy (Infrastructure) 2007 and means works for the purpose of maintaining or restoring infrastructure facilities or equipment in order to ensure public safety or to protect buildings or the environment due to:

(a) a sudden natural event, including a storm, flood, tree fall, bush fire, land slip or coastal inundation;
(b) accident, equipment failure or structural collapse; or
(c) damage caused by vandalism or arson.

EMS
Environmental Management Standard
Environmentally sensitive area
Defined as:
(a) land to which State Environmental Planning Policy No 14 – Coastal Wetlands or State Environmental Planning Policy No 26 – Littoral Rainforests applies;
(b) land within a wetland of international significance declared under the Ramsar Convention on Wetlands or within a World heritage area declared under the World Heritage Convention;
(c) land reserved as an aquatic reserve under the Fisheries Management Act 1994 or as a marine park under the Marine Parks Act 1997;
(d) land within 100 metres of land to which paragraph (a), (b) or (c) applies;
(e) land identified in any environmental planning instrument as being of high biodiversity significance;
(f) land reserved under the National Parks and Wildlife Act 1974 or land acquired under Part 11 of that Act;
(g) land reserved or dedicated under the Crown Lands Act 1989 for the preservation of flora, fauna or for other environmental protection purposes;
(h) land identified as being critical habitat under the Threatened Species Conservation Act 1995 or Part 7A of the Fisheries Management Act 1994;
(i) land dedicated or set apart under the Forestry Act 2012 or the former Act as a flora reserve;
(j) land (including subterranean lands) declared to be a wilderness area under the Wilderness Act 1987 or the National Parks and Wildlife Act 1974;
(k) any additional areas listed as an environmentally sensitive area in a relevant Local Environmental Plan; and/or
(l) agricultural land being land used for broad acre cropping, pasture, horticulture, growing fruit and keeping livestock.

EP&A Act
Environmental Planning and Assessment Act 1979 (NSW)

Exempt Development
As referred to in Clause 43 of the State Environment Planning Policy (Infrastructure) 2007

Forestry and Sawmill Residues
Untreated and uncontaminated plant materials from forestry operations such as logging, silviculture and sawmilling. Forestry and sawmill residues include materials such as bark, woodchip and wood fibre that are collected as a source separated material stream for processing.

Heritage conservation area
Means land identified as a heritage conservation area or place of Aboriginal significance (or by a similar description) in an environmental planning instrument.
Heritage item

Local heritage item means:

(a) a place, building, work, relic, tree, archaeological site or Aboriginal object that is identified as a heritage item (or by a similar description) in a local or regional environmental plan; or

(b) an item of local heritage significance, as defined by the Heritage Act 1977, that is the subject of an interim heritage order in force under that Act or is listed as an item of local heritage significance on the State Heritage Inventory under that Act.

State heritage item means an item of State heritage significance, as defined by the Heritage Act 1977, that is the subject of an interim heritage order in force under that Act or listed on the State Heritage Register under that Act.

Commonwealth heritage item means an item of Commonwealth heritage significance such as world heritage properties and national heritage places, as defined by the Environment Protection and Biodiversity Conservation Act 1999 (Cth).

Licensed Waste Facility

Facility licensed by the Environment Protection Authority (EPA) under the Protection of the Environment Operations Act 1997 (NSW) to accept specific waste streams.

Maintenance

Vegetation management activities that have been previously undertaken within the current or preceding program cycle that complies with Endeavour Energy’s Tree Management Plan (prepared in accordance with clause 37 of the Electricity Supply (Safety and Network Management) Regulation 2014).

Mulch

Means plant material shredded and/or screened to a preferred particle size grading for particular applications. Mulch may include urban wood residues and forestry and sawmill residues but does include plant material from kerbside waste collections.

Mulch Order

Environment Protection Authority (EPA) regulatory requirement in the management of mulch in New South Wales. Involves the visual assessment of weeds, pests and diseases prior to generating plant materials and at the time of supply. The “Mulch Order 2016” is commensurate with the Resource Recovery Order under Part 9, clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014 (NSW).

Pest

Means anything declared by order under section 28B of the Plant Diseases Act 1924 (NSW) to be a pest.

Pesticide

Refers to a substance or mixture of substances that are used to:

- destroy a plant;
- destroy, stupefy, repel, inhibit the feeding of, or mitigate the infestation by or attached of any pest in relation to a plant, place or thing; and
- attract a pest for the purpose of destroying it.
Suitably qualified professional
Means a person with appropriate qualifications and competency in:

(a) determining the presence of any weed, plant disease or pest in any mulch;
(b) making judgements about the suitability of the land application site; and
(c) meeting the requirements of the mulch order 2016.

Threatened biodiversity
Threatened species, populations or ecological communities, or their habitats listed under the
Threatened Species Conservation Act 1995 (NSW) and Environment Protection and Biodiversity
Conservation Act 1999 (Cth)

Urban wood residues
Untreated, unpainted and uncontaminated urban derived timber and wood material that is collected
as a separate material stream for processing. This includes off-cuts, saw dust, wood shavings,
packaging crates and pallets.

Vegetation control workers
Authorised personnel working on behalf of Endeavour Energy undertaking vegetation control
activities.

Weeds
Means any of the following:

(a) weeds declared to be noxious in Schedules 1 – 5 of the Noxious Weeds (Weed control) Order
2014 under the Noxious Weeds Act 1993, but only within the land to which the Noxious Weeds
(Weed control) Order 2014 applies;

(b) weeds identified under the Australian Weeds Strategy as either Weeds of National Significance
or National Environmental Alert List weeds; and

(c) any additional weeds identified in regional pest management strategies but only within the
designated area.

Workers
(a) an employee; or
(b) a contractor or subcontractor; or
(c) an employee of a contractor or subcontractor; or
(d) an employee of a labour hire company who has been assigned to work in the person’s
business or undertaking; or
(e) an outworker, ie a person who performs work for an employer at their own home or at another
location that is separate from their employer’s factory, workshop, office or worksite; or
(f) an apprentice or trainee; or
(g) a student gaining work experience; or
(h) a volunteer.

Works
Any physical work to be carried out on or in relation to the network, including maintenance and
construction works, additions, alterations, augmentations, relocations, excavations, trenching and
any other activity.
5.0 ACTIONS

5.1 Vegetation management options and environmental considerations

Endeavour Energy recognises that trees growing in proximity to the electrical network poses unacceptable risks to the community and therefore has a legislative obligation to maintain a safe and reliable electricity supply to the communities in which we live.

Endeavour Energy employs standards to manage vegetation that has the potential to interfere with the electrical network and to mitigate the levels of risk associated with trees in proximity to the electrical network.

The clearances of vegetation from powerlines that Endeavour Energy adopts takes into consideration the safety for our community, whilst minimising the risk of accidental electrocution and the potential for bushfires within bushfire prone areas. These clearances are stipulated in MMI 0013 Clearances to be Maintained between Network Assets and Vegetation and reflect industry guidelines.

The benefits from effective vegetation management will provide for the following outcomes:

- Public and worker safety.
- Reduction in fire risk caused by contact between trees and overhead powerlines.
- Reliability of the electricity supply.
- Protection of the electrical assets from damage, which includes bushfires.
- Environmental due diligence in accordance with legislative obligations.

Vegetation growing near electrical assets may require a range of management options to be applied in order to meet these outcomes, whilst exercising environmental due diligence. These options include:

**Pruning** – Removal of branches that have grown within the nominated clearances as defined in Endeavour Energy’s vegetation control standards.

**Tree Removal** – Where a visually defective tree has been identified fall-in vegetation hazard at ground level to be a high risk of failure onto the electrical network. In such cases a Visual Tree Assessment (VTA) will be performed and forwarded to Vegetation Control for consideration. In such cases where vegetation has been assessed as a risk to public safety and electrical infrastructure in and around substations by Substations Civil Maintenance and therefore requiring tree removal, consultation must occur with the Environmental Business Partner before proceeding to ascertain if there are additional approvals required.

**Groundlining** – Removal, at ground level, vegetation regrowth that has the potential to grow into the nominated clearances in accordance with MMI 0012 – Clearances to be Maintained between Network Assets and Vegetation.

**Tittering/Slashing** – Mechanical removal of vegetation or brushmatting/mulching that has been approved by Endeavour Energy in accordance with the *Native Vegetation Regulation 2013 (NSW)* as defined routine agricultural management activities. The exceptions to routine agricultural management activities pertain to lands acquired and administered under the *National Parks and Wildlife Act 1974 (NSW)* and certain local government areas in the network area. In such cases, an environmental impact assessment may be required to be performed in accordance with EMS 0001 – Environmental Impact Assessment and Environmental Management Plans and consultation must occur with an environmental specialist before proceeding. For works in lands acquired and administered under the *National Parks and Wildlife Act 1974 (NSW)*, notification must be made to
National Parks and Wildlife Service (NPWS) in accordance with EMS 0012 – Notification of access to National Parks and Water NSW Special and Controlled Areas. This process will also be used to identify additional approval requirements before the activity can proceed.

Vegetation control workers implement practices for compliance to both industry (Industry Safety Steering Committee Guidelines) and Australian Standards (AS 4373-2007: Pruning of Amenity Trees) whilst working in accordance with the provisions of Endeavour Energy’s Vegetation Control Manual.

The environmental considerations for each of these options will vary depending on the location of the works, sensitivity/land-use, land tenure and species significance (Annexure A – Environmental Considerations for Vegetation Control Activities).

Note: the materials generated from these activities are assessed in accordance with the provisions of The Mulch Order (Annexure B – Risk Management Protocol for Vegetation Control Activities).

5.2 Pests, weeds and diseases

Endeavour Energy has a responsibility to manage the spread and proliferation of pests, weeds and diseases that pertain to company properties and the maintenance and construction of company assets.

5.2.1 Pests

Pests have the capability of destroying and/or being injurious to native vegetation. Pests are defined under the Plant Diseases Act 1924 as being invertebrates, commonly belonging to the taxonomic category phylum Arthropoda which includes insects.

Pests may be spread through the application to land of mulch derived from vegetation management works as the infected plant material may be transported from the site of generation. Mitigation measures designed to reduce and/or avoid the spread of pests can be found in Annexure B – Risk Management Protocol for Vegetation Control Activities.

5.2.2 Noxious weeds

Noxious weeds have the potential to cause harm to the environment by:

- outcompeting native vegetation and altering species composition of bushland areas;
- reducing native fauna habitat;
- poisoning animals (domestic and native);
- affecting river flow and water quality;
- altering natural fuel loads;
- contributing to soil erosion problems; and
- decreasing the economic value of land and by decreasing agricultural productivity.

Weeds are spread in a variety of ways including wind, water, birds and deliberate introduction.

Vectors of spread also include vehicles, plant and machinery, clothing, animals, stock feeds and imported spoil.

For the current list of Noxious Weed species located in the company’s network area, including profiles, control strategies and legal requirements under the Noxious Weeds Act 1993 (NSW) refer to the Department of Primary Industries – NSW Weedwise or contact the relevant Environmental Business Partner.
Land owned by the company will be managed with the long-term aim of eradicating noxious weeds listed in the *Noxious Weeds Act 1993* (NSW). If eradication is not practicable, the land must be managed to minimise the proliferation of weed species to the extent necessary to mitigate the weeds from spreading to adjoining land.

Weed related complaints from any interested party will be managed and appropriately investigated by the Environmental Business Partner.

Easement areas and access tracks used solely by the company must not be more weed infested than adjoining land. If an area is observed to be more heavily infested than the adjoining land this must be reported to the Environmental Business Partner and weed control strategies will be investigated with the land owner.

Control strategies for noxious weeds and mitigation measures to reduce and/or avoid the spread of noxious weeds can be found in Annexure C – Hygiene Protocol for Mitigating the Spread of Pests, Noxious Weeds and Diseases.

5.2.3 Diseases

Disease refers to any organism of the vegetable kingdom, bacterium, fungus, viroid, virus or mycoplasma organism that has the potential to cause abnormal or unhealthy growth in plants. These may include soil and water borne pathogens. For the purposes of this standard, “diseases” also refers to those that may impact on native fauna and/or their habitats.

The following diseases are known to occur in the company’s network area (not limited to):

- **Phytophthora cinnamomi** (commonly known as Root Rot fungus or Dieback) is a fungal pathogen that is a major cause of death in native trees and shrubs. One of the main activities leading to the spread of *Phytophthora cinnamomi* is the movement of plant and machinery through infected areas to non-infected areas carrying spores of this disease in soil or plant material.

- **Uredo rangelii** (commonly known as Myrtle rust), is a fungal pathogen which affects trees and shrubs in the Myrtaceae family of plants, for example eucalypts. When severely infected, young plants and new growth may become stunted potentially leading to the mortality of the plant. It can be spread via contaminated clothing, infected plant material, on equipment and by insect/animal movement and wind dispersal.

- **Batrachochytrium dendrobatidis** (commonly known as Chytrid Fungus – “kit tread”) is a fungal pathogen that is a major cause of sporadic deaths and extinctions in native frog species. This pathogen is spread through wet and muddy boots, tyres and other equipment in contact with infected water.

These diseases have been listed as Key Threatening Processes under the *Threatened Species Conservation Act 1995* (NSW) due to their role in adversely affecting threatened species, populations or ecological communities or for their potential to cause species, populations or ecological communities that are not threatened to become threatened.

The location and extent of these diseases is currently unknown. As such, effective stakeholder management is required to define the locations of these diseases. Areas may be identified in accordance with Environmental Management Standard EMS 0012 – Notification of access to National Parks, Reserves and Water NSW Special Areas and Controlled Lands (for example *Phytophthora cinnamomi* – Kemps Creek Nature Reserve and Prospect Nature Reserve), consultation with an Environmental Business Partner/Vegetation Environmental Specialist and/or...

Mitigation strategies to reduce the spread of these diseases can be found within Annexure B – Risk Management Protocol for Vegetation Control Activities and Annexure C – Hygiene Protocol for Mitigating the Spread of Pests, Noxious Weeds and Diseases.

6.0 AUTHORITIES AND RESPONSIBILITIES

General Manager Safety, Human Resources and Environment has the authority and responsibility for approving this standard.

General Manager Asset Management has the authority and responsibility for endorsing this standard.

Tree Management Officers, Vegetation Contract Operations Manager, Discretionary Works Officer, Vegetation Environmental Specialist and the Vegetation Control Manager have the authority and responsibility for the management of vegetation works to monitor that their work is in accordance with this standard and other relevant Endeavour Energy standards.

Environmental Business Partner(s) have the responsibility for providing guidance on the implementation of this standard.

Workers and/or ASPs have the authority and responsibility for:

- monitoring that the requirements of this standard are met;
- working in accordance with local and statutory requirements; and
- maintaining that public safety is not compromised.

7.0 DOCUMENT CONTROL

Documentation Content Coordinator : Manager Safety & Environmental Services

Documentation Distribution Coordinator : Standards & Process Administrator
Annexure A – Environmental Considerations for Vegetation Control Activities

This document outlines a standard suite of environmental considerations when undertaking vegetation maintenance activities (section 5.1 Vegetation Management Options and Environmental Considerations).

All workers and/or ASPs undertaking vegetation control activities are required to determine that the activity undertaken meets the definition of “Maintenance” – that being “vegetation management works that have been previously undertaken within the current or preceding program cycle that complies with Endeavour Energy’s Tree Management Plan and prepared in accordance with clause 37 of the Electricity Supply (Safety and Network Management) Regulation 2014 NSW”. Vegetation works not defined as maintenance may require an environmental assessment to be performed in accordance with EMS 0001 – Environmental Impact Assessment and Environmental Management Plans.

In cases where such maintenance activities have the potential to impact on listed heritage, memorial and/or locally significant trees (that is, prune more than the previous growth period beyond the preceding growth point and/or branch collar) and/or on identified threatened biodiversity this activity must be raised to the appropriate Endeavour Energy Environmental Specialist to advise on the level of assessment required prior to undertaking that activity.

The following environmental considerations will be undertaken prior to conducting one or more of the prescribed vegetation management options. Additional information in relation to managing environmental risks on worksites can be found in the Environmental Guidelines Handbook.

<table>
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<tr>
<th>Environmental Considerations</th>
<th>Environmental Risk Mitigation Measures for Vegetation Control</th>
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<tbody>
<tr>
<td><strong>Vegetation management (General)</strong></td>
<td>• Works involving the trimming or removal of vegetation will be conducted in accordance with Industry (Industry Safety Steering Committee Guidelines) and Australian Standards (AS 4373-2007: Pruning of Amenity Trees) as well as Endeavour Energy vegetation control standards.</td>
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<td>• Tittering or slashing of vegetation must not occur in areas where the vegetation has not been subject to tittering/slashing in the previous two (2) years or in lands acquired and administered under the National Parks Act 1974 (NSW). In such cases, an Endeavour Energy Environmental Specialist must be notified.</td>
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<td></td>
<td>• If the work is likely to change the appearance of and/or damage a listed Heritage, Memorial or Significant Tree, the local Council must be advised and consulted with prior to undertaking the work.</td>
</tr>
<tr>
<td><strong>Bushfire Prone Land</strong></td>
<td>• Endeavour Energy is committed to the application of best practice asset management strategies to maintain the safe and reliable operation of our network. A key component of this strategy is to manage our assets in a manner that minimises the risk of bushfires, and to minimise the associated risk to our assets and customer supply reliability during times of bushfire.</td>
</tr>
<tr>
<td>Refer to Endeavour Energy Bush Fire Risk Management Plan</td>
<td>• To identify bushfire prone areas, Endeavour Energy utilises information supplied by the Rural Fire Service, who in consultation with local councils</td>
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<td>prepare bushfire prone land mapping data. This data is located on Endeavour Energy's Environmental Geographical Information System (GIS).</td>
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<td>• Endeavour Energy liaises with Rural Fire Service in the management of easements which may include the trittering/slashing works within the prescribed easement or extensive ground lining operations where applicable. Such works must be organised and approved by Endeavour Energy’s Vegetation Control and meeting the requirements outlined in section 5.1 Vegetation Management Options and Environmental Considerations.</td>
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<tr>
<td>Land Tenure and Community/Stakeholder engagement</td>
<td>• All affected landowners are to be notified in writing of the intention to commence vegetation maintenance activities 1-4 weeks prior to the works commencing. This is where trees are located on Council and/or Crown Lands.</td>
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<tr>
<td>• Where the work requires access to or through private property, notification is to be provided, in writing, to the owner/occupier of the land prior to commencing that activity and must state the date on which the work is to occur. In the event that the owner/occupier has provided verbal agreement to enter the property for the intended purpose, then the work may go ahead in accordance with this direction.</td>
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<tr>
<td>• National Parks and Wildlife Service (NPWS) and WaterNSW must be appropriately notified as set out in EMS 0012 – Notification of access to National Parks, Reserves and Sydney Catchment Authority Special Areas and Controlled Lands.</td>
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</tr>
<tr>
<td>Access tracks and pathways</td>
<td>• All vehicles must keep to any existing access tracks and/or entirely within any designated easement across private lands unless prior agreement with the landowner to do otherwise has been made.</td>
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<tr>
<td>• Care will be taken with both vehicular access and construction works to minimise disturbance to any soils. Wherever possible, vehicles will use existing formed access tracks to minimise disturbance to the ground surface.</td>
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<td>• No vegetation clearing must be undertaken to facilitate access unless it has been identified in the environmental assessment and appropriate approval has been obtained from Endeavour Energy.</td>
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<td>• Following the completion of the work, access tracks must be restored to the same condition as they were before the work commenced.</td>
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<td>• Any damage to access tracks must be logged as an Environmental Incident in accordance with EMS 0008 – Environmental Incident Response and Management.</td>
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| • Access tracks located in sensitive environments (for example, National Parks and Water NSW Special Areas/Controlled Lands) must not be used following heavy rainfall (10 mm rainfall in a 24 hour period to 9am), or if
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<td>the access track is located on private lands, it must not be used if it is likely to cause damage and subsequent sedimentation and erosion.</td>
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<td></td>
<td>• Leave all gates closed when leaving the subject site unless otherwise agreed.</td>
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<tr>
<td>Public Roads and Traffic Management</td>
<td>• Notice must be given to Council (local roads) and RMS (State and Regional Roads) and appropriate permits obtained when temporary road closures are required.</td>
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<td>• The appropriate roads authority must be consulted with for any work in, on or over any public road in conjunction with or as part of the Traffic Management Plan. Any conditions of consent imposed by the RMS (State or Regional Roads) must be complied with as part of the work.</td>
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<td>• Working hours must be approved by relevant authorities – local council (council roads) and RMS (State or Regional Roads) prior to the commencement of the activity. Out of hours works are not to commence without the approval from relevant authorities. This must entail re-notification (written) to the Council, the RMS (if applicable) and all nearby affected land owners of the intention to work at these times. This notification must be at least five (5) days but no more than 14 days prior to those works commencing.</td>
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<td>• Traffic management measures must be implemented before any works commence on the subject site that involves public roads and must be carried out by qualified personnel.</td>
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<td>• Safe pedestrian pathways are to be established and clearly signposted around the subject site for the duration of the work.</td>
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<td>• The subject site must be sufficiently lit at night to facilitate safe movement around the subject site by the public and within the subject site by personnel.</td>
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<td>• Council is to be notified of any damage to any existing Council infrastructure caused by the works including, but not limited to the road, kerb and gutter, road shoulder, footpath and drainage structures.</td>
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<td>• Any damage to public roadways or footpaths that prevents normal use of these assets by either pedestrians or traffic will be restored immediately to a level that provides safe and temporary access.</td>
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<tr>
<td>Erosion and Sediment Control</td>
<td>• Where trees must be removed, works will be undertaken to minimise erosion and sedimentation.</td>
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<td>• Primary measures will focus on preventing erosion through the retention of root structures and minimising disturbance to low growing species and ground covers.</td>
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<td>• Where soil is exposed and there is the potential for erosion, appropriate</td>
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<td>The removal of natural erosion controls such as grass, vegetation and mulch must be minimised.</td>
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<td>Where possible, vegetated buffer zones will be retained adjacent to waterways and disturbed areas.</td>
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<td>Disturbed surfaces will be mulched or revegetated as soon as possible to minimise dust emissions. Where vegetation has been trimmed or removed, particularly in bushland areas, this should be mulched and spread over the site to provide a seed base and protect the soil.</td>
</tr>
<tr>
<td>Flora and fauna (Threatened Biodiversity)</td>
<td>Vegetation classified as threatened or endangered under relevant legislation may grow within easements or near powerlines. In some cases, previous clearing undertaken within powerline corridors has created ideal growing conditions for threatened or endangered floral species. Additionally, certain vegetation may comprise habitat for threatened or endangered fauna.</td>
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<td>The location of threatened biodiversity will be identified prior to the commencement of works through interrogation of the NSW Atlas of Wildlife dataset (available on Endeavour Energy’s Environmental GIS) and Protected Matters Search tool. Where such species or communities are known to exist, vegetation management activities will be modified to minimise potential damage on threatened species. This may include alternative pruning cycles, may include the provisions for engineering solutions and/or variations in the vegetation management options in consultation with Endeavour Energy.</td>
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<tr>
<td></td>
<td>The location of SEPP 14 – Coastal Wetlands and SEPP 26 – Littoral rainforests will be identified prior to the commencement of works through interrogation of the NSW Spatial Data Catalogue (available on Endeavour Energy’s environmental GIS). Works in these areas must be restricted to the minimum possible to allow the works to be carried out.</td>
</tr>
<tr>
<td></td>
<td>Mangroves growing in coastal locations are protected. If works are to be carried out in these areas, consult Endeavour Energy to confirm that they are carried out in accordance with relevant approvals.</td>
</tr>
<tr>
<td>Pest, Diseases and Weeds</td>
<td>Pests, diseases and weeds within vegetative material that have been identified prior to the activity being undertaken are to be disposed of at an appropriate waste facility and a record kept as to this transaction.</td>
</tr>
<tr>
<td>Refer to “Hygiene Protocol” within Annexure B – Risk Management Protocol</td>
<td>When carrying out work on sites where noxious weeds, diseases and pests have been identified, follow Endeavour Energy’s hygiene protocol as detailed in Annexure C- Hygiene Protocol for Mitigating the Spread of Pests, Noxious Weeds and Diseases. This will help to eliminate pests, weed seed and pathogens from being conveyed by workers and ASPs, construction plant and vehicles. The location of plant diseases (for example Myrtle fungus and root rot disease) in sensitive environments...</td>
</tr>
</tbody>
</table>
Environmental Considerations | Environmental Risk Mitigation Measures for Vegetation Control
--- | ---
| may be informed through stakeholder engagement as per EMS 0012 – Notification of access to National Parks and Water NSW Special Areas.

**Pesticide Use**

- All pesticides must be appropriately labelled and used strictly in accordance with directions specified on the registered label or in accordance with the conditions specified in an off-label permit issued by the APVMA. If pesticides are decanted into smaller containers, labels must be affixed and these can be found on the ChemWatch Gold FFX database located on the company’s intranet site.

- Prior to the commencement of work, a documented hazard and risk assessment must be completed using Company Form FSY 0118 – Worksite Hazard and Risk Assessment (WHRA) or equivalent. Guidance to completing the form can be obtained from Company Procedure GSY 1066 – Worksite Hazard and Risk Assessment.

- To complete the WHRA or equivalent, workers and ASPs need to determine the nature of the pesticide involved and the risks to the worker and/or ASPs. Information regarding the pesticide can be obtained from the Safety Data Sheet (SDS) which must be made available prior to the use of the chemical. The SDS can be obtained from the ChemWatch Gold FFX database located on the company’s intranet site.

- If the SDS indicates that health surveillance is required, then the WHS Business Partner must be contacted prior to the use of the pesticide to determine if a risk assessment is required. As per Company Procedure GSY 0079 – Health Monitoring and Surveillance, health surveillance testing or equivalent will be conducted as/when required following the Health Monitoring Plan.

- All records are to be retained for a minimum of three years (the requirement of the Pesticide Regulation 2009 (NSW)), then archived for a further 17 years (as per General Retention and Disposal Authority: Local Government Records GA39), after which all records may be destroyed.

**Mulch**

Refer to Annexure B – Risk Management Protocol (Mulch Order 2016)

- Where pruning or removal of vegetation (within the definition of maintenance) occurs within designated environmentally sensitive areas (such as National Parks and/or Water NSW Special Areas and Controlled Lands, coastal wetlands, littoral rainforests, critical habitats and agricultural land), cut vegetation can be retained either by way of trittering/slashing, mulching, brush matting or other providing this activity has been previously demonstrated and restricted to the easement.

- No mulch can be applied within these designated environmentally sensitive areas (as defined by relevant Endeavour Energy Environmental GIS layers) that have been generated outside of these areas.

- Disturbance to ground and understorey cover will be minimised where possible.

- Cut vegetation will be left in a manner that does not pose a fire risk or impair the environmental or aesthetic values of the park.
### Environmental Considerations

<table>
<thead>
<tr>
<th>Environmental Risk Mitigation Measures for Vegetation Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>• At the time of generation tree(s) are required to be assessed as to the identification of weeds, diseases and pests by an appropriately qualified arborist (with Certificate IV Training and Assessment).</td>
</tr>
<tr>
<td>• Where tree(s) have been identified as a weed species, having a disease or a pest at the time of generation, such material is to be taken to a licensed facility and disposed of accordingly. No infected material can therefore be distributed or reused in the environment without the appropriate treatment.</td>
</tr>
<tr>
<td>• All personnel must keep a record to attest to the generated material being free from weeds seed, a disease or pest. On request this information may be audited by Endeavour Energy.</td>
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</tbody>
</table>

### Heritage

<table>
<thead>
<tr>
<th>Environmental Risk Mitigation Measures for Vegetation Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Tree pruning or tree removal works have the potential to impact on natural and cultural heritage features including aboriginal sites, non-aboriginal historic structures (with local, state and commonwealth significance) and relics, memorial gardens, parks, and protected or heritage listed trees.</td>
</tr>
<tr>
<td>• Potential impacts to significant, memorial or heritage trees will be evaluated prior to undertaking pruning works.</td>
</tr>
<tr>
<td>• In some cases, technical options may be considered where practicable or reduced tree trimming clearances may be applied to provide assurance that only a minimal impact occurs on such local and state heritage items.</td>
</tr>
<tr>
<td>• Endeavour Energy collaborates with stakeholders to facilitate the identification and management of significant trees.</td>
</tr>
<tr>
<td>• Aboriginal heritage items will be identified prior to the commencement of works through an interrogation of the AHIMS database (available on Endeavour Energy's Environmental GIS).</td>
</tr>
<tr>
<td>• Heritage conservation areas will be identified through an interrogation of local council websites.</td>
</tr>
<tr>
<td>• Non-aboriginal heritage items of local and state significance will be identified prior to the commencement of works through an interrogation of the NSW State Heritage Register (state heritage items are available on Endeavour Energy’s Environmental GIS). Heritage items of commonwealth significance can be identified through an interrogation of the Protected Matters Search Tool.</td>
</tr>
<tr>
<td>• No works will be carried out on a heritage listed or protected site without prior approval from the appropriate authority. All works will be carried out in accordance with the conditions stated within approvals/permits.</td>
</tr>
<tr>
<td>• If any Aboriginal objects are encountered on the subject site, works must cease in the vicinity of the find and an Endeavour Energy Environmental Specialist must be notified.</td>
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<tr>
<td>Environmental Considerations</td>
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Annexure B – Risk Management Protocol for Vegetation Control Activities

This document outlines a standard suite of risk mitigation measures for the generation of mulch and then its application in accordance with Section 6 Risk Management Protocol, Resource Recovery Order under Part 9, clause 93 of the Protection of the Environment Operations (Waste) Regulation 2014 (NSW) (to be referred as “the protocol”).

The intent of “the protocol” is to minimise harm to the environment by reducing the introduction, presence, spread or increase of pests, weeds and disease within the environment as a result of undertaking routine vegetation maintenance works and the subsequent generation of mulch across Endeavour Energy’s network.

Endeavour Energy manages 24,500 square kilometres of network containing a variety of circumstances by which mulch is generated and then distributed throughout the community and/or retained at the site of generation. It is the intent of this document to prescribe the circumstances by which mulch can be provided to the community and/or retained at the site of generation as a result of Endeavour Energy’s vegetation control activities. The protocol will provide guidance as to the documentation to be retained at the time of generation to attest as to nature of that mulch and hygiene procedures undertaken throughout the course of generation to land application.

Additionally, “the protocol” contains mitigation measures relevant to situations where Endeavour Energy is the recipient of mulch for landscaping projects at substations and Field Service Centres.

It is noted that Endeavour Energy does not allow mulch to be applied within environmentally sensitive areas, as defined in “the protocol” that has been generated outside of these areas. As a result the minimum Australian Qualification Framework (AQF), as stipulated within “the protocol” to identify pests, weeds and diseases, does not apply on such lands.

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**Ring Management Protocol (Version 1)**

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Risk Mitigation Measures to Minimise Harm to Environment</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scope of Works to which the Protocol applies</strong></td>
<td>• All vegetation control activities that involve the trimming or removal of vegetation in accordance with the Electricity Supply Act 1995 (NSW). All activities will be conducted in accordance with Industry (Industry Safety Steering Committee Guidelines) and Australian Standards (AS 4373-2007: Pruning of Amenity Trees) as well as Endeavour Energy’s vegetation control standards.</td>
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<tr>
<td></td>
<td>• The vegetation control contractor must adhere to contract specifications, the relevant Endeavour Energy standards and relevant NSW regulatory requirements.</td>
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<tr>
<td></td>
<td>• All generated material must be the responsibility of the vegetation control contractor who must employ the minimum standards stipulated within this standard (EMS0004 – Vegetation Management).</td>
</tr>
<tr>
<td><strong>Site of Generation (Source of Mulch)</strong></td>
<td>• Each location by way of Map Grid is to be recorded with respect to the location of environmentally sensitive lands as part of each vegetation contractors Worksite Hazard Risk Assessment (WHRA) or equivalent by which to record and document this process. A distance of at least 100m must be maintained between the land upon which mulch is applied and environmentally sensitive areas.</td>
</tr>
<tr>
<td></td>
<td>• An assessment of potential for pests, weeds and diseases is to be</td>
</tr>
<tr>
<td>Requirements</td>
<td>Risk Mitigation Measures to Minimise Harm to Environment</td>
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<td>completed on the subject vegetation prior to generating mulch.</td>
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<tr>
<td></td>
<td>• A record is to attest as to the material being generated comprises of urban wood residues and/or sawmill or forestry residue. The WHRA or equivalent by which to record and document this process is to record and attest that the plant material (mulch) generated is free from pests, weeds and/or diseases.</td>
</tr>
<tr>
<td></td>
<td>• The assessment of the material generated is to be applied by an appropriately qualified arborist or person who has been trained and deemed competent in the identification of pests, weeds and diseases in trees. Such persons will then determine the land application of this material.</td>
</tr>
<tr>
<td></td>
<td>• In cases where pests, weeds and/or diseases has been identified this material is to be recorded in the WHRA or other means by which to record and document this process and disposed of at a licenced facility (&quot;the facility&quot;).</td>
</tr>
<tr>
<td></td>
<td>• A record is to be retained of the transaction and at a minimum, include the common name and extent of the pest, weed species and/or disease detected at the time of generation.</td>
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<tr>
<td></td>
<td>• All records must be kept for a period no less than six (6) years from the time of that activity.</td>
</tr>
</tbody>
</table>

| Composition of Mulch | • All generated material must be assessed according to the composition of that material and must only contain material generated as a result of the vegetation control activities undertaken on behalf of Endeavour Energy vegetation control program. |
|                      | • Mulch must only contain materials defined as forestry and sawmill residues and not contain engineered wood products or physical contaminants such as glass, metal, ridged or flexible plastics or polystyrene. |
|                      | • Mulch must not contain any asbestos, or preservative treated or coated wood residues. |
|                      | • A WRHA or other means by which to record and document this process must be completed to attest to the material being generated and its composition. |

<p>| Supply of Mulch | • The material generated as a result of vegetation control activities is able to be applied to land under the following circumstances: |
|                | • Documentation is to be produced to provide evidence that material free from pests, weeds and disease and this is provided to community groups, schools and/or Council’s. |
|                | • At no time is any of the generated material to be applied to an environmentally sensitive area as defined by relevant environmental GIS layers. |</p>
<table>
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<tr>
<td></td>
<td>• At the time of land application a record of the land application site and proximity to the source of the plant material is to be included in the company’s WHRA or other means by which to record and document this process.</td>
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<td></td>
<td>• When receiving mulch at a premises:</td>
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<td>• the material must meet all requirements for mulch as outlined above;</td>
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<td></td>
<td>• it must not cause or permit the migration of leachate from the land application site;</td>
</tr>
<tr>
<td></td>
<td>• further processing of the mulch at the land application site must not occur; and</td>
</tr>
<tr>
<td></td>
<td>• application of mulch to land must occur within a reasonable period of time after its receipt.</td>
</tr>
<tr>
<td>Hygiene</td>
<td>• Contractors are required to disinfect vehicles and machinery for mitigating the spread of pests, weeds and diseases (refer to Annexure C – Hygiene Protocol for Mitigating the Spread of Pests, Noxious Weeds and Diseases).</td>
</tr>
</tbody>
</table>
Annexure C – Hygiene Protocol for Mitigating the Spread of Pests, Noxious Weeds and Diseases

Cleaning vehicles and machinery – equipment list and user instructions

The following items are required for the appropriate disinfection of vehicles and machinery for mitigating the spread of pests, weeds and diseases (for example Phytophthora cinnamomi, Myrtle Rust and Chytrid Fungus) from identified areas. Soil clods and plant material attached to vehicles and machinery can be removed by hand and/or using the wire scrubbing brush to mitigate the spread of noxious weeds.

Many noxious weed species have the capacity to spread through either roots or cuttings. The use of machinery can break up these plants resulting in the further spread of noxious weeds. Disturbed ground creates ideal conditions for the spread of noxious weeds. Where possible, excavation and civil works will avoid areas with obvious signs of noxious weed species.

Prior to leaving for the worksite, check that the 15L spray pump pack is filled with water and Viraclean Disinfectant has been added to the 1.5L spray bottle at a 1/20 part water solution. If Viraclean is unavailable, a commercially available cleaning product containing benzalkonium chloride, as the active ingredient or a 10% solution of methylated spirits can be used as a satisfactory substitute to remove fungal spores. Disinfecting solutions must not be permitted to enter water bodies.
1) Visual inspection

A visual inspection must be carried out to check that plant and vehicles are free of soil clods or plant matter.

This inspection will cover the following steps:

1. Switch off all plant and machinery prior to undertaking the inspection.
2. Visually inspect the outside of the plant/machine for any obvious weed material and remove by hand or by using the wire scrubbing brush.
3. Inspect the tyres/tracks and exterior for mud, scrape off if practical.
4. Inspect bumper bars and any crevices where seeds may be sucked in or settle.
5. If the machine has hydraulic rams or attachments, inspect around the seals or any places that may weep fluid.

Before removing machinery or equipment from weed infested sites or identified areas known to contain diseases, all visible vegetation or soil must be removed.

2) Establish cleaning/disinfectant work-site

- Cleaning must be carried out at the exit of the infected area so that the material dislodged from the machinery will not spread to “clean” areas.

- Cleaning vehicles is particularly important when the work involves travelling through a number of properties in succession or prior to entering and leaving sensitive environments, for example National Parks, Water NSW Special Areas and State Forests.

- Utilise designated vehicle cleaning/disinfectant areas if these have been identified by National Parks and Wildlife Service (NPWS) or another land management authority. This may include carrying out these procedures in relation to mitigating the spread of Chytrid Fungus before visiting high-risk sites where threatened frog species are known to occur.
3) **Disinfecting vehicles and machinery**

- Use Viraclean disinfectant or equivalent as a 1/20 part water solution. Use Personal Protective Equipment (PPE), ie nitrile gloves or similar and safety glasses as per the Viraclean Safety Data Sheet (SDS).
- On flat ground (preferably hardstand) and away from water sources, apply disinfectant by using 1.5L spray pack to vehicle (wheels, mudflaps and undercarriage in particular) and machinery until soil, mud and parts in contact with creek and river water is saturated.
- Using the metal brush to scrub mud and soil from tyre grooves and outer wall.
- Once all weed seeds and soil material has been removed and the parts of the vehicle/machinery that have been in contact with creek and river water have been saturated with disinfectant, wash off disinfectant using 15L spray pack filled with water.
- Allow saturated parts to dry whilst carrying out the next step.

Note: the above photographs were taken using water instead of a disinfectant/water mixture for demonstration purposes only. When using Viraclean or other equivalent disinfectant product as per this procedure, it must be applied using PPE, ie nitrile gloves or similar and safety glasses as recommended in the product SDS.
4) Disinfect cleaning materials and work boots

- Using the 1.5L spray bottle, clean work boots and other tools that have been in contact with weeds or potentially contaminated Phytophthora and Myrtle Rust soil and/or creek and river water that may be infected with Chytrid Fungus.
- Once all items are sufficiently cleaned, then disinfect the wire brush ready for next use.
- Once vehicle and personal disinfection is completed, immediately exit the property/park.

Note: the above photographs were taken using water instead of a disinfectant/water mixture for demonstration purposes only. When using Viraclean or other equivalent disinfectant product as per this procedure, it must be applied using PPE, ie nitrile gloves or similar and safety glasses as recommended in the product SDS.

- Proceed to an authorised wash down bay to thoroughly clean the vehicle/plant.
5) **Further information on vehicle/machinery hygiene**

This document is only a guide to inform workers and ASPs on the hygiene protocols necessary for high priority/risk areas identified by the relevant authorities to harbour pests, weeds and diseases (for example *Phytophthora cinnamomi*, Myrtle Rust and Chytrid Fungus).

6) **Noxious weed control strategies**

The control of noxious weeds typically requires an integration of a number of techniques, including physical removal, herbicide application and/or mulching replacement with appropriate native plants (where suitable). Regular monitoring is essential to optimise the control strategy, ie control is more effective and economical if it is carried out when the plants are young.

The control strategy will vary on the subject weed species and as such, advice must be sought from the relevant Environmental Business Partner on the method to be used if there is any uncertainty.

Where the control of weeds through pesticide application is determined to be required following consultation with an Environmental Business Partner or relevant environmental representative, the *Pesticides Act 1999 (NSW)* and associated regulations require the user of the pesticide to:

- complete and hold records regarding the application of pesticides; and
- notify land owners where pesticide applications are made on their land.

The recordkeeping and notification will be conducted in accordance with Company Procedure GPE 0004 – Pesticide Use or in the case of ASPs in accordance with the aforementioned legislation.

Only registered herbicides can be used to control weeds according to the directions on the product label.