



# Vegetation Management Guideline

This guideline has been developed by the Victorian Electricity Supply Industry (VESI) Vegetation Management Committee

*In the Victorian  
Electricity Supply  
Industry*

*September 2015*

DATE	VERSION	AMENDMENT	NAME
September 2014	1	Original	VMC
September 2015	2	<p>Updated Training and Qualifications Section to include the following requirements:</p> <ul style="list-style-type: none"> <li>• Qualifications</li> <li>• New Employee</li> <li>• Vegetation Roles</li> <li>• Lineworkers</li> <li>• HV Live Work</li> <li>• Arborist</li> <li>• Certificate II – Units of Competence Requirements</li> <li>• VESI Competency Assessment / Refresher Training Requirements</li> <li>• Updated the heading in Table 4 to align with The Green Book</li> </ul>	VMC

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## 1. Introduction

The Victorian Electricity Supply Industry (VESI) has developed this Vegetation Management Guideline to establish industry standards for Vegetation Management workers in the VESI.

## 2. Purpose

The purpose of this guideline is to establish the principles applicable to safe vegetation management work for workers working under the control of the VESI Distribution Networks in the vicinity of the Network Operator assets.

This guideline is intended to:

- provide an agreed standard common to all VESI Network Distribution Operators
- assist in the safety of vegetation management workers and the general public;
- specify the minimum standards required for mobile plant, tools and equipment used in vegetation management work;
- provide the basic technical material necessary for Network Operators and Service Providers to develop work procedures and related training.

## 3. Scope

The scope of this document provides the principles and the responsibilities for workers who undertake and/or manage vegetation work for the VESI Distribution Network Operator in the vicinity of the Network Operator assets in Victoria.

For Vegetation work near Transmission lines please refer to the applicable Transmission Network Operator.

This guideline applies the Safe Approach Distances and Vegetation Clearances near live overhead lines when undertaking vegetation management work by:

- Using appropriate work methods for clearing vegetation;
- The use of insulated tools, plant and equipment

Vegetation management work at distances less than Vegetation Clearances and Safe Approach Distances detailed in the tables within this guideline shall only be undertaken by utilising appropriate live work techniques; Network Operator approved procedures or covered by a Network Operator's access authority.

## 4. Training & Qualifications

For all Vegetation Management workers working on or near VESI Network Operator Assets the following documents outline the minimum training requirements:

- The VESI [Skills & Training Guideline](#) and [Matrix](#)
- The Vegetation Management Guideline
- Network Operator procedures/ processes

The minimum requirements outlined in these documents shall apply to Network Operators, their Service Providers and Sub-contractors. All training shall be in place prior to work being performed unless specified by this Guideline or the Network Operator.

For roles not identified in the Matrix or where there is a change required to an existing role, training requirements should be established in consultation with the Network Operator. These requirements may be different for each Network operator.

### Qualifications

Effective from 1<sup>st</sup> June 2015 the following Vegetation roles are required to hold the qualification of Certificate II in ESI Powerline Vegetation Control (JET20312):

- Cutter working from EWP
- Specialist Plant Operator
- Tree Climber

The Qualification requirements for Vegetation Assessors shall be determined by the Network Operator.

Table 1 outlines the Units of Competency required to be undertaken for the applicable Vegetation role. All mandatory competencies shall be completed to undertake the role in the VESI.

When a vegetation worker undertakes a role that requires a qualification, they shall meet the agreed elective requirements. New workers shall have a documented training plan within 3 months of commencing which includes reference to the nominated electives in Table 1. It is anticipated that the qualification requirements would be completed within 12 months of enrolment.

A Vegetation Worker Supervision Guideline has been developed for Trainees. This Guideline is to be followed when completing the Certificate II Qualification or electives.

The refresher training cycle will commence on successful completion of the initial training.

Under no circumstances shall non-qualified workers undertake a role that requires a Qualification.

Where a person performs multiple roles (e.g. Tree Climber, Cutter working from EWP) they shall undertake the mandatory Units of Competency and refresher training applicable to the roles as stipulated in the VESI Skills and Training matrix for refresher training and the Units of Competency requirements in Table 1.

## New Employees

When a Vegetation Management Company or its sub-contractor employs a new field based employee with no previous vegetation experience, they will be defined as Ground Crew and the following minimum requirements shall be adhered to prior to accessing the Network:

- Hold an Australian ESI Skills Passport
- Have completed the required VESI mandatory training as Ground Crew
- Undertake a Network Operator Induction

If the employer requires the Ground Crew to undertake further Vegetation roles, the following criteria applies:

- Certificate II – Elective Units of Competence requirements for the role as specified in Table 1; and
- the requirements listed for the role on the VESI Skills and Training Matrix.

New workers who require a qualification shall have a documented training plan within 3 months of commencing which includes reference to the nominated electives in Table 1. It is anticipated that the qualification requirements would be completed within 12 months of enrolment

The Ground Crew shall not undertake any task until the required unit of competency and any prerequisites or specific training is completed e.g. wood chipper.

## Vegetation Roles

<b>Assessor</b>	Engaged in assessing and scoping vegetation near live electrical apparatus. Determine cutting requirements to confirm compliance for vegetation near live electrical apparatus
<b>Cutter working from EWP</b>	Engaged in vegetation control work for the Network Operator from an Elevated Work Platform (EWP)
<b>Ground Crew</b>	Engaged in assisting a vegetation worker as ground support function only. Could include chipper operation and/or chainsaw if suitably trained
<b>Specialist Plant Operator</b>	Engaged in vegetation control work for the Network Operator from the ground using specialised plant e.g. mechanical boom saw
<b>Tree Climber</b>	Engaged in vegetation control work for the Network Operator from a tree

## Lineworkers

Lineworkers who undertake vegetation works under a vegetation contract who have been approved by the Network Operator are required to have the unit of competence in either:

- UETTD RVC29A Control vegetation whilst performing Linework or
- UETTD RVC25A Use elevated platform to cut vegetation above ground level near live electrical apparatus.

## **HV Live Work**

Only trained HV Live Work Lineworkers with current HV Live Work competency are permitted to clear vegetation from an EWP positioned over the top of live HV conductors, using the appropriate HV Live Work procedures. Persons engaged in HV Live Work tree cutting tasks shall have undertaken training in a National Live Work Competency Standard Unit or <sup>1</sup>VESI Limited High Voltage Live Work – Vegetation Control training course provided by a Registered Training Organisation and be assessed as having the appropriate skills and knowledge for the task.

Note<sup>1</sup>: Workers trained in VESI Limited High Voltage Live Work – Vegetation Control can only be used with the prior approval of the relevant Network Operator.

HV Live Work Lineworkers shall have attained the applicable National competency Operate and Maintain Chainsaws AHCARB205A.

A HV Live Work Lineworker who does not have the required vegetation competency/ies may cut vegetation clear of power lines for the Certificate II vegetation worker to complete the required cutting, maintaining Safe Approach Distances and vegetation clearances.

## **Arborist**

Arborists may be engaged in the VESI to assess hazardous trees. Arborists shall meet the qualification requirements as stated in the Electricity Safety (Electric Line Clearance) Regulations:

*Suitably qualified arborist means an arborist who has:*

- (a) the qualification of National Certificate Level IV in Horticulture and Arboriculture, including the Assess trees module, or an equivalent qualification; and*
- (b) at least 3 years of field experience in assessing trees*

**Table 1 - Certificate II – Units of Competence Requirements**

The following table outlines the Units of Competency required to be undertaken for the applicable Vegetation role in the VESI. All Mandatory (M) units of competency shall be completed to undertake the role. Other units of Competence may be required to fulfil the role and the task being undertaken.

**Legend**

**M** - Mandatory

**A** - Additional - If worker requires this training for the works being performed

	Qualification / Competency Standard Unit (CSU) number	Assessor	Cutter working from EWP	Specialist Plant Operator	Tree Climber
<b>Qualification</b>					
Certificate II in ESI - Powerline Vegetation Control	UET20312	M	M	M	M
<b>Certificate II Powerline Vegetation Control – Core Competency Standard Units</b>					
Apply Occupational Health Safety regulations, codes and practices in the workplace	UEENEEE101A	M	M	M	M
Comply with sustainability, environmental and incidental response policies and procedures	UETTDREL13A	M	M	M	M
Working safely near live electrical apparatus as a non-electrical worker	UETTDREL14A	M	M	M	M
Operate and maintain chainsaws	AHCARB205A	M	M	M	M
Plan the removal of vegetation up to vegetation exclusion zone near live electrical apparatus	UETTDRVC23A	M	M	M	M
Monitor safety compliance of vegetation control work in an ESI environment	UETTDRVC27A	M	M	M	M
<b>Certificate II Powerline Vegetation Control – Elective Competency Standard Units</b>					
Use climbing techniques to cut vegetation above ground near live electrical apparatus	UETTDRVC21A				M
Assess vegetation and recommend control measures in an ESI environment	UETTDRVC24A	M			
Use elevated platform to cut vegetation above ground level near live electrical apparatus	UETTDRVC25A		M		
Operate specialist equipment at ground level near live electrical apparatus	UETTDRVC31A			A	
Use specialised plant to cut vegetation above ground level near live electrical apparatus	UETTDRVC32A			M	
Apply pruning techniques to vegetation control near live electrical apparatus	UETTDRVC33A		M	M	M
Undertake release and rescue from a tree near live electrical apparatus	UETTDRVC34A				M
Fell small trees	AHCARB202A		A	A	A
Undertake standard climbing techniques	AHCARB204A				M
Apply chemicals under supervision	AHCCHM201A		A	A	A
Operate machinery and equipment	AHCMOM304A		A	M	A
Recognise plants	AHCPCM201A	M	A	A	A
Operate a mobile chipper/mulcher	FPIHAR2206B		A	A	A
Licence to operate a boom-type elevating work platform (boom length 11 metres or more)	TLILIC2005A		M		

## Table 2 - VESI Competency Assessment / Refresher Training Requirements

This Matrix and any specific Network Operator requirements shall be referenced whenever Competency Assessment / Refresher training is required for existing or new personnel. The requirements outlined in this Matrix are the VESI minimum standard and therefore, applies to Network Operators their Contractors and Sub-contractors. All training shall be in place prior to work being performed unless specified by the Network Operator.

### Legend

**M** - Mandatory

**A** - Additional - If worker requires this training for the works being performed and has the original training, refresher is mandatory

			Assessor	Ground Crew	Cutter working from EWP	Specialist plant Operator	Tree Climber
			Competency Standard Unit (CSU) number				
Initial Training							
	Apply ESI safety rules, codes of practice and procedures for work on or near electrical apparatus (Green Book / Blue book)	UETTDRRF01B	M	M	M	M	M
	Work safely in the construction industry (White card) or equivalent	CPCCOHS1001A	M	M	M	M	M
Frequency	Training						
1 year	CPR	HLTAID001	M	M	M	M	M
1 year	EWP Controlled Descent Escape	UETTDRRF08B			M		
1 year	EWP Rescue	UETTDRRF03B			M		
1 year	First Aid in an ESI environment	UETTDRRF10B	M	M	M	M	M
1 year	Safe Approach Distances – Vegetation Work		M		M	M	M
1 year	Undertake release and rescue from a tree near live electrical apparatus	UETTDRVC34A					M
3 yearly	Manual Handling		M	M	M	M	M
3 yearly	Safe to Approach SWER		A	A	A	A	A
3 yearly	Traffic Management - Traffic Control		A	M	M	M	M
3 yearly	Traffic Management - Traffic Guidance Schemes		A	M	M	M	M
3 yearly	VESI Environmental Framework		M	M	M	M	M
3 yearly	VESI Safety Framework		M	M	M	M	M
Authority Training*							
3 yearly	Apply access procedures to work on or near electrical network infrastructure (Receive Access Permit)	UETTDRRF09B			A		
3 yearly	Enter Enclosures		A				
3 yearly	Make Application for				A		
Other							
	Australian ESI Skills Passport		M	M	M	M	M
	Network Operator Induction		M	M	M	M	M

## 5. General Principles

When pruning vegetation near live overhead lines, arboriculture techniques should be used, where practicable, in accordance with the appropriate Australian Standard.

Vegetation management work shall not be performed near live overhead lines, when another activity that could compromise the safety of the work team is being carried out.

Prior to commencing vegetation management work, a documented Safe Work Method Statement (SWMS) and site risk assessment (JSA) shall be in place to record potential hazards, assess the risk and determine controls associated with work practices, the work environment, the use of materials, plant, tools and equipment.

Employers undertaking vegetation work shall develop and document approved work procedures to ensure the safety of vegetation management workers and the general public, when vegetation management work is undertaken near live overhead lines.

The approved work procedures shall include but not be limited to:

- Description of vegetation management principles and requirements;
- Instructions on caring for the tools and equipment;
- Testing requirements for plant, insulated tools and equipment;
- A set of approved vegetation management work techniques or procedures;
- The Safe Approach Distances applicable to the worker and the voltage;
- The minimum Vegetation Clearances to all voltages;
- Emergency procedures

## 6. Hazards

Hazards that may be encountered include but are not limited to:

- Working near live overhead power lines;
- Unexpected movement of the worker, mobile plant or the vegetation relative to the electrical apparatus;
- Unexpected lateral movement (sway) of the conductors due to wind, particularly in gusty conditions;
- Unexpected drop in height (sag) of the conductors due to temperature rise associated with changes in electrical load, solar radiation or reduced cooling under light or still wind;
- The integrity of the adjacent structures, conductor spans and of any insulation on live conductors;
- Site conditions (stability of equipment and footing), vehicular traffic, pedestrians;
- Direct or indirect contact with live overhead lines via vegetation or un-insulated tools and equipment; and
- Hazardous voltages may be present in all parts including the base of vegetation where it is in contact with live overhead lines, particularly during wet and/or windy conditions or with higher voltage power lines.

## 7. Controlling Hazardous Situations

Measures shall be taken by vegetation workers to control the risks from hazardous situations in accordance with approved procedures. Control measures shall be monitored and their effectiveness reviewed for the duration of the works.

This may be achieved by, but not limited to one or more of the following methods:

- Utilisation of a Safety Observer;
- Taking an electrical access permit;
- The use of high voltage live working techniques;
- The use of fully insulated mobile plant, tools and equipment;
- Increase the minimum distances required to safely carry out the vegetation management work including allowance for unexpected conductor movement;
- The use of suitable personal protective equipment as per Network Operator requirements;
- A safe means and method of controlling the movement of limbs being cut;
- Positioning the 'mobile plant' and persons such that Safe Approach Distances can be maintained in all circumstances; and
- Ensure that all members of the public are kept clear of the work site while vegetation management work is in progress.
- Suppression of Auto Reclose;

## 8. Work Considerations

Vegetation management work which is required to be performed on vegetation which has any part within or likely to come within, the vegetation clearances of live exposed high voltage overhead lines shall be undertaken by approved HV Live Work Methods or under Electrical Access Permit.

### Auto-reclose Functions

The Auto Re-close function is a circuit breaker equipped with a mechanism that can automatically close the breaker after it has been opened due to a fault. Where vegetation management work is being performed 'Near' live high voltage apparatus the auto-reclose function of the HV circuit, where installed shall be suppressed/disabled for the duration of work. The auto-reclose function shall be identified as suppressed/disabled in accordance with Network Operator procedures.

## 9. Wearing of Metallic Objects

Metallic objects such as neck chains, earrings and other body adornments, rings, watches and bracelets should not be worn while carrying out vegetation management work near live overhead lines.

## 10. Weather Conditions

Vegetation management work near live overhead lines should not proceed in the event of the following weather conditions unless an onsite risk assessment is completed and suitable controls can be put in place and maintained:

- An electrical storm is observed in the vicinity of the worksite;
- Any significant rain (beyond intermittent spotting), mist, fog, snow or sleet unless using methods and equipment specifically designed and tested as being able to operate whilst wet;
- Wind velocities that may result in conductor, EWP or vegetation unexpected movement sufficient to breach Safe Approach Distances;
- Excessive wind velocities such that work cannot be carried out safely; and
- Lighting is not adequate.

## 11. Safety Observer

A safety observer(s) shall be appointed where any, person, mobile plant, EWP or vegetation is in a position where any part could accidentally come within the Safe Approach Distances or Vegetation Clearances.

Depending on the position and complexity of the work, more than one safety observer may be required however at least one safety observer must be positioned at ground level at all times.

The safety observer(s) shall:

- Be specifically instructed in the workplace hazards applicable;
- Ensure that all persons, tools, plant and equipment remain outside the specified minimum Safe Approach Distance unless performing a rescue in accordance with approved procedures;
- Be positioned at a suitable location to effectively observe the work being performed;
- Not observe more than one vegetation management work activity at any time;
- Have the authority to temporarily suspend the work at any time;
- Maintain effective and immediate communication with the work team at all times;
- Not perform any other task while acting as a safety observer, which includes the passing of tools directly to the person performing the work;
- Suspend all work in the event of having to leave the site or significantly change position until he / she has returned / reached new location or has been replaced;
- Be trained and deemed competent of performing a rescue relevant to the work being undertaken; and
- Be trained and deemed competent of performing the work being undertaken.

The safety observer's role may be rotated between members of the work team e.g. to reduce fatigue. When this occurs it shall be formally handled such that all members of the work party are aware at all times who is performing the role of the safety observer(s).

## 12. Safe Approach Distances and Vegetation Clearances

The Safe Approach Distances and Vegetation Clearances for Instructed or Authorised Persons in Table 3 & 4 below are derived from Table 2 and Table 3 of The Green Book 2013 - Electrical Safety Rules for the VESI Distribution Networks - Safe Approach Distance - Vegetation work.

The Vegetation Clearances for below and beside conductors in table 3 & 4 in some cases differ and are greater from those that are stipulated in The Green Book. The Vegetation distances in table 3 & 4 below shall be applied for all workers who undertake vegetation works unless they have been approved by the Network Operator to apply the clearances stated in Table 2 of the Green Book.

The Vegetation clearance described in this document means the minimum separation in air that should be maintained between vegetation and live electrical apparatus when performing vegetation management work.

Any safe system of work employed to undertake vegetation clearing near overhead power lines shall result in the achievement of both the Safe Approach Distances and Vegetation Clearance which includes but is not limited to:

- Cut, pruned or falling vegetation;
- Tools and equipment;
- Persons; and
- Mobile plant

The preferred method of controlling risk is by the inclusion of a second level of precaution into the safe system of work. (E.g. insulated work platforms, insulated tools and PPE.)

The clearing of vegetation adjacent to overhead power lines by Instructed or Authorised Persons using climbing or ground based methods must comply with any additional specific Network Operator control procedures. They shall ensure that any climbing and ground based clearing methods provide at least the appropriate Safe Approach Distances for persons (and tools) as well as the minimum Vegetation Clearances at all times. Climbing and ground based clearing methods may require additional clearances and controls to ensure a safe system of work is maintained.

The Safe Approach Distance for persons and mobile plant are specified for ideal environmental, weather and working conditions. Allowances must be made for the effects of ambient temperature, conductor temperature, network fault current (surge), wind and other environmental influences on overhead power line sag and sway while vegetation management work is in progress.

The Safe Approach Distances and Vegetation Clearances specified in this section apply to bare, covered and insulated conductors. Vegetation must be cut, felled or pruned using controlled movements. The vegetation can be controlled using ropes or other approved methods.

Tools, equipment and extensions are considered part of the person in applying Safe Approach Distances.

To provide mechanical protection of the overhead line the distances indicated for insulated tools in the following tables relate to the cutting edge of the tool.

When utilising insulated tools and equipment, the minimum length of insulating material between the operating head attachment and their closest point of contact must be equal to the personal Safe Approach Distances in Table 3 of this Guideline.

Persons in training shall be competent in the work being performed and shall apply the Safe Approach Distances for instructed or authorised persons. During training, instructed persons shall be under supervision of an authorised person.

## Utilising Insulated Mobile Plant, Tools and Equipment

Instructed and authorised persons performing vegetation management work near live overhead power lines using an insulated EWP or insulated platform, shall maintain the distances listed in Table 3.

A safety observer shall be used in accordance with the requirements of Section 10 of this Guideline.

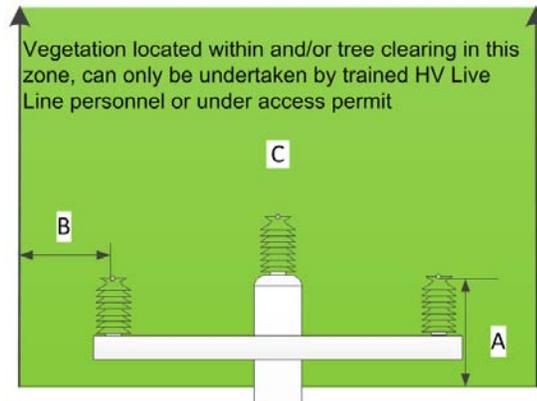
**Table 3**

**Safe Approach Distance and Vegetation Clearance for instructed and authorised persons utilising insulated EWP, tools, plant & equipment**

Nominal Phase to Phase Voltage	Insulated mobile plant	Instructed & Authorised Persons	Vegetation Clearance Below	Vegetation Clearance Beside	Vegetation Clearance Above / Overhanging
kV	mm	mm	mm	mm	
LV	Contact Allowable	Physical clearance	No Clearance Required	No Clearance Required	No Clearance Required
HV up to and including 22	700	700	150 (A)	700 (B)	Vegetation management work not permitted (C)
HV above 22 up to and including 66	1000	1000	400 (A)	900 (B)	

### Vegetation Clearance guide

Tree clearing permitted if vegetation is located outside Zones (A, B & C) for Instructed or Authorised persons provided Safe Approach Distances are maintained at all times.



## Climbers and Ground Workers

Vegetation management workers performing vegetation management work from either within a tree or from the ground (e.g. specialised Plant) near live overhead power lines shall be instructed or authorised persons and maintain the distances listed in Table 4.

The clearing of vegetation adjacent to overhead power lines by Instructed or Authorised Persons using climbing or ground based methods must comply with any additional specific Network Operator control procedures. These procedures shall ensure that any climbing and ground based clearing methods provide at least the appropriate Safe Approach Distances for persons (and tools) as well as the minimum Vegetation Clearance at all times. Climbing and ground based clearing methods may require additional clearances and controls to ensure a safe system of work is maintained.

Climbers shall not climb any vegetation where any part of it is within or may move within the Vegetation Clearances noted in Table 4 during the work activity.

Climbers shall be attached to the tree “or a safe Belay” at all times by means of a climbing rope, flip line (pole strap/lanyard) or safety line and shall not position themselves so that they could fall or swing into the conductors or in any way breach the distances listed in Table 4.

A safety observer shall be used in accordance with the requirements of this Guideline.

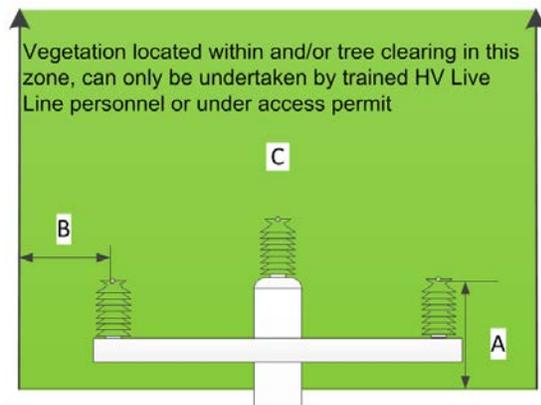
**Table 4**

**Safe Approach Distances and Vegetation Clearances for Instructed and Authorised Persons performing vegetation works when climbing or working from ground level**

Nominal Phase to Phase Voltage	Instructed & Authorised Persons Personal Clearances	Vegetation Clearances Below and Beside	Vegetation Clearance Above / Overhanging
kV	mm	mm	mm
Insulated LV	200	No Clearance Required	No Clearance Required
Exposed LV	1000 (no work above)	No Clearance Required	3000 <sup>1</sup>
HV up to and including 22	1200	700 (A & B)	Vegetation management work not permitted (C)
HV above 22 up to and including 66	1400	1000 (A & B)	

### Vegetation Clearance guide

Tree clearing permitted if vegetation is located outside Zones (A, B & C) for Instructed or Authorised persons provided Safe Approach Distances are maintained at all times.



<sup>1</sup>Provided the movement of limbs being cut can be controlled

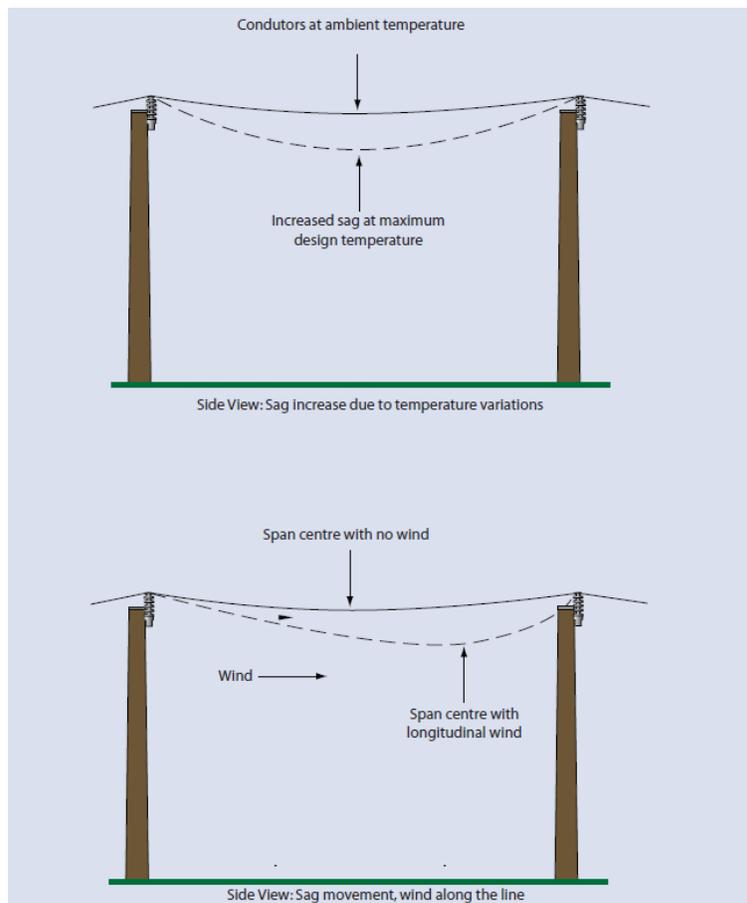
### 13. Conductor Sag and Sway Exclusion

The Safe Approach Distances and Vegetation Clearances detailed in this Guideline make no provision for conductor movement due to wind or change in conductor temperature. Unexpected conductor movement may occur under moderate wind or changes in conductor heating or cooling factors.

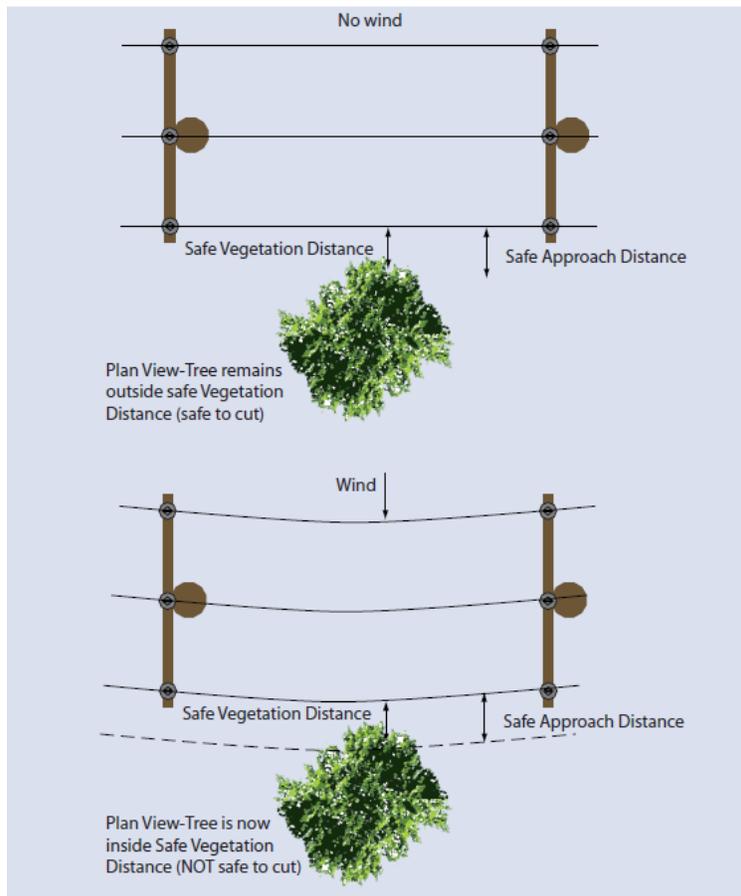
Appropriate allowance for sag and sway changes must be applied when working adjacent to power lines towards the centre of the span to ensure that appropriate Safe Approach Distances are maintained at all times (Figures 1 – 3). Factors regarding conductor movement to consider include:

- Positioning of plant and persons and the method of cutting of limbs;
- Sway – Conductors can move unexpectedly due to causes such as wind, fault currents or impacts. Under fault conditions movement may be sudden and extreme, in excess of the full sag at everyday temperatures;
- Sag – Conductors may move downwards due to possible causes including, conductor temperature rise, wind, fault currents and impacts; and
- The type of construction (for example suspension insulators allow more conductor movement than post insulators).

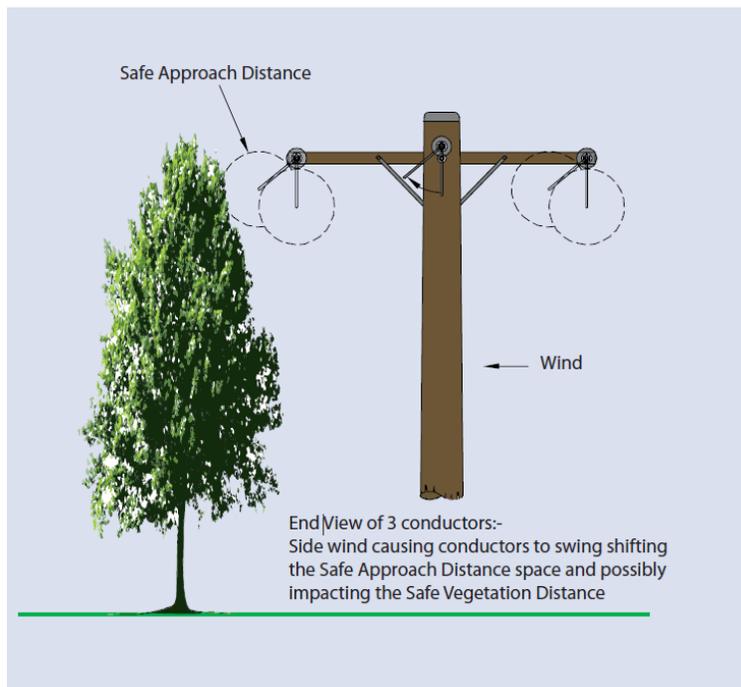
**Figure 1 – Conductor Sag and Sway (Side Elevation)**



**Figure 2 – Conductor Sag and Sway (Plan View)**



**Figure 3 – Conductor Sag and Sway (Section Elevation)**



## 14. Tools and Equipment

Care and maintenance of tools and equipment is essential for safe vegetation management work near live overhead lines. This is especially the case for insulated tools and equipment.

All tools and equipment used for vegetation management work shall be inspected, maintained and tested at appropriate intervals and in accordance with the manufacturer's recommendations and relevant Standards. Appropriate records shall be kept in accordance with legislative requirements.

All insulated tools and equipment including hydraulic saws used for vegetation management work shall be designed, tested and approved specifically for work near live overhead lines. They shall be rated for the voltage of the relevant overhead lines and shall meet Australian Standards AS5804.1, AS5804.2 and AS5804.3.

All insulated hydraulic saws and attached hoses shall be electrically tested at intervals not exceeding six months. The appropriate electrical insulation test shall be carried out in accordance with the manufacturer's specifications and Australian Standards AS5804.2 and AS5804.3.

All insulated tools and equipment should be maintained in a clean and dry condition, should not be laid directly on the ground and be visually inspected and cleaned before use. They shall be stored and transported in a way that shall ensure the equipment is not exposed to excess moisture, dust, abrasion and other deteriorating effects.

Any insulated tools and equipment that appear to be defective shall be labelled defective, and quarantined from service for further inspection, testing, repair or replacement.

## 15. Ladders

Only ladders with insulating properties shall be used to provide access for vegetation management workers to their work position near live overhead power lines as per The Green Book. Metal ladders or metal reinforced ladders shall not be used.

## 16. Elevating Work Platforms (EWP)

EWPs set up in accordance with the requirements of this section may be used to support, workers and equipment for vegetation management work near live overhead lines.

The EWP insulated sections should be maintained in a clean condition.

Table 5 of The Green Book provides the Safe Approach Distances for insulated and uninsulated sections of mobile plant operated by an instructed person or authorised person, with a safety observer.

Insulated EWPs and other machinery used for vegetation management work shall have passed acceptance and periodic routine electrical tests in accordance with AS 1418 Pt. 10 and shall be maintained in accordance with AS 2550.10.

## 17. Communications

The vegetation management work team shall establish a reliable on-site two-way communication links with the Network Operator and Service Provider. The links should be continuously available.

The integrity of the communication links shall be checked at regular intervals during the course of the work to ensure it is functioning correctly.

The work team shall establish and maintain effective communication between the work team members to ensure the safety of the team.

A procedure / protocol shall be in place for contacting emergency services should an accident or incident occur.

## 18. Public Safety

The Network Operator and Service Provider shall have in place documented work procedures to ensure that all members of the public are kept clear of the work site while vegetation management work is in progress.

## 19. Incident reporting

For the purpose of this Guideline, an incident is defined as any of the following events:

- An electric shock or other serious injury received by any member of the work team or member of the public;
- A flashover at, or close to, the worksite for any reason;
- Damage to the network or causes a supply outage
- Complete or partial breakdown of any insulating tool or equipment irrespective of whether flashover occurred;
- The electrical or mechanical failures of any insulating tool, which did, or could have the potential to, cause an accident; and
- Any occurrence, which is life threatening or has the potential to cause personal injury or damage to property.

The Service Provider shall have in place documented procedures for responding to incidents. These procedures shall address, as appropriate, the following items:

- The immediate notification of the Network owner;
- The rescue of injured persons or those at risk;
- The immediate first aid and medical needs of any injured person and the safety of other persons at the worksite;
- Investigation and reporting requirements to determine the cause of the incident and the implementation of appropriate remedial measures; and
- Notification of all parties required under relevant regulations and industry agreements.

## 20. Continuous Improvement

Suggestions for improvement to this guideline can be submitted via the [Contact Us](#) link on the VESI Skills and Training webpage. Suggestions will be considered by the Vegetation working group for incorporation.

Any changes to this document can only be made by consensus agreement between the Network Operators.

## 21. Definitions

<b>Competent</b>	means having the skills, knowledge and attributes a person needs to complete a task
<b>Insulated</b>	means separated from adjoining conducting material by a non-conducting substance which provides resistance to the passage of current, or to disruptive discharges through or over the surface of the substance at the operating voltage, and to mitigate the danger of shock or injurious leakage of current
<b>Insulated Elevating Work Platform (EWP)</b>	means an elevating work platform that complies with the design and electrical testing requirements of AS 1418.10
<b>Insulated Plant, Tools and Equipment</b>	means plant, tools and equipment specifically designed, approved, tested and maintained for use on or near live electrical apparatus. They shall be used only on or near electrical apparatus, which is energised at a voltage equal to or less than the voltage rating marked on the plant, tool or equipment.
<b>Near</b>	means a situation where there is a reasonable possibility of a person either directly or through any conducting medium (e.g. via mobile plant) coming within the relevant Safe Approach Distances
<b>Personnel</b>	Employees, Contractors and Sub-contractors of a Distribution Network Operator.
<b>Refresher training</b>	Training to compensate for or prevent deterioration in a previously achieved standard of performance. Usually undertaken at a set frequency.
<b>Service Provider</b>	Contractor or sub-contractor engaged through contractual arrangements with a Distribution Network Operator
<b>Units of competency</b>	define the skills and knowledge to operate effectively and how they need to be applied to perform effectively in a workplace context
<b>Vegetation</b>	means any living or non-living flora or any part of that flora.
<b>Vegetation Clearance</b>	means the minimum separation in air that shall be maintained between vegetation and live electrical apparatus when performing vegetation management work.
<b>Vegetation Management Work</b>	means the pruning, cutting, trimming or felling of, or application of herbicides to, vegetation and the assisting to prune, cut, trim or fell, or apply herbicides to, vegetation, where any part of the vegetation is or may come within, or the work requires any person, tool, equipment or vehicle to come within, the Safe Approach Distance for ordinary persons for live overhead lines.

**Vegetation Management Worker**

means an employee whose qualifications, experience and ongoing training and assessment demonstrate competency in the performance of vegetation management work near live overhead lines

**22. References**

ENA DOC 023-2009 - ENA Guidelines for Safe Vegetation Management Work Near Live Overhead Lines

The Green Book 2013 - Electrical Safety Rules for the VESI Distribution Networks