



Australian Government

Department of Education, Employment and Workplace Relations

UETTDRVC33A Apply pruning techniques to vegetation control near live electrical apparatus

Release: 1

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Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This Competency Standard Unit covers the pruning principles and techniques to perform vegetation clearing activities in accordance with the Australian Standard Pruning of Amenity Trees AS4373 so as to achieve the statutory vegetation clearance requirements near live electrical apparatus up to the live work zone as defined for both Authorised and Instructed Persons in the industry guidelines associated with live electrical apparatus. Pruning activities may be performed from ground level or above ground level.

It does not include the full gamut of rigging techniques and practices required of a Rigger or entry into to the safe approach distance (SAD) as defined for persons, mobile plant, equipment and specialised tools.

Also included is the preparation of risk assessment control measures that encompass job safety assessment.

Encompassed is compliance with relevant State or Territory regulatory agencies/bodies, local government legislation, Industry bi-partite body – Guidelines/Codes of Practices or other related requirements for safe work and access near live electrical and mechanical apparatus.

Competency is demonstrated by the application of knowledge and skills to a range of pruning tasks and roles usually within established enterprise routines.

Application of the Unit

Application of the Unit 2)

This competency standards unit shall apply to Transmission, Distribution, Rail Traction,

Telecommunications and Vegetation Management Control industry sectors.

Licensing/Regulatory Information

License to practice 3)

The skills and knowledge described in this unit may only be practiced under the regulations pertaining to each State and Territory for the safe planning for the removal of vegetation around live powerlines up to the live work zone including near live electrical apparatus, and regulations that directly relate to Occupational Health and Safety and/or contracts of training where they apply.

Pre-Requisites

Prerequisite Unit(s) 4)

Competencies 4.1)

Granting of competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

Where pre-requisite pathways have been identified. All competencies in the Common Unit Group must be have been completed.

Common Unit Group

Unit Code	Unit Title
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UETTDREL13A	Comply with sustainability, environmental and incidental response policies and procedures
UETTDREL14A	Working safely as a non electrical worker near live electrical apparatus
UETTDRCVC23A	Plan the removal of vegetation up to vegetation exclusion zone near live

Prerequisite Unit(s) 4)

electrical apparatus

UETTDRC27A Monitor safety compliance for vegetation work near live electrical apparatus

Literacy and numeracy skills 4.2)

Participants are best equipped to achieve this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 “Literacy and Numeracy”

Reading 2 Writing 2 Numeracy 2

Employability Skills Information

Employability Skills 5)

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit

Performance Criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the Evidence Guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Identify pruning principles and the various pruning techniques near live electrical apparatus and its effects on vegetation.	1.1 Pruning principles are explained in an arboriculture context.
	1.2 The differentiation between formative, corrective and preventative pruning is clarified.
	1.3 Describe the effects poor pruning practices have on the shape and future structure of various tree species.
	1.4 Detail the pruning requirements for various situations and plant types growing in proximity to power lines.
	1.5 Principles of natural target pruning are explained in accordance with accepted standards.
	1.6 Identify branch collars, branch bark ridge and the sequence for branch removal.
2 Prepare for pruning near live electrical apparatus	2.1 Pruning instructions are obtained and confirmed.
	2.2 Pruning tools and equipment are selected according to the location, access and size of material to be pruned.
	2.3 Pre-operational and safety checks are carried out on pruning tools and equipment according to manufacturers specifications and enterprise work procedures.
	2.4 Pruning tools and equipment are prepared for use.
	2.5 Suitable safety and personal protective equipment (PPE) is selected, used and maintained.
3 Undertake pruning near live electrical apparatus	3.1 Pruning site is suitably signed and barricaded during pruning operations in accordance with enterprise work procedures.
	3.2 Plant material to be pruned or removed is carried

ELEMENT	PERFORMANCE CRITERIA
4 Complete pruning activity near live electrical apparatus.	out in accordance with established standards.
	3.3 The pruning activities are undertaken according to enterprise work procedures and OHS requirements.
	3.4 Pruning tools and equipment are operated safely and effectively.
	3.5 Where required, hygiene practices are observed during pruning operations.
	4.1 Prunings and waste material removed from the site are disposed of in an environmentally aware and safe manner according to enterprise work procedures.
	4.2 Correct manual handling techniques are used when lifting or moving heavy loads.
	4.3 Pruning tools and equipment are cleaned, maintained and stored according to enterprise work procedures.
	4.4 A clean and safe area is maintained throughout and on completion of work.
	4.5 Workplace records are maintained according to enterprise guidelines.

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

8) Essential Knowledge and Associated Skills (EKAS): This describes the essential skills and knowledge and their level, required for this unit.

Evidence shall show that knowledge has been acquired of planning for the removal of vegetation up to vegetation exclusion zone near live electrical apparatus.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-TVC33A ESI vegetation control pruning techniques

Evidence shall show an understanding of pruning techniques to vegetation control near live electrical apparatus to an extent indicated by the following aspects:

T1 Pruning principles near powerlines encompassing:

- Reasons for pruning around powerlines
- Identifying site conditions - inspection methods of vegetation to be pruned what to look for, determination of work-site working area, identification of possible endangered species, identification of appropriate personnel protective equipment to be used, identification of the location of plant, tools, equipment and fellow workmates for safe work practices.
- Inspecting location and determining work methods
- Principles of correct pruning practice - types of pruning (Formative, Corrective, Preventative, Natural target pruning),
- Cutting Techniques - different branch cuts (single top cut technique, single under-cut, handsaw technique for light small branches, chainsaw technique for heavy branches, single side-cut technique, step cut - under-cut then a top cut, technique, scarf under-cut- then top cut technique, top scarf - bottom-back cut technique, side scarf - then opposite back-cut technique, spear-cut technique, snipping/cutting back overhang (lv).
- Correct pruning practices (AS 4373 Pruning of amenity trees) according to enterprise requirements.
- Effects of pruning - incorrect pruning, how much to prune, size of cut

Evidence Guide

EVIDENCE GUIDE

9) This provides essential advice for assessment of the unit of competency and must be read in conjunction with the Performance Criteria and the Range Statement of the unit of competency and the Training Package Assessment Guidelines.

The Evidence Guide forms an integral part of this Competency Standard Unit and shall be used in conjunction with all component parts of this unit and, performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment

9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the Industry's preferred model for apprenticeships. However, where summative (or final) assessment is used it is to include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. It is recognised that, in some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accord with Industry and, Regulatory policy in this regard.

Methods chosen for a particular assessment will be influenced by various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety nature of working with electricity, electrical equipment, gas or any other hazardous substance/material carries risk in deeming a person competent. Hence, sources of evidence need to be 'rich' in nature so as to minimise error in judgment. Activities associated with normal every day work have a bearing on the decision as to how much and how detailed the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practiced. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

**Critical aspects
of evidence
required to
demonstrate
competency in
this unit** 9.2)

Before the critical aspects of evidence are considered all prerequisites shall be met.

Evidence for competence in this unit shall be considered holistically. Each Element and associated Performance Criteria shall be demonstrated on at least two occasions in accordance with the “Assessment Guidelines – UET12”. Evidence shall also comprise:

- A representative body of Performance Criteria demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
 - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the Performance Criteria and range; and
 - Apply sustainable energy principles and practices as specified in the Performance Criteria and range; and
 - Demonstrate an understanding of the essential knowledge and associated skills as described in this unit to such an extent that the learner’s performance outcome is reported in accordance with the preferred approach; namely a percentile graded result, where required by the regulated environment; and
 - Demonstrate an appropriate level of employability skills; and
- Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures; and
- Demonstrated performance across a representative range of contexts from the prescribed items below:

Range of tools/ equipment/ materials/ procedures/ workplaces/ other variables		
Group No	The minimum number of items on which skill is to be demonstrated	Item List
A	Demonstrate correct pruning principles and techniques.	The goals of pruning may include to shape, form, correct or control growth, prevent disease or damage, promote health, control capacity and vigour, and provide clearance for electrical assets.
B	Demonstrate all of the following OHS requirements	identifying hazards, assessing and reporting risks, cleaning, maintaining and storing tools and equipment, appropriate use of personal protective equipment including sun protection, drinking to avoid dehydration, safe operation of tools and equipment, correct manual handling, basic first aid, personal hygiene and reporting problems to supervisors.
C	Demonstrate all of the following:	Identification of potential hazards. Practical application of legislation and codes of practice. Implement control measure(s) to eliminate/reduce hazard(s)/incident.

		Apply incident reporting/recording/investigation procedures. Apply safe manual handling techniques.
D	Demonstrate appropriate selection of all of the following pruning equipment	ropes, handsaws, hand and battery-powered secateurs, pneumatic snips and compressor, hedge trimmers both manual and powered, small chainsaws and hydraulic and motorised pole-saws.
E	Determine what personal protective equipment (PPE) is required to undertake pruning activities.	Hat/hardhat boots, overalls, gloves, protective eyewear, respirator or face mask, face guard, hearing protection, sunscreen lotion
F	Determine what hygiene management practices are required while pruning?	Such as: Sterilisation of clothing, tools and equipment Management debris removal
G	Demonstrate the correct cutting angle for all of the following.	Branch Bark Ridge Stem Bark Ridge Co-dominant Stem Visible Branch Collar
H	At least one occasion	Dealing with an unplanned event by drawing on essential knowledge and associated skills to provide appropriate solutions incorporated in the holistic assessment with the

		above list items
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Context of and specific resources for assessment **9.3)**

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to safely undertake actual planning for the removal of vegetation up to the vegetation exclusion zone near live electrical apparatus.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency working below ground, in limited spaces, with different structural/construction types and method and in a variety of environments.

Method of assessment **9.4)**

This Competency Standard Unit shall be assessed by methods given in Volume 1, Part 3 “Assessment Guidelines”.

Note:

Competent performance with inherent safe working practices is expected in the Transmission, Distribution and Rail Traction Industry. This requires that the specified essential knowledge and associated skills are assessed in a structured environment which is primarily intended for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and associated skills described in this unit.

Concurrent assessment and relationship with other units **9.5)**

There are no concurrent assessment recommendations for this unit.

Range Statement

RANGE STATEMENT

10) This relates to the unit of competency as a whole providing the range of contexts and conditions to which the Performance Criteria apply. It allows for different work environments and situations that will affect performance.

This Competency Standard Unit shall be demonstrated in relation to the pruning principles and techniques to perform vegetation clearing activities in accordance with the Australian Standard Pruning of Amenity Trees AS4373 so as to achieve the statutory vegetation clearance requirements near live powerlines up to the live work zone as defined for both Instructed and Authorised Persons in the industry guidelines associated with live electrical apparatus.

Includes electrical and communications conductors and cables/powerlines and associated equipment on poles and structures according to requirements and established procedures.

Excludes the full gamut of rigging techniques and practices required of a Rigger or entry into to the safe approach distance (SAD) as defined for persons, mobile plant, equipment and specialised tools.

Includes appropriate pruning and/or cutting techniques and practices (encompasses cutting plan) for given vegetation species to minimise regrowth within the electrical field according to requirements and procedures.

Includes the preparation of risk assessment control measures that encompass job safety assessment and compliance with relevant State or Territory regulatory agencies/bodies, local government legislation, Industry bi-partite body – Guidelines/Codes of Practices or other related requirements for safe work and access near live electrical and mechanical apparatus.

Working safely up to the defined “ordinary person zone” near energised electrical apparatus (inc. electrical powerlines) for non-electrical worker/ordinary persons and in some instances vegetation.

Risk assessment control measures that encompass job safety assessment.

Excludes any work that is or may be performed by other competent operatives within the defined “ordinary person zone”

Electricity supply infrastructure assets including electrical apparatus, electrical and communication conductors, and equipment

Safe approach distances zones/Safe Working Clearance

Vegetation control includes: site rehabilitation, horticultural vegetation cutting and pruning techniques to minimise regrowth - chemicals and physical cutting and pruning tools/equipment, concerns for vegetation type/species and significance – heritage, significant, urban/rural; vegetation fire prone areas and areas of particular significance.

Constants and variables included in this unit are fully described in the Definitions Section 1 of this volume and form an integral part of the Range Statement.

- Appropriate and relevant persons (see Personnel)
- Appropriate authorities
- Appropriate work platform
- Assessing risk

RANGE STATEMENT

- Assessment
- Authorisation
- Documenting detail work events, record keeping and or storage of information
- Drawings and specifications
- Emergency
- Environmental and sustainable energy procedures
- Environmental legislation
- Environmental management documentation
- Established procedures
- Fall prevention
- Hazards
- Identifying hazards
- Inspect
- Legislation
- MSDS
- Notification.
- OHS practices
- OHS issues
- Permits and/or permits to work
- Personnel
- Quality assurance systems
- Requirements
- Testing procedures
- Work clearance systems

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Vegetation Units