Australian Government
Department of Education, Employment and Workplace Relations

UETTDRVC30A Coordinate vegetation control operations

Release: 1

INDUSTRY SKILLS COUNCILS
Creating Australia's Future

UETTDRVC30A Coordinate vegetation control operations

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor **1) Scope:**

1.1) Descriptor

This Competency Standard Unit covers the coordination and implementation of continuous vegetation control and takes into account, arboreal regeneration, environmental issues and liaison and consultation procedures with, appropriate government agencies, property owners and environmental groups. It also encompasses conducting and/or contributing to public education processes and legislation issues.

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 plus all the competencies in one (1) of the identified Pathway Unit Group(s):

Common Unit Group

Unit Code	Unit Title
UEENEEE101A	Apply Occupational Health and Safety regulations, codes and practices in the workplace
UETTDREL11A	Apply sustainable energy and environmental procedures
UETTDREL16A	Working safely near live electrical apparatus
UETTDRIS62A	Implement and monitor the organisation's OHS policies, programs and procedures
UETTDRIS63A	Implement and monitor sustainable and environmental energy management policies and procedures

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 4 Writing 4 Numeracy 4

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 Prepare/plan to coordinate vegetation control work	1.1 Works schedule(s), including drawings, plans, requirements, established procedures, and material lists, are obtained, analysed, if necessary, by site inspection and the extent of the preparation of the work determined for planning and coordination.
	1.2 Work is prioritised and sequenced for the most efficient and effective outcome following consultation with others for completion within acceptable timeframes, to a quality standard and in accordance with established procedures.
	1.3 Risk control measures are identified, prioritised and evaluated against the work schedule.
	1.4 Relevant requirements and established procedures for the work are to all personnel and identified for all work sites.

ELEMENT	PERFORMANCE CRITERIA
	1.5 Hazards are identified, OHS risks assessed and control measures are prioritised, implemented and monitored including emergency exits kept clear, to ensure safe systems of work are followed and according to established procedures.
	1.6 Relevant work permits are secured to coordinate the performance of work according to requirements and/or established procedures.
	1.7 Resources including personnel, equipment, tools and personal protective equipment required for the job are identified, scheduled and coordinated and confirmed in a safe and technical working order.
	1.8 Clients/Customers are provided with possible solutions and/or options within the scope, acceptable cost and requirements.
	1.9 Liaison and communication issues with other/authorised personnel, authorities, clients and land owners are resolved and activities coordinated to carry out work.
	1.10 Personnel participating in the work, including plant operators and contractors, are fully briefed and respective responsibilities coordinated and authorised where applicable in accordance with established procedures.
	1.11 Site is prepared according to the work schedule and to minimise risk and damage to property, commerce, and individuals in accordance with established procedures.
	1.12 Positioning of road signs, barriers and warning devices is planned in accordance with requirements.

ELEMENT	PERFORMANCE CRITERIA
2 Carry out the coordination of vegetation control work	2.1 OHS and sustainable energy principles and practices to reduce the incidents of accidents and minimise waste are monitored and actioned in accordance with requirements and/or established procedures.
	2.2 First Aid, Pole Top Rescue and other related work procedures are performed according to requirements and/or established procedures.
	2.3 Lifting, climbing, working aloft, and use of power tools/equipment, techniques and practices are safely exercised according to requirements.
	2.4 Hazard warnings and safety signs are recognised and hazards and assessed OHS risks are reported to the immediate authorised persons for directions according to established procedures.
	2.5 Remedial actions are taken to overcome any shortfalls encountered in the work schedule according to requirements and/or established procedures.
	2.6 Coordination of vegetation control work is carried out, in accordance with the work schedule and requirements and/or established procedures.
	2.7 Essential knowledge and associated skills are applied in the safe coordination of vegetation control work to ensure completion in an agreed timeframe and, to quality standards with a minimum of waste according to requirements.
	2.8 Solutions to non-routine problems are identified and actioned using acquired essential knowledge and associated skills according to requirements.
	2.9 Ongoing checks of quality of the work are undertaken in accordance with requirements and established procedures to ensure a quality like outcome is achieved for the client/customer and to a community/industry standard.

ELEMENT	PERFORMANCE CRITERIA
3 Complete the coordination of vegetation control work	3.1 Work undertaken is checked against works schedule for conformance with requirements, anomalies reported and solutions identified in accordance with established procedures.
	3.2 Accidents and/or injuries are reported and followed up in accordance with requirements/established procedures.
	3.3 Work site is rehabilitated, cleaned up and confirmed safe in accordance with established procedures.
	3.4 Tools, equipment and any surplus resources and materials are, where appropriate, cleaned, checked and returned to storage in accordance with established procedures.
	3.5 Relevant work permit(s) are signed off and are returned to service and advised to client/customer in accordance with requirements.
	3.6 Works completion records, reports, as installed /modified drawing(s) and/or documentation and information are confirmed, processed and appropriate personnel notified.

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 coordinating vegetation control work.

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

KS01-TVC30A ESI vegetation control operation coordination

Evidence shall show an understanding of vegetation control operations coordination to an extent indicated by the following aspects:

T1 Principles of high voltage encompassing:

- Commonwealth/State/Territory legislation, Standards, codes, Commonwealth/State/Territory legislation, supply authority regulations and or enterprise requirements associated with working on or near High Voltage
- Electrical and electrostatic principles related to high voltage lines - relationship of current, voltage and resistance as related to transmission lines, relationship of phase voltage and respective line voltages.
- Production of an electric field – units, effect of distance, potential of an object within the field and the effect of distances to the potential.
- HV insulators - construction of a disc insulator, construction of a polymeric insulator, effects of an electrical field on disc insulators, identification of the number of disc insulators needed for a single line voltage, performance of a failed disc insulator on the line and the system.
- Determining the minimum allowable number of discs per string for each line voltage in the system before bare-hand work is to proceed
- Techniques in detecting a failed disc in a string
- Techniques in using appropriate tools and equipment to test a string
- Methods of recording data
- Effects of electrostatic induction on the human body - relationship of the resistance of a human body to different levels of current and voltage, relationship of a human body to an electric field, effects of electrostatic induction on bare-hand work.
- Application of Faraday’s cage - effects of a body, advantages, description of the Faraday’s cage used by bare-hand live-line workers
- Safety precautions working on or near High Voltage electrical apparatus - safe approach distances from live line, identification of OHS hazards, assessing and controlling risks, types, selection, maintenance, storage and uses of personnel protective equipment, permit to work systems and isolation procedures.
- Types and function of specialised live working equipment
- Safe working policies, procedures and practices when using and operating specialised equipment

REQUIRED SKILLS AND KNOWLEDGE

- Methods of using specialised equipment
- Emergency response and rescue including First Aid etc
- Effects of lighting and switching surges on performance off string insulators - health effects to workers.
- Methods used to alleviate surges on transmission lines
- Magnetic field - difference between magnetic fields and electrostatic fields, source of magnetic field, techniques in locating, measuring and analysing known sources of magnetic fields, reasons for monitoring magnetic field exposure, techniques used to monitor magnetic fields.

T2 Ecological principles for vegetation control encompassing:

- Ecological principles - interdependence of plants, animals, the soil and the environment, environment, habitats, the food chain.
- Soil and erosion control principles - soil types, simple tests, types of erosion, theory of erosion prevention and control, land degradation control, functions of trees in the environment.
- Basic anatomy and physiology - plant morphology, internal anatomy, growth patterns and habits, simple physiology.
- Tree hazard assessment encompassing: - symptoms of stress in trees, diagnosing tree problems, assessments for line clearance, personal hazards, the tree's response to wounding and decay, theory of compartmentalization, tree stability (damage to root systems due to excavation)
- Principles of pruning
- Branch collars

T3 Control of vegetation encompassing:

- Standards, codes, legislation, supply authority regulations and or enterprise requirements including relevant certification and licensing applicable to the control of vegetation - clearance zones and approach distances from overhead power lines, legislation associated with easement access and maintenance, appropriate personal protection equipment, equipment maintenance and safety precautions.
- Tree climbing and pruning - chainsaw safety and maintenance, basic cross-cutting techniques, simple felling, use of EWPs, safe climbing with ropes and harnesses, use of chainsaws in the tree, cutting techniques, roping techniques, chemical control of foliage and the required safety techniques, practical work on site with a range of trees.
- Easement management - legislation relating to easement access and maintenance, use of chemicals and herbicides and provision of MSDSs for those substances, use of machinery and plant, access tracks.

T4 Working safely up to the defined "safe working zone" near energised electrical apparatus (inc. electrical powerlines) for non-electrical worker encompassing:

- Standards, guidelines/codes of practice, State/Territory/local government legislation, supply authority regulations and or enterprise requirements including

REQUIRED SKILLS AND KNOWLEDGE

relevant certification and licensing, applicable to working safely up to the defined "safe working zone" near energised electrical apparatus (inc. electrical powerlines) for non-electrical worker

- Definitions of terminologies - 'safe working zone' 'risk assessment', 'safe approach distances zones', 'safe working distances'.' work permits', access authorisation permits', 'Technical standards' 'isolation procedures' and compliance requirements'
- OHS policies and procedures for working safely - emergency response and First Aid procedures such as CPR, roles and responsibilities of employers, employees and other parties under OHS legislation, personal protective equipment, identifying hazards, assessing and controlling OHS risks, first aid procedures, duties of a safety observer, working at heights/confined spaces, permit to work systems and isolation procedures, safe application of different types of tools and equipment, operation of mobile plant and machinery (e.g. EWP) near live electrical apparatus.
- Electricity supply infrastructure assets and voltages
- Techniques and precautions in undertaking different work functions and working safely up to the defined "safe working zone" near energised electrical apparatus (inc. electrical powerlines) for non-electrical worker - work functions that may be performed include, vegetation control, scaffolding, rigging, painting, and/or any other activity that requires working safely near live electrical apparatus by a non-electrical worker.

T5 Co-ordination of vegetation control inspection programs encompassing:

- Commonwealth/State/Territory/local government legislation/regulations, Standards, codes, supply authority regulations and or enterprise requirements including relevant certification and licensing applicable to co-ordinating the inspection of vegetation control: - clearance zones and approach distances from overhead power lines, legislation associated with easement access and maintenance, use and operation of plant and equipment such as 'EWPs, chainsaws/pole saws, stump grinders.
- Appropriate personal protection equipment
- Equipment maintenance and safety precautions
- Endangered plants/animals/insects
- Soil erosion
- Chemical treatment
- Provision of manufacturers and suppliers information such as material safety data sheets (MSDSs)
- Traffic management control plan
- Alternative engineering solutions for vegetation management
- Emergency response and First Aid procedures
- Techniques in the inspection of vegetation to determine action required - diagnosing tree problems and systems of stress in trees, identification of fall zone, identification of OHS hazards, assessing and controlling risks, safety policies,

REQUIRED SKILLS AND KNOWLEDGE

procedures and precautions, responsibilities and protocols for team members, procedures for obtaining electrical access authorities, procedures for coordination of operations.

- Techniques in determining the resources required for a particular vegetation control project
- Techniques in determining the condition of the tools and equipment needed for a particular vegetation control project
- Techniques in determining the duration and cost of the vegetation control project
- Techniques in relaying information to team members - safe precautions and procedures, clearances zones and approach distances, proper selection, maintenance, use and storage of personal protective equipment, procedures regarding safe use of equipment including pre-operational checks for serviceability, procedures in the safe transporting, use, storage and disposal of chemicals.
- Procedures for removal of vegetation
- Techniques in record keeping of data.

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	At least three of the following;	Hand clearing Machinery assisted clearing Growth retardants Fire clearing, Herbicidal clearing
B	At least two of the following:	Ladder EWP Tree Ground
C	All of the following;	Personnel aspects Material aspects Financial aspects
D	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 listed items.

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 undertake actual coordination of vegetation control.

In addition to the resources listed above, in Context of and specific resources for assessment, evidence should show demonstrated competency working at realistic heights above ground i.e. above 3 metres, 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 coordination of vegetation control work and may include the following:

Coordinating vegetation control measures which may include hand clearing, growth retardants, machinery-assisted clearing and herbicidal clearing.

Coordinating work, which may be conducted from a ladder, an elevating work platform, a tree or on the ground under minimal supervision.

The following constants and variables included in the Element/Performance Criteria in this unit are fully described in the Definitions Section 1 of this volume and form an integral part of the Range Statement of this unit:

- Appropriate and relevant persons (see Personnel)
- Appropriate authorities
- Appropriate work platform
- Assessing risk
- Assessment
- Authorisation
- Diagnostic, testing and restoration
- 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

RANGE STATEMENT

- Personnel
- Quality assurance systems
- Requirements
- Testing procedures
- Work clearance systems

Unit Sector(s)

Not applicable.

Competency Field

Competency Field **11)**

Vegetation Units