Australian Government

Department of Education, Employment and Workplace Relations

ICTCBL3020A Construct aerial cable supports

Release: 1

ICTCBL3020A Construct aerial cable supports

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to install aerial cable supports in all communications applications. Assessment by a TITAB registered assessor is recommended. Licensing, legislative, regulatory and certification requirements apply to working at heights. If an elevated work platform (EWP) is required, verify state or territory law requirements for a licence to operate an EWP. No licensing, legislative, regulatory or certification requirements apply to this unit at the time of endorsement but users should confirm requirements with the relevant federal, state or territory authority.

Application of the Unit

Application of the unit	Technical staff who install aerial cable for customer and hybrid fibre coaxial (HFC) networks apply the skills and knowledge in this unit. They use basic rigging procedures, methods and equipment for working safely at heights. This unit may make use of formal documentation, such as accurate completion of a telecommunication cabling advice (TCA) form (TCA1 form) and cable records. This unit applies to outdoor installation within a customer premises. It may be applied to domestic, commercial or industrial installations. Communications applications include digital and analog, telephony, data, video, digital broadcasting, computer networks, local area networks (LAN), wide area networks (WAN) and multimedia.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.	Performance criteria describe the performance needed to demonstrate achievement of the element. Where bold italicised text is used, further information is detailed in the required skills and knowledge section and the range statement. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare site for installation	1.1. Prepare for given work according to ***relevant legislation***, ***codes***, ***regulations and standards*** 1.2. Arrange access to the site according to required procedure 1.3. Verify ***aerial cable support installation requirements*** according to the appropriate ***plans*** and recognise ***constraints*** 1.4. Obtain information on location of other services from ***relevant authorities*** 1.5. Inform appropriate personnel of existing and potential ***hazards*** on work site 1.6. Assess ***support structure as safe*** for normal working conditions 1.7. Set up cable support installation equipment according to manufacturer's requirements and enterprise guidelines
2. Install aerial support structures	2.1. Select type of aerial cable support for catenary wire installation 2.2. Use basic rigging procedures, methods and equipment for working safely at heights 2.3. Erect barriers according to safety requirements 2.4. Construct support foundations to ***specifications*** and provide for safe and secure operation of support structure 2.5. Install ***aerial cable supports*** securely following occupational health and safety (***OHS***) ***and environmental requirements*** according to plan and manufacturer's specifications
3. Restore site and complete documentation	3.1. Reinstate site to identified requirements 3.2. Complete ***reports*** on installation and design amendments and file according to enterprise requirements 3.3. Notify customer and obtain sign off

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

REQUIRED SKILLS AND KNOWLEDGE

This section describes the skills and knowledge required for this unit.

Required skills

- communication skills to liaise with internal and external personnel on technical and operational matters
- literacy skills to interpret technical documentation, such as cable plans, equipment manuals, specifications and service orders
- numeracy skills to take and analyse measurements
- planning and organisational skills to organise and maintain equipment
- problem solving skills to solve equipment and logistics problems
- task management skills to work systematically with required attention to detail and adhere to all safety requirements
- technical skills to:
  - perform fault clearance
  - use basic rigging procedures, methods and equipment for working safely at heights
  - use diagnostic equipment
  - use hand and power tools

Required knowledge

- ACMA Competency Requirements for Telecommunications Cabling Provider Rules 2000
- features and operating requirements of test equipment
- information required to operate equipment according to a test specification
- legislation, codes of practice and other formal agreements that impact on the work activity
- manufacturer's requirements for safe operation of equipment
- safety precautions when working at heights
- specific OHS requirements relating to the activity and site conditions
- test methods and performance requirements
- typical issues and challenges that occur on site

Evidence Guide

EVIDENCE GUIDE	
The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required skills and knowledge, range statement and the Assessment Guidelines for the Training Package.	
Overview of assessment	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: • prepare site for aerial cable support construction ensuring all relevant authorities have been notified and approvals obtained prior to commencement • install aerial support structures using pole and wall supports applying all related OHS requirements and work practices • use rigging procedures, methods and equipment for working safely at heights • restore site and complete documentation.
Context of, and specific resources for assessment	Assessment must ensure: • sites where construction of aerial cable supports may be conducted • use of aerial support installation equipment currently used in industry • relevant regulatory and equipment documentation that impact on aerial cable installation activities.
Methods of assessment	A range of assessment methods should be used to assess practical skills and knowledge. The following examples are appropriate for this unit: • review of a hands-on project completed by the candidate • review of an oral and written report with completed documentation, including updated cable plans and records • direct observation of the candidate constructing aerial cable supports.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • ICTCBL3021A Install aerial cable. Aboriginal people and other people from a non-English

EVIDENCE GUIDE	
	speaking background may have second language issues. Access must be provided to appropriate learning and assessment support when required. Assessment processes and techniques must be culturally appropriate, and appropriate to the oral communication skill level, and language and literacy capacity of the candidate and the work being performed. In all cases where practical assessment is used it will be combined with targeted questioning to assess required knowledge. Questioning techniques should not require language, literacy and numeracy skills beyond those required in this unit of competency. Where applicable, physical resources should include equipment modified for people with special needs.

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Resources to support learning and assessment are provided in Volume 3 of the Training Package.

Range Statement

RANGE STATEMENT	
The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance. Bold italicised wording, if used in the performance criteria, is detailed below. Essential operating conditions that may be present with training and assessment (depending on the work situation, needs of the candidate, accessibility of the item, and local industry and regional contexts) may also be included.	

Relevant legislation, ***codes***, ***regulations and standards*** may include:	• appropriate licences:
	  • crane
	  • EWP
	  • forklift
	  • winch
	• Australian Communications Industry Forum

RANGE STATEMENT	
	(ACIF) standards and codes • AS Communications Cabling Manual (CCM) Volume 1 • AS/NZS 3000:2007 • AS/NZS 3080:2003 • AS/NZS 3084:2003 • AS/NZS 3085.1:2004 • AS/NZS IEC 61935.1:2006 • AS/NZS IEC 61935.2:2006 • AS/NZS ISO/IEC 14763.3:2007 • AS/NZS ISO/IEC 15018:2005 • AS/NZS ISO/IEC 24702:2007 • cabling security codes and regulations • Environmental Protection Acts • OHS • road and traffic control legislation and codes • technical standards AS/ACIF S008:2006 and AS/ACIF S009:2006.

Aerial cable support installation requirements may include:	• approvals from relevant authorities
	• details of:
	  • location of other services
	  • location of plant and equipment
	  • proposed route
	  • reinstatement requirements
	  • site access requirements
	• joint use with electrical services
	• public or private structures
	• regulated or industry codes of practice and include appropriate ACMA technical standards
	• use of:
	  • pole
	  • tower
	  • wall.

Plans may include:	• building • construction • design • site layout drawings • street.
Constraints may include:	• availability of cable size and type

RANGE STATEMENT	
	• condition of poles • earth potential rise (EPR): • event at a site, such as an electrical distribution substation, may expose telecommunications personnel, users or plant to hazardous voltages. • optical cable may contain a hazardous light • radio frequency (RF) equipment may emit hazardous radiation • remote power feeding which operate at above telecommunications network voltage (TNV) • site conditions.

Relevant authorities may include:	• cable location services (Dial Before you Dig)
	• environment protection
	• local government
	• private owners
	• utility providers such as:
	  • electricity
	  • fire services
	  • gas
	  • telecommunications providers
	  • water.

Hazards may include:	• EPR
	• optical cable:
	  • bare fibres
	  • hazardous laser light
	• RF emission
	• remote power feeding.

Support structure as safe may refer to:	• condemned pole status markings • suitable testing methods • visible signs of decay or stress.

Specifications may include:	• ACMA technical standard requirements:
	  • cable
	  • cabling products
	• hazard requirements including:
	  • enterprise
	  • local environmental
	  • manufacturer's
	• regulated or industry codes of practice.

RANGE STATEMENT	
Aerial cable supports may include:	• brackets • clamps • hooks • pig rings • riser pipes • screw hooks • turn buckles.

OHS and environmental requirements may relate to:	• identifying other services, including power and gas
	• need for decommissioning and isolating worksite and lines prior to commencement
	• personal protective clothing:
	  • earmuffs
	  • gloves
	  • leather
	  • plastic
	  • rubber
	  • head protection
	  • kneepads
	  • masks
	  • protective suits
	  • safety boots
	  • safety glasses
	  • safety harness
	  • safety line
	• safe working practices, such as the safe use and handling of:
	  • asbestos
	  • chemicals
	  • materials
	  • tools and equipment
	  • work platforms
	• safety equipment
	  • flashing lights
	  • gas and other hazard detection equipment
	  • safety barriers
	  • trench guards
	  • warning signs and tapes
	  • witches hats

RANGE STATEMENT	

	• special access requirements
	• suitable light and ventilation
	• environmental considerations:
	  • clean-up protection
	  • stormwater protection
	  • waste management.

Reports may include:	• job cards • plans • worksheets.

Unit Sector(s)

Unit sector	Telecommunications

Co-requisite units

Co-requisite units		

Competency field

Competency field	Cabling