ICTCBL2162A Install a cable lead-in

Release: 1

ICTCBL2162A Install a cable lead-in

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to install indoor and outdoor aerial and underground lead-ins. It involves digital reception installation, broadband and customer installations.
	The brief may be for a new metallic or optical cable installation or upgrade of cable capacity for an existing network or subsystem, or cabling infrastructure for convergence to Next Generation Networks (NGN).
	Assessment by a TITAB registered assessor is recommended.
	Users should confirm licensing requirements with the relevant federal, state or territory authority.

Application of the Unit

Application of the unit	Technical staff who haul underground or fix aerial cable lead-in apply the skills and knowledge in this unit. They may make use of tension meters and hauling equipment.
	It can be applied to new installations and upgrades of telecommunications cabling projects in domestic, commercial and industrial installations.

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 for cable installation	1.1. Prepare for given work according to *industry standards*
	1.2. Arrange access to the site according to required procedure
	1.3. Inform *appropriate personnel* of identified *hazards and constraints* on worksite
	1.4. Obtain *cable* installation plan and set up installation equipment according to manufacturer's requirements
	1.5. Select suitable *protective clothing*, *tools and equipment*, and *safety equipment*, and *confirm support structures are safe*
2. Install aerial cable lead-in	2.1. Select type of cable bearer and determine need for separate catenary wire installation
	2.2. Secure catenary wire or bearer wire permanently to support structure using *aerial fixing devices* and adjust tension to meet relevant height and minimum sag requirements to required specifications
	2.3. Secure cable safely to catenary wire leaving cable loop on support structure
3. Install underground cable lead-in	3.1. Run push rod through pipe and attach cable for hauling
	3.2. Haul cable using lubricant, cable slippers or rollers to ensure no sheath damage when hauling at correct tension into and out of enclosures
	3.3. Provide sufficient cable allowance in enclosures for jointing and maintenance requirements
4. Seal and secure cable	4.1. Seal cable ends to prevent ingress of foreign material
	4.2. Secure cable loop on support structure to minimise damage to conductors
	4.3. Weather seal building entry points where appropriate
	4.4. Fit over voltage protection devices to all cables with metallic component where required
5. Complete tasks on site	5.1. Record any approved alteration to the original design and return to appropriate personnel
	5.2. Complete *appropriate records* and sign reports where required according to enterprise policy
	5.3. Restore the site to customer's satisfaction and dispose of wastes in an environmentally safe manner
	5.4. Notify customer and obtain sign off

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 work associates, supervisors, team members and clients
- literacy skills to interpret:
  - technical documentation, such as equipment manuals, specifications and requirements for coaxial cable installation
  - relevant legislation, codes, regulations and standards
- 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
- safety awareness skills to:
  - apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
  - select and use required personal protective equipment conforming to industry and occupational health and safety (OHS) standards
  - work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- task management skills to work systematically with required attention to detail and adherence to all safety requirements
- technical skills to:
  - read and interpret drawings related to:
    - cable coding system and identifiers
    - cable layouts
    - frame locations
    - outlet location
  - use diagnostic equipment
  - use hand and power tools

Required knowledge

- features and operating requirements of testing equipment
- information required to operate appropriate terminating and testing equipment according to specifications
- legislation, codes of practice and other formal agreements that impact on the work activity

REQUIRED SKILLS AND KNOWLEDGE

- manufacturer's requirements for safe operation of equipment
- specific OHS requirements relating to the activity and site conditions
- termination 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.	
Critical aspects for assessment and evidence required to demonstrate competency in this unit	Evidence of the ability to: • install at least one type of aerial cable and one type of underground cable, including placing and securing cables on support structures and building faces for both internal and external locations to industry standards applying related OHS requirements and work practices • conduct and interpret test results and a minimum of three different lead-in fault remediations • haul, secure and seal cable • identify safe support structures from pole status markings, visual inspection or approved testing procedures • terminate at least one 50 pair, one 4 pair and one Ethernet lead-in cables, including accurate completion of installation records, drawing alterations and compliance forms • provide report documenting the installation and test results to client • comply with all related OHS requirements and work practices.
Context of, and specific resources for assessment	Assessment must ensure: • sites where aerial and underground cable lead-ins may be conducted • use of equipment and personal protective equipment currently used in industry • use of testing equipment currently used in industry • relevant regulatory and equipment documentation that impact on work 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

EVIDENCE GUIDE

	• direct observation of the candidate terminating at least one 50 pair, one 4 pair and one Ethernet lead-in cables.
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, e.g. • ICTCBL2008A Terminate metallic conductor customer cable. Aboriginal people and other people from a non-English 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.

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

RANGE STATEMENT

regional contexts) may also be included.

Industry standards may include:	• Australian Communications Industry Forum (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 • ISO Draft 11801 (International) • regulated or industry codes of practice including appropriate Australian Communications and Media Authority (ACMA) technical standards • technical standards AS/ACIF S008:2006 and AS/ACIF S009:2006.
Appropriate personnel may include:	• construction manager • project manager • site manager • site supervisor.
Hazards and constraints may include:	• electrical supply and areas of earth potential rise (EPR) that require mandatory separation from communications cable and limitations on work • optical cable at all access points that may contain a hazardous light • risks associated with remote power feeding services.
Cable may include:	• coaxial • metallic cable • optical fibre.

Protective clothing may include:	• earmuffs
	• gloves:
	   • leather
	   • plastic
	   • rubber
	• head protection
	• kneepads

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	• masks • protective suits • safety boots • safety glasses.

Tools and equipment may be:	• mechanical or hand tools, such as:
	  • augers
	  • cable tensioner
	  • cherry pickers
	  • drills
	  • fixing brackets
	  • hammers
	  • height measuring device
	  • ladders
	  • scissor lifts
	  • spanners.

Safety equipment may include:	• aerial safety belts and lines
	• personal protective equipment
	• site hazard identification and control equipment:
	  • flashing lights
	  • guards
	  • traffic signs
	  • warning signs and tapes
	  • witches hats.

Confirm support structures are safe refers to:	• checking for condemned pole status markings • checking for visible signs of decay or stress • using industry accepted testing methods.
Aerial fixing devices may include:	• clamps • hooks • pig rings • riser pipes • screw hooks.
Appropriate records may include:	• building distributor (BD), campus distributor (CD), floor distributor (FD) record books and local distributor (LD) record cards • building, cabling and equipment location plans • computerised plans • databases • labelling of:

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	• distributor pairs
	• distributor verticals
	• equipment closets
	• patch panels
	• rooms
	• telecommunication outlets
	• telecommunications administration centre (TAC) or NTD cards conform to AS/ACIF S009:2006
	• telecommunications cabling advice (TCA) forms:
	  • cable drawings
	  • cable plans
	  • record books
	  • record cards
	  • TCA1 (sign off form)
	  • TCA2.

Unit Sector(s)

Unit sector	Telecommunications

Co-requisite units

Co-requisite units		

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Competency field

Competency field	Cabling