



Australian Government

Department of Education, Employment and Workplace Relations

ICTCBL2068A Install a telecommunications service to a building

Release: 1

ICTCBL2068A Install a telecommunications service to a building

Modification History

Not Applicable

Unit Descriptor

Unit descriptor	This unit describes the performance outcomes, skills and knowledge required to install a telecommunications service to a building. It involves bringing a telecommunications service from the broader network to a customer's premises using metallic or optical cable or wireless connection. 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. Users should confirm requirements with the relevant federal, state or territory authority. If working at heights, achievement of the unit 'CPCPCM2015A Work safely on roofs' from the CPC08 Construction and Plumbing Services Integrated framework training Package fulfils this requirement.
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Application of the Unit

Application of the unit	Technical staff whose work involves installing telecommunications service to a building to provide a new service or an upgrade apply the skills and knowledge in this unit. Cable installers provide new services in emerging technologies, such as internet protocol TV (IPTV) and fast broadband for converging technology applications. A wireless access point or a world interoperability for microwave access (WiMAX) customer premises equipment (CPE) unit could also be an installation to the building to provide the new services.
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Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Prerequisite units		

Employability Skills Information

Employability skills	This unit contains employability skills.
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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.
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Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1. Prepare service installation	1.1. Arrange access to the site with the customer and obtain job specifications 1.2. Notify supervisor of identified safety hazards at the worksite according to occupational health and safety (OHS) and environmental requirements 1.3. Use installation specifications to determine type of services, network cables and equipment required for the installation 1.4. Select cables and equipment that comply with functionality and compatibility of existing installation 1.5. Select and obtain tools and equipment to carry out installation activity
2. Install cable and equipment to building	2.1. Locate, connect, and check cables at entry into network for transmission quality and continuity where service to building exists 2.2. Install cable and equipment and seal cable entry to the building in a safe manner according to installation plans and Australian Communications and Media Authority (ACMA) standards 2.3. Test overall functionality of the new service to meet installation specifications 2.4. Rectify faults if required and minimise interruption to existing service in agreement with customer 2.5. Install lightning protection , where required, according to enterprise guidelines and industry practice
3. Complete records and clean up site	3.1. Label cable pairs clearly to provide an accurate identification according to manufacturer's, industry and client standards 3.2. Update records and plans with installation details to provide an accurate record according to industry codes of practice and AS/ACIF S009:2006 3.3. Remove installation waste and debris from worksite and dispose of according to environmental requirements to maintain safe worksite conditions 3.4. Complete telecommunications cabling advice (TCA) forms and notify customer to 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 internal and external personnel on technical and operational matters
- literacy skills to interpret technical documentation such as equipment manuals and specifications
- 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 OHS standards
 - work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- technical skills to:
 - perform fault clearance
 - read and interpret:
 - building plans
 - construction plans
 - site layout drawings
 - site plans
 - street plans
 - use diagnostic equipment
 - use hand and power tools

Required knowledge

- information required to operate equipment according to a test specification
- features and operating requirements of test equipment
- legislation, codes of practice and other formal agreements that impact on the work activity
- manufacturer's requirements for safe operation of equipment
- OHS requirements and work practices associated with cable provision including:
 - adequate warning signs
 - protective clothing and personal safety items
 - safety devices

REQUIRED SKILLS AND KNOWLEDGE

- 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 and install cable and equipment to a building complying with ACMA, enterprise and government regulations • conduct tests related to transmission quality and continuity of cables at network entry point • label and document installation work complying with industry codes of practice • comply with all related OHS requirements and work practices.
Context of, and specific resources for assessment	Assessment must ensure: • sites where telecommunications services may be installed • use of installation and testing equipment currently used in industry • relevant regulatory and equipment documentation that impact on 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 an installation completed by the candidate • review of an oral and written report with completed documentation, including updated installation records and forms • direct observation of the candidate installing telecommunications equipment to a building • oral or written questioning to assess required knowledge .
Guidance information for assessment	Holistic assessment with other units relevant to the industry sector, workplace and job role is recommended, for example: • ICTCBL2134A Fix aerial cable.

EVIDENCE GUIDE

	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.
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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.

<i>Customer</i> may include:	• nominated representative • project manager • site manager.
<i>Safety hazards</i> may refer to:	• access points that may contain: • hazardous light or non-visible laser • radio frequency (RF) emission

RANGE STATEMENT	
	• electrical supply and areas of earth potential rise (EPR) that require mandatory separation from communications cable • hazardous conduit as in conduit colours according to AS 1345:1995 associated with a hazardous service.
<i>OHS and environmental requirements</i> 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 • special access requirements

RANGE STATEMENT	
	• suitable light and ventilation • environmental considerations: • clean-up protection • stormwater protection • waste management.
<i>Installation specifications</i> may include:	• installation plan • project details: • contact personnel • costs • resource requirements • timelines • type of service • type of service: • aerial or underground structure • cable: • coaxial • multi-pair • optical fibre • structured (Category 5, 6, 6A, 7 or 7A) • wireless: • femtocell • wireless fidelity (WiFi) • WiMAX.
<i>Tools and equipment</i> may include:	• equipment: • cable testers • network tester • passive optical meter • RF meter • tools: • crimpers • jointers • labellers • power tools: • cutters • drills • splicers • terminating tool • EWP and ladders.

RANGE STATEMENT	
<i>Lightning protection</i> may include:	• arrester • bonding building and cable to power earthing system • building's own protection • earth stake • isolator.
<i>Installation details</i> may include:	• cable infrastructure pair locations • cable location and type • equipment details • interconnections • modified plan • pair numbering and labelling • test results.

Unit Sector(s)

Unit sector	Telecommunications
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Co-requisite units

Co-requisite units		

Competency field

Competency field	Cabling
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