



Australian Government

ICTTEN301 Provide infrastructure for telecommunications network equipment

Release: 1

ICTTEN301 Provide infrastructure for telecommunications network equipment

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 2.0.

Application

This unit describes the skills and knowledge required to install supporting infrastructure for telecommunications equipment and associated hardware equipment.

It applies to field officers, installation technicians or technical supervisors from carriers, contractors or other service providers who install switching, transmission and radio networks and the various transmission paths – including cable, optical fibre, radio, microwave and satellite.

Work functions in the occupational areas where this unit may be used are subject to regulatory requirements. Refer to the ICT Implementation Guide Companion Volume or the relevant regulator for details of licensing, legislative or certification requirements.

Unit Sector

Telecommunications – Telecommunications Networks Engineering

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
<i>Elements describe the essential outcomes.</i>	<i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>
1. Prepare for installation infrastructure work	1.1 Obtain relevant legislation, codes, regulations and standards for compliance when conducting work 1.2 Notify customer to arrange site access and obtain installation plan and specifications 1.3 Conduct site survey to verify infrastructure installation requirements can be met 1.4 Identify site hazards and notify appropriate personnel to make

ELEMENT	PERFORMANCE CRITERIA
	site safe 1.5 Notify customer of alterations required to installation design and make recommendations for possible solutions 1.6 Obtain approval for alterations and update installation plan 1.7 Develop installation activity schedule to minimise workplace disruption and according to relevant regulations and standards 1.8 Obtain material supplies, safety equipment, resources, tools and test equipment so it is available when required for installation for safe work practice
2. Build network equipment infrastructure	2.1 Prepare for given work according to work health and safety (WHS) and environmental requirements 2.2 Build metal superstructure to house equipment according to manufacturer's specifications and to safety and electrical standards 2.3 Build ducts and tray ways for signal and data cabling and optical cables according to plan and specification after consultation with operational staff 2.4 Build busbars or power cabling infrastructure as specified on the plan 2.5 Install cable distribution frames according to plan and manufacturer's specifications 2.6 Install earthing to all metal infrastructures according to specifications
3. Install power infrastructure	3.1 Install batteries and rectifiers and connect according to manufacturer's and WHS requirements 3.2 Test and monitor battery discharge levels and obtain replacement batteries under warranty where required
4. Supervise DC power distribution	4.1 Coordinate and arrange for power distribution work to be performed by qualified personnel to meet electrical safety requirements and certifications 4.2 Monitor electrical work to ensure compliance with installation plan 4.3 Identify and rectify faults where possible or escalate according to enterprise policy
5. Restore site and complete documentation	5.1 Attach infrastructure labels and designations according to enterprise requirements 5.2 Complete inspection sheets and declare asset ready for next stage

ELEMENT	PERFORMANCE CRITERIA
	of installation using appropriate sign-off documentation 5.3 Clean up and prepare site in readiness for next installation phase 5.4 Notify customer and obtain sign-off

Foundation Skills

This section describes language, literacy, numeracy and employment skills incorporated in the performance criteria that are required for competent performance.

Skill	Performance Criteria	Description
Reading	1.1, 1.3, 2.1-2.6, 3.1, 4.1, 4.2	Interprets and applies textual information from plans, specifications, legislation and regulatory documents to building and construction
Writing	1.3, 1.5-1.7, 5.1, 5.2, 5.4	- Documents outcomes and changes to plans using industry relevant terminology and recognised plan symbols - Prepares documentation for outcomes of tests and inspections for reporting to clients and others
Oral Communication	1.2, 1.4-1.6, 2.3, 5.4	- Uses active listening skills and oral exchange when discussing and clarifying installation parameters and providing feedback to clients - Actively engages with others to communicate work requirements and activities
Numeracy	2.2-2.6, 3.2	- Takes measurements and uses them for work layout and construction - Makes calculations appropriate to measuring and estimating materials for construction
Navigate the world of work	1.1, 1.7, 2.1, 2.2, 3.1, 4.1, 4.3, 5.1	- Accepts responsibility and ownership for the task and makes decisions on completion parameters and the need of coordination with others - Takes personal responsibility for following explicit and implicit policies, procedures and legislative requirements
Interact with others	1.2, 1.4-1.6, 2.3, 3.2, 4.1	- Selects and uses appropriate conventions and protocols when communicating to clients and co-workers in a range of work contexts - Complies with work instructions and contributes to work group discussions using accepted conventions

Get the work done	1.1, 1.3, 1.4, 1.7, 1.8, 2.2-2.6, 3.1, 3.2, 4.1-4.3, 5.2, 5.3	• Takes responsibility for planning, sequencing and prioritising tasks and workload for efficiency and effective outcomes • Makes routine decisions and implements standard procedures for routine tasks, using formal decision-making processes for more complex and non-routine situations
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Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTTEN301 Provide infrastructure for telecommunications network equipment	ICTTEN3054B Provide infrastructure for telecommunications network equipment	Updated to meet Standards for Training Packages.	Equivalent unit

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=a53af4e4-b400-484e-b778-71c9e9d6aff2>

Assessment Requirements for ICTTEN301 Provide infrastructure for telecommunications network equipment

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Performance Evidence

Evidence of ability to:

- identify potential earthing locations, cable routes, cables trays, data cabinets, telecommunication enclosures and distributors
- build metal superstructure
- install protective earth and functional earth installations
- install power infrastructure
- supervise DC power distribution
- discuss and inform the customer on the progress of works and obtain sign off when completed.

Note: If a specific volume or frequency is not stated, then evidence must be provided at least once.

Knowledge Evidence

To complete the unit requirements safely and effectively, the individual must:

- identify and describe cabling types, connectors and cabling structures
- recognise common customer telecommunications applications and related equipment
- demonstrate connections to carrier infrastructure or equipment
- recognise and describe current legislation relating to installation of telecommunications equipment and connection to carrier services
- describe environmental impact of cabling works, including options for green ICT installations
- describe network topologies, interface and interconnect solutions
- recognise and describe work health and safety (WHS) requirements for:
 - working in confined spaces
 - electrical safety
 - working at heights

- lifting
- materials handling
- other physical hazards
- outline network and transmission equipment and their application
- describe power requirements and electrical safety as they apply to the network environment
- recognise warranty information for equipment supplies and contractor work guarantees.

Assessment Conditions

Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the Telecommunications networks engineering field of work and include access to:

- a site where installation of supporting infrastructure may be conducted
- plant, tools and equipment currently used in industry
- relevant regulatory and equipment documentation that impact work activities.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

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