



Australian Government

ICTTEN309 Provide infrastructure for telecommunications network customer equipment

Release: 1

ICTTEN309 Provide infrastructure for telecommunications network customer 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, including access equipment and associated media, power and monitoring equipment, and alarm systems.

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

No licensing, legislative or certification requirements apply to this unit at the time of publication.

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 a site survey to verify infrastructure installation requirements can be met 1.4 Identify site hazards and notify appropriate personnel to make site safe

ELEMENT	PERFORMANCE CRITERIA
	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 disruption to the workplace and according to relevant regulations and standards 1.8 Obtain material supplies, safety equipment, resources, tools and test equipment to be available when required for installation for safe work practice
2. Build customer equipment infrastructure	2.1 Prepare for given work according to work health and safety (WHS) and environmental requirements 2.2 Build telecommunications closet or telecommunications equipment room to house equipment, distributors and AC-DC power systems according to design plans, manufacturer's specifications and to safety and electrical standards 2.3 Build cable support systems for signal, data cabling and optical cables, including entrance facilities, intra, and inter building facilities according to plan and specification 2.4 Organise installation of mains AC electrical power cabling infrastructure as specified on the plan 2.5 Install cable distribution frames according to plan and manufacturer's specifications 2.6 Install protective earthing to metal infrastructures or gas arrestors according to specifications or design
3. Install uninterrupted power supply (UPS) power infrastructure	3.1 Install batteries, rectifiers and uninterrupted power supply (UPS) systems as required by specifications or design and connect according to manufacturer's and work health and safety (WHS) requirements 3.2 Test and monitor UPS battery discharge levels and obtain replacement batteries under warranty where required 3.3 Identify and rectify faults where possible or escalate according to enterprise policy
4. Restore site and complete documentation	4.1 Attach infrastructure labels and designations according to enterprise requirements 4.2 Complete inspection sheets and declare asset ready for customer sign-off documentation 4.3 Clean up site 4.4 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, 2.2-2.6, 3.1, 3.2,	Reads and interprets plans, specifications and other documentation from a variety of sources and consolidates information to determine requirements
Writing	1.3, 1.6, 4.1, 4.2,	Accurately records information and prepares correspondence and documentation using clear language and organisational formats and protocols
Oral Communication	1.2, 1.4, 1.5, 4.4	Effectively participates in verbal exchanges using collaborative and inclusive techniques including active listening and questioning and reading of verbal and non-verbal signals to convey and clarify information
Numeracy	1.3, 2.2, 2.3, 2.5, 2.6,	- Takes measurements and use them for work layout and construction - Makes calculations appropriate for measuring and estimating materials for construction
Navigate the world of work	1.7, 2.1, 2.2, 3.1,	- Complies with explicit policies and procedures - Explores and implements, where identified, implicit expectations of policies and procedures - Ensures knowledge of legislative requirements and products is kept up to ensure compliance
Get the work done	1.2-1.8, 2.1-2.6, 3.1, 3.2, 4.1, 4.2	- Takes responsibility for planning, sequencing and prioritising tasks and own 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 - Addresses less predictable problems and initiates standard procedures in response, applying problem-solving processes in determining a solution

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTTEN309 Provide infrastructure for telecommunication s network customer equipment	ICTTEN3250B Provide infrastructure for telecommunication s network customer equipment	Updated to meet Standards for Training Packages. Removed one PC. Clarified other PCs.	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 ICTTEN309 Provide infrastructure for telecommunications network customer equipment

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Performance Evidence

Evidence of ability to:

- identify potential earthing locations, cable routes, cables support systems, data cabinets, telecommunication enclosures and distributors
- construct metal superstructure and racks
- install protective earth installations
- organise AC mains power infrastructure
- install uninterrupted power supply (UPS) back up power
- notify customer of works progress.

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:

- describe cabling types, connectors and cabling structures used in telecommunications networks
- identify and describe common customer telecommunications applications and related equipment
- identify connections to carrier infrastructure or equipment
- identify and summarise current legislation relating to installation of telecommunications equipment and connection to carrier services
- list tools and test equipment required for an infrastructure installation
- describe the process of a site survey, and the data that should be recorded
- describe environmental impacts, including options for information and communications technology (ICT) installations
- discuss network topologies, interface and interconnect solutions
- identify work health and safety (WHS) requirements for managing hazards on the worksite including:

- confined spaces
- electrical safety
- working at heights
- lifting
- materials handling
- physical hazards
- summarise network and transmission customer equipment likely to be encountered
- describe common backup UPS systems and AC mains power requirements and electrical safety for telecommunications networks
- discuss types of warranty information for equipment supplies and contractor work guarantees
- describe the importance of correctly labelling an installation.

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 should 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, or a simulated environment
- 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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