



Australian Government

ICTTEN322 Provide infrastructure for telecommunications network customer equipment

Release: 1

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Modification History

Release	Comments
Release 1	This version released with ICT Information and Communications Technology Training Package Version 5.0.

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 working for contractors or other service providers who work on switching, transmission, radio networks and 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. However, technical work in telecommunications must only be done on extra-low voltage power levels otherwise it breaches the electrical licensing laws in Australia set within AS/NZS 3000:2018 Electrical installations known as the Australian/New Zealand Wiring Rules.

Unit Sector

Telecommunications – Telecommunications Network 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 Notify customer to arrange site access and obtain installation plan and specifications 1.2 Conduct site survey to verify infrastructure installation requirements can be met 1.3 Identify site hazards and notify appropriate personnel to make site safe

ELEMENT	PERFORMANCE CRITERIA
	1.4 Notify customer of alterations required to installation design and make recommendations for possible solutions 1.5 Obtain approval for alterations and update installation plan as required 1.6 Develop installation activity schedule to minimise disruption to the workplace and according to relevant regulations and standards 1.7 Obtain material supplies, safety equipment, resources, tools and test equipment to be available as 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 Fit-out telecommunications closet, cabinet or equipment room to house equipment, distributors and AC/DC power systems according to design plans, manufacturer specifications, and 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 specifications 2.4 Organise installation of mains AC electrical power cabling infrastructure according to plan and specifications 2.5 Install cable distribution frames according to plan and manufacturers specifications 2.6 Install protective earthing to metal infrastructures or gas arrestors according to specifications or design
3. Install uninterrupted power supply power infrastructure	3.1 Install batteries, rectifiers and uninterrupted power supply (UPS) systems as required by specifications or design and connect according to manufacturer and WHS requirements 3.2 Test and monitor UPS battery discharge levels and obtain replacement batteries under warranty as 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 those language, literacy, numeracy and employment skills that are essential to performance, but not explicit in the performance criteria.

Skill	Description
Reading	Reads and interprets plans, specifications and other documentation from a variety of sources and consolidates information to determine requirements
Writing	Accurately records information and prepares correspondence and documentation using clear language and enterprise formats and protocols
Oral Communication	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	- 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	- 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	- 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

ICTTEN322 Provide infrastructure for telecommunications network customer equipment supersedes and is equivalent to ICTTEN309 Provide infrastructure for telecommunications network customer equipment.

Links

Companion Volume Implementation Guides are available from VETNet -

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

Assessment Requirements for ICTTEN322 Provide infrastructure for telecommunications network customer equipment

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Performance Evidence

The candidate must demonstrate, on two occasions, the ability to perform the tasks outlined in the elements, performance criteria, and foundation skills, and 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) backup power
- notify customer of works progress.

Knowledge Evidence

The candidate must demonstrate the knowledge required to perform the tasks outlined in the elements, performance criteria, and foundation skills, which includes knowledge about:

- cabling types, connectors and cabling structures used in telecommunications networks
- common customer telecommunications applications and related equipment
- connections to carrier infrastructure or equipment
- legislation, regulations, codes and standards for compliance relating to installation of telecommunications equipment and connection to carrier services in particular:
 - work health and safety (WHS) requirements for managing hazards on the worksite including:
 - confined spaces
 - electrical safety including the limits of electrical work as set by local electrical regulatory body
 - working at heights
 - lifting
 - materials handling
 - physical hazards

- tools and test equipment required for an infrastructure installation
- site survey process and data that should be recorded
- environmental impacts, including options for information and communications technology (ICT) installations
- network topologies, interface and interconnect solutions
- network and transmission customer equipment likely to be encountered
- common backup UPS systems, AC mains power requirements and electrical safety for telecommunications networks
- types of warranty information for equipment supplies and contractor work guarantees
- importance of correctly labelling an installation.

Assessment Conditions

Skills must be assessed in a workplace or simulated environment where conditions are typical of those in a telecommunications work environment or workplace.

Access is required to:

- site/s where installation of supporting infrastructure can be conducted
- plant, tools, equipment and personal protective 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.

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