



Australian Government

ICTTEN307 Repair and replace telecommunications network hardware

Release: 2

ICTTEN307 Repair and replace telecommunications network hardware

Modification History

Release	Comments
Release 2	This version released with ICT Information and Communications Technology Training Package Version 5.0.
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 fix and reinstate equipment in switching, transmission and fixed and mobile radio networks; including the various transmission path components, such as cable, optical fibre, radio, microwave and satellite.

It applies to individuals working as field officers, technicians or technical supervisors for carriers, or other service providers. It also applies to work performed under direction of the Network Operations Centre (NOC), where control of the network is coordinated.

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 hardware repair and replacement	1.1 Obtain relevant legislation, codes, regulations and standards for the given work 1.2 Discuss and record details of hardware to be repaired or replaced, and proposed work schedule with the appropriate person at NOC

ELEMENT	PERFORMANCE CRITERIA
	1.3 Work safely according to relevant safety legislation and company work practices, identifying hazards and using personal protective equipment 1.4 Obtain appropriate replacement hardware and associated documentation 1.5 Inspect network and determine need for repair task 1.6 Obtain tools and check they are in good working order 1.7 Undertake an impact risk assessment of the hardware replacement with the NOC, and prepare for contingencies using contingency plan
2. Rectify fault by replacing hardware	2.1 Replace equipment as instructed by the NOC following anti-static precautions in the case of sensitive electronic equipment and work health and safety (WHS) and environmental requirements 2.2 Inform NOC if problems occur with hardware replacement so escalation may commence and contingency plan initiated 2.3 Test replacement hardware to ensure satisfactory functionality
3. Clean up worksite and complete administrative work	3.1 Remove waste and debris from worksite and dispose of according to environmental requirements and restore work area to NOC satisfaction 3.2 Recover faulty equipment and return to appropriate point for disposal or refurbishment 3.3 Complete documentation, update fault records and make recommendations according to the enterprise quality assurance system 3.4 Notify appropriate person at the NOC of job completion 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	Description
Reading	Recognises and interprets technical, regulatory and enterprise documentation
Writing	Uses clear, specific and industry-related terminology to complete and update workplace documentation

Oral Communication	• Liaises with a range of personnel about technical and operational requirements using specific and relevant language • Uses listening and questioning techniques to confirm understanding
Numeracy	• Uses a core group of mathematical formulas involving power, voltage, current and the resistance, capacitance or inductance of various components
Navigate the world of work	• Takes personal responsibility for following explicit and implicit policies, procedures and legislative requirements
Get the work done	• Determines job priorities, resources and equipment, and works logically and systematically to undertake clearly defined and familiar tasks • Implements actions according to a predetermined plan, making adjustments if necessary • Takes responsibility for routine decision-making by selecting from a range of predetermined options in routine situations, identifying and taking some situational factors into account • Initiates standard procedures when responding to familiar faults within immediate context • Understands purpose and some specific functions of common digital tools used in work contexts

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTTEN307 Repair and replace telecommunications network hardware (Release 2)	ICTTEN307 Repair and replace telecommunications network hardware (Release 1)	Updates to performance evidence, knowledge evidence, and foundation skills.	Equivalent Unit

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 ICTTEN307 Repair and replace telecommunications network hardware

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Performance Evidence

Evidence of ability to perform the items listed on two occasions:

- rectify fault as instructed by Network Operations Centre (NOC), following work health and safety (WHS) requirements and anti-static precautions
- replace telecommunications hardware within service assurance guidelines according to enterprise procedures
- update fault records database according to enterprise procedures
- liaise with appropriate personnel in the NOC for information and reporting purposes.

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

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements and performance criteria of this unit. This includes:

- application of direct current (DC) and alternating current (AC) electrical principles
- static electricity and its importance in testing and working with telecommunications equipment
- variety of possible symptoms and their impact on an operational network caused by faulty network elements
- test results and network element or system specifications
- operation and purpose of testing equipment
- common telecommunications hardware and network structures

- performance testing and fault-finding techniques of telecommunications networks
- systematic and logical fault-finding
- types of power sources used in telecommunications networks
- appropriate test equipment used to undertake fault finding procedures.

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 suitable site to replace telecommunications network hardware
- a range of hardware currently used in industry
- a range of general and test equipment required for testing telecommunications network hardware.

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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