



Australian Government

ICTTEN524 Diagnose and organise repair of complex equipment faults

Release: 1

ICTTEN524 Diagnose and organise repair of complex equipment faults

Modification History

Release	Comments
Release 1	This version first released with ICT Information and Communications Technology Training Package Version 7.0.

Application

This unit describes the skills and knowledge required to methodically diagnose complex faults and organise repair and replacement of defective parts.

It applies to individuals who work as network engineers, installers, maintenance staff, and manufacturers or equipment specialists employed in an advisory and technical rectification role for commercial and residential installations.

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

Unit Sector

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. Research fault background	1.1 Communicate with client and identify type of fault and occurrence according to organisational procedures and requirements 1.2 Obtain report of actions taken by previous fault repairers and result 1.3 Analyse fault history and establish fault patterns according to organisational procedures and requirements 1.4 Develop strategies for identification and repair using advice from engineering and technical personnel 1.5 Refer to required legislation, codes, regulations and standards relating to repair, if required

ELEMENT	PERFORMANCE CRITERIA
	1.6 Obtain clearance and access to faulty equipment according to organisational procedures and requirements
2. Conduct complex fault diagnostic	2.1 Develop an approach to isolate and diagnose the fault within required timeframes 2.2 Establish ways to escalate fault diagnosis according to organisational procedures and requirements 2.3 Seek back-up support from the product manufacturer as required
3. Organise complex fault rectification	3.1 Determine options to rectify fault, including downtime, and present to customer for decision 3.2 Organise replacement and repair of defective equipment according to service agreement, organisational procedures and manufacturer specifications 3.3 Establish plan to reconfigure replaced and repaired equipment 3.4 Determine plan to dismantle and remove fault-repairing service within the required timeframes and according to organisational procedures 3.5 Provide on-site repair staff with instructions on fault rectification
4. Document complex fault details	4.1 Record details of fault and actions planned to identify and repair complex fault 4.2 Notify vendors and clients of repair details according to manufacturer specifications and organisational procedures 4.3 Recommend changes to faulty equipment where required 4.4 Advise client and document completion of complex fault repair according to organisational requirements 4.5 Create a knowledge management document that identifies fault and rectification steps for future occurrences

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
Numeracy	• Uses mathematical formulae to interpret technical data and measurements relating to equipment operations
Oral communication	• Participates in exchanges with internal and external personnel using required strategies to extract main ideas and information from oral texts • Employs listening and questioning techniques to confirm

SKILL	DESCRIPTION
	understanding
Reading	Identifies, analyses and evaluates technical documentation including plans, codes, standards and regulatory information
Writing	Prepares written reports and workplace documentation incorporating technical language to communicate complex information clearly and effectively
Teamwork	- Collaborates with others to achieve joint outcomes, playing an active role in negotiating positive outcomes - Selects and uses required conventions and protocols when communicating with customers and personnel in a range of work contexts
Planning and organising	- Uses a combination of formal, logical planning processes and an understanding of context to identify and rectify technical faults - Implements actions according to a predetermined plan, making adjustments as required
Problem solving	- Makes decisions within required timeframes in familiar situations requiring immediate attention, drawing on past experience to identify key variables and determine the best course of action - Uses analytical processes to decide on a course of action, establishing criteria for deciding between options, and seeking input and advice from others when necessary
Self-management	Takes personal responsibility for adherence to legal and regulatory responsibilities and organisational policies and procedures required to own work
Technology	Identifies key principles and concepts underpinning design and operation of digital systems and tools, and applies these as required

Unit Mapping Information

Supersedes and is not equivalent to ICTTEN509 Provide expert advice and support on complex faults.

Links

Companion Volume Implementation Guide is found on VETNet -

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

Assessment Requirements for ICTTEN524 Diagnose and organise repair of complex equipment faults

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Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- diagnose and organise at least four repairs of complex equipment faults.

In the course of the above, the candidate must:

- identify and rank likely causes of faults
- organise analysis and interpretation of test results
- apply enterprise escalation and outage procedures
- prioritise fault rectification and report progress
- prepare documentation of fault, including details regarding:
 - nature
 - location
 - likely causes
 - repair methodology
 - recommendations relating to system redesign and specification.

Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- required legislation, codes, company work practices, regulations and standards, workplace health and safety (WHS) requirements for scoped work
- organisational procedures regarding:
 - contacting clients and other external parties
 - fault history and patterns
 - fault identification and completion approaches
 - fault escalation procedures and requirements

- documentation of complex faults
- features and operating requirements of test equipment
- test specifications and remote diagnostic procedures
- legislation, codes of practice and other formal agreements relating to repair
- manufacturer requirements for operation of equipment
- test methods and equipment performance requirements
- functions and features of common complex equipment faults in advisory, technical rectification roles, commercial and residential installations.

Assessment Conditions

Skills in this unit must be demonstrated in a workplace or simulated environment where the conditions are typical of those in a working environment in this industry.

This includes access to:

- sites on which fault diagnostics are required to be conducted
- testing equipment used in industry
- required regulatory and equipment documentation impacting complex fault repairs.

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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