



Australian Government

ICTTEN412 Undertake routine maintenance of the telecommunications network

Release: 1

ICTTEN412 Undertake routine maintenance of the telecommunications network

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 perform routine maintenance of network plant and equipment in various telecommunications switching and transmission environments, including wide area networks (WAN), virtual private networks (VPN) and core networks, using wireless, optical, broadband and Next Generation Networking (NGN) technologies.

It applies to individuals working as field officers or technicians from carriers, contractors and other service providers.

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. Plan routine maintenance	1.1 Obtain relevant legislation, codes, regulations and standards for the given work 1.2 Determine network elements requiring maintenance, and maintenance details from manufacturer's equipment manual 1.3 Notify the Network Operations Centre (NOC) of proposed maintenance schedule and maintenance details to minimise disruption to the network

ELEMENT	PERFORMANCE CRITERIA
	1.4 Assess potential impact of proposed maintenance on customers and network, and plan for possible outage or deferral of maintenance 1.5 Obtain necessary tools, test equipment and resources to undertake maintenance 1.6 Produce a written schedule of planned routine maintenance 1.7 Negotiate schedules and access with the customer, and find out where equipment to be maintained is located on customer premises 1.8 Ascertain and record network stability to determine network performance
2. Undertake planned maintenance	2.1 Conduct routine maintenance tasks following work health and safety (WHS) and environmental requirements, and record results 2.2 Escalate unresolved faults according to established enterprise procedure 2.3 Test network equipment for required performance following routine maintenance 2.4 Check operation of associated network equipment to ensure the maintenance did not generate other faults or alarms
3. Report on routine maintenance and document results	3.1 Notify all relevant parties of results of the routine maintenance 3.2 Update routine maintenance logs and record other additional work for inclusion in the next cycle of maintenance 3.3 Complete administrative tasks and recommend any changes as required by the enterprise quality assurance system 3.4 Notify 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	Performance Criteria	Description
Reading	1.2, 2.2, 3.3	Recognises and interprets plans, specifications, complex technical data and procedures to determine job requirements
Writing	1.3, 1.6-1.8, 2.1, 3.1-3.4	Uses clear, specific and industry-related terminology to produce and update workplace documentation

Oral Communication	1.3, 1.7, 3.1, 3.4	• Articulates requirements clearly and concisely to provide advice and guidance to others and to liaise with technical personnel working across different levels and in different contexts • Uses well-developed listening and questioning techniques to confirm understanding
Navigate the world of work	2.1	• Takes personal responsibility for following explicit and implicit policies, procedures and legislative requirements relevant to own work context, identifying improvement opportunities where appropriate
Interact with others	1.3, 1.7	• Selects and uses appropriate conventions and protocols when communicating with customers and technical staff in a range of work contexts
Get the work done	1.1, 1.2, 1.4, 1.5, 1.8, 2.2-2.4	• Formulates plans and implements actions according to plan, making adjustments if necessary • Works logically and systematically to monitor, analyse and action job priorities • Makes decisions quickly and intuitively 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 • Uses digital technologies and systems to install software, and for data entry and storage

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTTEN412 Undertake routine maintenance of the telecommunications network	ICTTEN4086A Undertake routine maintenance of the telecommunications network	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 ICTTEN412 Undertake routine maintenance of the telecommunications network

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Performance Evidence

Evidence of ability to:

- plan a detailed routine maintenance schedule
- conduct and record routine maintenance activities procedures and techniques
- test network equipment and analyse results
- carry out works in compliance with site risk controls, work health and safety (WHS), environmental, quality and communication requirements.

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 computer systems required to facilitate a routine maintenance check of a telecommunications network
- explain the operation of network alarm systems
- describe the function and purpose of network management systems
- outline key components of a telecommunications network equipment and architecture, and their function including:
 - switching
 - mobile communications
 - satellite
 - transmission
 - antennas
 - radio frequency
 - basic telephony
- identify and specify telecommunications test equipment, test configurations, and analysis of results for a range of telecommunications network problems

- describe WHS risks associated with routine maintenance tasks
- explain telecommunications wiring practices
- explain the use of a scheduler
- describe the importance of customer relations when dealing with clients, in particular, obligations and expectations of the technician
- describe the operation, application and characteristics of digital logic integrated circuits and installation packages
- outline the importance of enterprise policies and procedures for:
 - escalation of issues
 - enterprise information systems

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:

- sites on which routine maintenance may be conducted
- maintenance tools and test instruments currently used in industry
- relevant regulatory and equipment documentation impacting maintenance 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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