ICTRFN301 Install a radio communications antenna and feedline

Release: 1

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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 and test a communications antenna and feedline on a range of fixed or mobile structures

It applies to individuals working as telecommunications and radio communications technicians who operate within cellular, radio broadband and digital TV reception applications. Installations may be new or existing, standalone or part of a site with multiple antennas.

Work functions in the occupational areas where this unit may be used are subject to regulatory requirements. Refer to the ICT Implementation Guide Companion Volume or the relevant regulator for details of licensing, legislative or certification requirements.

Unit Sector

Telecommunications – radio frequency networks

Elements and Performance Criteria

Elements	Performance Criteria
Elements describe the essential outcomes	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Plan assembly of antenna system	1.1 Arrange access to site according to required procedure 1.2 Apply all relevant legislation, codes, regulations and standards in planning process 1.3 Obtain relevant antenna specifications, requirements and radio communication site management book (RCSMB) from appropriate personnel

	1.4 Organise appropriate installation personnel to be available on site
	1.5 Assess relevant hazard levels from RCSMB and take appropriate preventative action according to prescribed safety requirements
	1.6 Identify other antennas at site location and notify those who may be affected by outages
	1.7 Inspect antenna system and feedline for physical damage before further work is performed
	1.8 Organise tools and equipment and ensure they are in safe working order and adjusted to manufacturer's specifications
2. Assemble, mount and align antenna and prepare feedline	2.1 Follow site specific safety requirements and enterprise work health and safety (WHS) processes and procedures
	2.2 Assemble antenna system in safe manner according to manufacturer's instructions
	2.3 Mount antenna with correct azimuth and polarisation according to manufacturer's instructions and work practices
	2.4 Install radome to antenna if provided
	2.5 Install lightning protection systems according to plans and specifications
	2.6 Align antenna in horizontal and vertical planes to maximise signal
3. Test antenna installation and document test results	3.1 Conduct performance tests in safe manner according to manufacturer's specifications and instructions
	3.2 Record, interpret and compare test results with manufacturer's data or design specifications
	3.3 Confirm correct overall operation of antenna system
4. Complete administrative tasks and clean up site	4.1 Complete and store appropriate records and test results according to enterprise policy
	4.2 Label radio frequency (RF) transmitter equipment and feedlines according to legislation
	4.3 Notify all affected by outage that normal operation can resume
	4.4 Clean, pack and store all tools and test equipment, and organise transport in suitable protective casing where appropriate
	4.5 Restore any changes made to worksite to client's satisfaction 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, 1.2, 1.8, 2.2, 2.5, 3.1, 4.1	• Recognises and interprets textual information from relevant sources to determine specifications, enterprise guidelines, policy and instructional material
Writing	1.4, 1.6, 3.2, 4.1-4.3	• Uses clear, specific and industry related terminology to complete and update workplace documentation and in written communications with clients
Oral Communication	1.3, 1.4, 1.6, 4.3	• Uses specific and relevant language to clearly articulate operational and site matters and appropriate tone for successful negotiations • Uses questioning and listening techniques to determine the view and opinions of others
Numeracy	2.6, 3.1, 3.2	• Analyses numerical information to evaluate technical data and interpret results, take measurements and correctly calibrate equipment
Navigate the world of work	1.5, 2.1-2.3, 4.2	• Takes personal responsibility for adherence to legal and regulatory requirements with specific reference to safe industry practices • Understands the main tasks, responsibilities and boundaries of own work
Get the work done	1.1, 1.6-1.8, 2.3-2.5, 3.1, 3.3, 4.1, 4.4, 4.5	• Determines job priorities, sequences the steps involved in clearly defined and familiar tasks, and identifies and assembles the resources and access required • Takes responsibility for routine decision making by selecting from a range of predetermined options in routine situations, identifying and taking situational factors into account • Identifies and implements standard solutions for typical installation challenges • Follows routine procedures for using digital technology to enter, store and retrieve information directly relevant to own enterprise policy

Unit Mapping Information

Code and title current version	Code and title previous version	Comments	Equivalence status
ICTRFN301 Install a radio communications antenna and feedline	ICTRFN3055A Install a radio communications antenna and feedline	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