



Australian Government

**Assessment Requirements for 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.

Performance Evidence

Evidence of the ability to:

- determine installation requirements and ensure site inspection activities are conducted prior to installation
- conduct installation of a communications antenna according to plans and specifications
- assess hazard levels at a radio frequency (RF) site and apply knowledge of safety precautions for self, fellow workers and the public
- mount an antenna, connect a transmission line and physically align an antenna
- use appropriate test equipment to perform a return loss sweep measurement or a measurement of forward and reflected power on at least two different antenna systems.

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:

- outline current industry practice for antenna installation including:
 - earthing
 - lightning protection
- describe the procedures and equipment required for:
 - antenna sweep testing to measure return loss
 - measurement of distance to fault
 - measurement of feedline insertion loss
 - measurement of forward and reflected RF power
- summarise features of instrument and equipment test methods and performance requirements

- outline legislation, codes of practice and other formal agreements that directly impact on operation and testing of radio communications antennas and equipment
- identify the general components and installation of antennas and feedlines
- discuss the application of RF and electromagnetic radiation (EMR) standards and specific work health and safety (WHS) requirements
- discuss the impact on the use and testing of radio communications instruments and equipment
- identify the types of antennas that can withstand extreme environments
- summarise typical issues and challenges that occur in telecommunications antenna installations.

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 – radio frequency networks field of work and include access to:

- a site for antenna installation
- a range of antennas and feedlines currently used in industry
- a range of general tools and test equipment required for antenna installation and testing.

Assessors of this unit must satisfy the requirements for assessors in applicable vocational education and training legislation, frameworks and/or standards.

Links

Companion Volume implementation guides are found in VETNet -

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