



Australian Government

UEEEEC0039 Install and test microwave antennae and waveguides

Release: 1

UEEEEC0039 Install and test microwave antennae and waveguides

Modification History

Release 1. This is the first release of this unit of competency in the UEE Electrotechnology Training Package.

Application

This unit involves the skills and knowledge required to install and test microwave antennae and waveguides.

It includes preparing to install and test microwave antennae and waveguides, installing microwave antennae and waveguides, testing microwave antennae and waveguides, and reporting outcomes.

Permits may be required for some work environments, such as confined spaces, working aloft, near live electrical apparatus and site rehabilitation.

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

Pre-requisite Unit

UEECD0007 Apply work health and safety regulations, codes and practices in the workplace

UEECD0019 Fabricate, assemble and dismantle utilities industry components

UEECD0020 Fix and secure electrotechnology equipment

UEECD0051 Use drawings, diagrams, schedules, standards, codes and specifications

Competency Field

Electronics and Communications

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

PERFORMANCE CRITERIA

Performance criteria describe the performance needed to demonstrate achievement of the element.

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| 1 Prepare to install and test microwave antennae and waveguides | 1.1 Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures for relevant work area are identified, obtained and applied |
| | 1.2 Risk control measures are applied in accordance with workplace procedures prior to commencing work |
| | 1.3 Risks/hazards are identified, assessed and reported to relevant person/s, and control measures implemented |
| | 1.4 Nature and location of the work is obtained from relevant person/s to determine scope of work |
| | 1.5 Instructions for coordinating work with others are obtained from relevant person/s and applied |
| | 1.6 Materials required for the work are determined in accordance with workplace procedures |
| | 1.7 Tools, equipment and testing devices required for work are obtained in accordance with workplace procedures and checked for correct operation and safety |
| 2 Install microwave antennae and waveguides | 2.1 Workplace risk control measures and procedures are applied |
| | 2.2 Circuits/components are checked and isolated, as required, in accordance with WHS/OHS requirements and workplace procedures |
| | 2.3 Antennas are installed in specified locations and within limitations imposed by regulations |
| | 2.4 Hardware and accessories are installed straight and square in the required locations and within acceptable tolerances |
| | 2.5 Cables and conductors are terminated at accessories in accordance with relevant industry standards, manufacturer instructions and job specifications |
| | 2.6 Unplanned events are referred to relevant person/s in accordance with workplace procedures |
| | 2.7 Installation is conducted efficiently, without waste of materials, damage to apparatus circuits or the surrounding environment applying sustainable energy practices |

- 3 Test microwave antennae and waveguides and report**
- 3.1** WHS/OHS work completion risk control measures and workplace procedures are followed
 - 3.2** Pre-commissioning adjustments are made to the installation and the system to optimise performance in accordance with system specifications
 - 3.3** Worksite is cleaned and made safe in accordance with workplace procedures
 - 3.4** Relevant person/s is notified of installation completion in accordance with workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit of competency.

Range of Conditions

Range is restricted to essential operating conditions and any other variables essential to the work environment.

Non-essential conditions may be found in the UEE Electrotechnology Training Package Companion Volume Implementation Guide.

Installing, connecting and adjusting any microwave antennae and waveguides must include at least the following:

- antennas
- rectangular sections
- curved sections
- T sections
- joints and couplers

Unit Mapping Information

This unit replaces and is equivalent to UEENEEH128A Install and test microwave antennae and waveguides.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>

Assessment Requirements for UEEEC0039 Install and test microwave antennae and waveguides

Modification History

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Performance Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions on at least two separate occasions and include:

- accurately installing and securing antenna, waveguide hardware and accessories
- applying relevant risk identification, assessment, reporting and control requirements
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including the use of risk control measures
- applying sustainable energy principles and practices
- coordinating work with relevant person/s
- correctly terminating cable and conductors
- dealing effectively with unplanned events
- determining scope of work
- identifying and accessing materials, tools, apparatus and testing devices
- isolating circuits/components
- pre-commission adjusting for optimum performance
- reading and interpreting drawings of circuit arrangements and component locations.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements, performance criteria and range of conditions and include knowledge of:

- antenna and wave guide principles and components
- electronic communications, microwave antennas and waveguide fundamentals
- installation techniques for microwave communication systems
- relevant industry standards, codes and regulations
- relevant manufacturer specifications
- relevant safe work method statements (SWMS)/job safety assessments or risk mitigation processes
- relevant WHS/OHS legislated requirements
- relevant workplace documentation

- relevant workplace policies and procedures
- setting up and testing techniques for microwave communication systems.

Assessment Conditions

Assessors must hold credentials specified within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must satisfy the Principles of Assessment and Rules of Evidence and all regulatory requirements included within the Standards for Registered Training Organisations current at the time of assessment.

Assessment must occur in suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in suitable simulated workplace operational situations that replicate workplace conditions.

Assessment processes and techniques must be appropriate to the language, literacy and numeracy requirements of the work being performed and the needs of the candidate.

Resources for assessment must include access to:

- a range of relevant exercises, case studies and/or simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- resources that reflect current industry practices in relation to installing microwave and antennae and waveguides
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6>