



Australian Government

UEEEEC0023 Diagnose and rectify faults in digital transmission circuits and systems

Release: 1

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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 diagnose and rectify faults in digital transmission circuits and systems.

It includes fault finding and repair of faults in digital transmission systems. It also includes working safely, applying logical diagnostic methods of digital transmission systems circuit components, rectifying faults, safety and functional testing, and completing the necessary service documentation.

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

UEEEEC0024 Diagnose and rectify faults in electronic display circuits

Competency Field

Electronics and Communications

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Prepare to diagnose and rectify digital

PERFORMANCE CRITERIA

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

1.1 Work health and safety (WHS)/occupational health and safety (OHS) requirements and workplace procedures

transmission circuits and system faults

for a given work area are obtained and applied

- 1.2 WHS/OHS risk control measures and workplace procedures are followed in preparation for digital transmission circuits and system work
- 1.3 Safety hazards which have not previously been identified are risk assessed, documented and risk control measures devised and implemented in consultation with appropriate person/s
- 1.4 Extent of faults is determined from reports, documentation and discussions with appropriate person/s
- 1.5 Appropriate person/s is consulted to ensure digital transmission circuits and system work is coordinated effectively with others involved on the worksite
- 1.6 Tools, equipment and testing devices needed to diagnose faults are obtained in accordance with workplace procedures and checked for correct operation and safety

2 Diagnose and rectify digital transmission circuits and system faults

- 2.1 WHS/OHS risk control measures and workplace procedures for carrying out digital transmission circuits and system work are followed
- 2.2 Need to test and measure live work is determined in accordance with WHS/OHS requirements and, as required, conducted in accordance with workplace safety procedures
- 2.3 Circuits/machines/plant are checked and isolated in accordance with WHS/OHS requirements and workplace procedures
- 2.4 Logical diagnostic methods are applied to diagnose digital transmission apparatus faults using measurements of circuit operating parameters in accordance with apparatus operating specifications
- 2.5 Suspected fault scenarios are tested as being the source of digital transmission circuit system problem
- 2.6 Faults in the electronic components of the digital transmission apparatus are rectified to circuit and system operation standard

- 2.7 Circuits are inspected and tested to verify that digital transmission circuit apparatus operates as intended and to specified requirements
 - 2.8 Unplanned situations are responded to in accordance with workplace procedures, discussions with appropriate person/s and consistent with job specifications and requirements in a manner that minimises risk to personnel and equipment
 - 2.9 Diagnosis and rectification activities are carried out efficiently without waste of materials or damage to apparatus, the surrounding environment or services using sustainable energy practices
- 3 Complete and report fault diagnosis and rectification activities**
- 3.1 WHS/OHS work completion risk control measures and workplace procedures are followed
 - 3.2 Worksite is made safe in accordance with workplace safety procedures
 - 3.3 Rectification of digital transmission circuit and system faults is documented in accordance with workplace procedures
 - 3.4 Appropriate person/s is notified in accordance with workplace procedures that apparatus faults have been rectified

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.

Diagnosing and rectifying faults in digital transmission circuits and systems must include at least the following:

- two circuit faults in two different types of digital transmission systems

Unit Mapping Information

This unit replaces and is equivalent to UEENEEH180A Diagnose and rectify faults in digital transmission circuits and systems.

Links

Companion Volume implementation guides are found in VETNet - -

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