



Australian Government

UEEIC0044 Troubleshoot measuring and analysis systems

Release: 1

UEEIC0044 Troubleshoot measuring and analysis systems

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 troubleshoot measuring and analysis systems.

It includes working safely, checking and testing faulty components, reading circuit diagrams and device specifications, applying fault-finding procedures, conducting repairs and completing 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

UEEIC0048 Verify compliance and functionality of instrumentation and control installations and

UEEIC0037 Set up weighting measuring and control instruments

or

UEEIC0033 Set up gas analysis measuring and control instruments

or

UEEIC0036 Set up water analysis measuring and control instruments

or

UEEIC0035 Set up scientific analysis measuring and control instruments

Competency Field

Instrumentation & Control

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.

1 Prepare to find and repair faults

- 1.1** Work health and safety (WHS)/occupational health and safety (OHS) processes and workplace procedures for a given work area are identified, obtained and applied
- 1.2** WHS/OHS risk control measures and workplace procedures are followed in preparation for the work
- 1.3** Scope of measuring and analysis systems fault is obtained from documentation and/or work supervisor
- 1.4** Advice is sought from the work supervisor to ensure work is coordinated effectively with others
- 1.5** Sources of materials required for work are determined in accordance with workplace procedures
- 1.6** Tools, equipment and testing devices required for work are obtained in accordance with workplace procedures and checked for correct operation and safety

2 Find and repair faults

- 2.1** WHS/OHS risk control measures and workplace procedures for carrying out the work are followed
- 2.2** Need to inspect, test and measure live work is determined in accordance with WHS/OHS requirements and workplace procedures
- 2.3** Apparatus is inspected and isolated in accordance with WHS/OHS requirements and workplace procedures
- 2.4** Fault finding of measuring and analytical equipment and circuit is conducted using measured and calculated values of apparatus parameters in accordance with workplace procedures
- 2.5** Equipment components are dismantled, as required, and parts stored to protect against loss or damage in accordance with workplace procedures and relevant industry standards
- 2.6** Faulty components are rechecked and fault status confirmed

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| | 2.7 | Faulty components are readjusted or replaced in accordance with workplace procedures |
| | 2.8 | Repaired components are tested in accordance with workplace procedures |
| | 2.9 | Apparatus is reassembled, inspected, tested and prepared for return to service |
| | 2.10 | Unplanned situations are dealt with safely and with the approval of relevant person/s |
| | 2.11 | Fault-finding and repair 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-finding and repair activities | |
| | 3.1 | WHS/OHS work completion risk control measures and workplace procedures are followed |
| | 3.2 | Work area is cleaned and made safe in accordance with workplace procedures |
| | 3.3 | Written justification is made for repairs to apparatus, components and materials in accordance with workplace procedures |
| | 3.4 | Acceptance that the reported fault/s have been repaired is sought from relevant person/s 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.

finding and repairing faults must include the following:

- at least four faults
- at least two different types of measuring and analytical equipment

Unit Mapping Information

This unit replaces and is equivalent to UEENEEI121A Trouble shoot in measuring and analysis systems.

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 UEEIC0044 Troubleshoot measuring and analysis systems

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:

- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including
 - using risk control measures
- completing repair activities
- dealing with unplanned situations safely and with the approval of relevant person/s
- determining need for inspecting, testing and measuring live work
- determining sources of materials required for work
- dismantling equipment components and storing to protect against loss or damage
- finding faults efficiently
- inspecting and isolating apparatus
- obtaining scope of measuring and analysis systems fault
- obtaining tools, equipment and testing devices and checking for correct operation and safety
- preparing to find and repair faults
- providing written justification for the repairs
- rechecking and confirming faulty component status
- replacing components without damage using sustainable energy practices.

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:

- isolation procedures
- problem-solving techniques
- relevant industry measuring and analysis systems standards
- relevant manufacturer specifications and operating instructions
- job safety assessments or risk mitigation processes
- relevant tools, equipment and testing devices

- relevant troubleshooting, measuring and analysis systems, including:
 - applications of measurement circuits
 - circuit components and configurations
 - principles of measurement
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace instructions, policies and procedures
- sustainable energy principles.

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 simulated suitable 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, facilities and equipment currently used in industry
- resources that reflect current industry practices in relation to finding and repairing faults in measuring and analysis systems
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

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