



Australian Government

UEEIC0046 Troubleshoot process control 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 troubleshoot process control systems.

It includes applying safe working practices, interpreting process and circuit diagrams, applying knowledge of process controls to fault-finding procedures, conducting repairs, performing safety and functional testing, 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

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

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

UEEIC0047 Use instrumentation drawings, specifications, standards and equipment manuals

UEEIC0041 Solve problems in pressure measurement components and systems

UEEIC0038 Solve problems in density/level measurement components and systems

UEEIC0039 Solve problems in flow measurement components and systems

UEEIC0043 Solve problems in temperature measurement components and systems

UEEIC0029 Set up and adjust PID control loops

UEEIC0030 Set up and adjust advanced PID process control loops

and

UEECD0043 Solve problems in direct current circuits

or

UEECD0044 Solve problems in multiple path circuits

UEECD0046 Solve problems in single path circuits

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 rectify 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 understood
- 1.2** WHS/OHS risk control measures and workplace procedures are followed in preparation for work
- 1.3** Scope of fault is obtained from documentation and/or from work supervisor to determine work
- 1.4** Advice is sought from work supervisor to ensure work is coordinated effectively with others
- 1.5** Sources of materials required for work are identified in accordance with workplace procedures
- 1.6** Tools, equipment and testing devices required to carry out work are obtained in accordance with workplace procedures and checked for correct operation and safety

2 Find faults

- 2.1** WHS/OHS risk control measures and workplace procedures for carrying out 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 industrial processes, control apparatus and systems is conducted using measured and calculated values of system parameters in accordance with workplace procedures
- 2.5** Apparatus components are dismantled, as required, and

parts stored to protect against loss or damage in accordance with workplace procedures

2.6 Faulty components are rechecked and fault status confirmed

2.7 Unplanned situations are dealt with safely and with the approval of relevant person/s in accordance with workplace procedures

2.8 Fault-finding activities are carried out without damage to apparatus circuits, the surrounding environment or services using sustainable energy principles

3 Rectify fault

3.1 WHS/OHS risk control measures and workplace procedures for carrying out the work are followed

3.2 Apparatus is inspected and isolated in accordance with WHS/OHS requirements and workplace procedures

3.3 Materials required to rectify faults are sourced and obtained in accordance with workplace procedures

3.4 Repairs are conducted without damage to relevant components or apparatus in accordance with workplace procedures and sustainable energy principles

3.5 Repairs are inspected and tested in accordance with workplace procedures and relevant industry standards

3.6 Apparatus is reassembled, inspected, tested and prepared for return to customer in accordance with workplace procedures and relevant industry standard

4 Complete and report fault-finding and rectification activities

4.1 WHS/OHS work completion risk control measures and workplace procedures are followed

4.2 Work area is cleaned and made safe in accordance with workplace procedures

4.3 Work completion is documented and relevant person/s notified 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 rectifying faults must include at least two of the following:

- different systems containing more than one control loop

Unit Mapping Information

This unit replaces and is equivalent to UEENEEI114A Troubleshoot process control systems.

Links

Companion Volume implementation guides are found in VETNet - -

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