



Australian Government

UEEIC0003 Assist in commissioning process and instrumentation control systems

Release: 1

UEEIC0003 Assist in commissioning process and instrumentation control 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 assist in commissioning of process control systems.

It includes working safely and with others, complying with requirements, applying knowledge of process and control components, pre-commissioning tests, checking and adjusting components and controls to ensure efficient and safe operation and completing commissioning 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

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

UEEIC0031 Set up and configure human-machine interface (HMI) and industrial networks 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.

1 Prepare to assist in commissioning process control systems

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) 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 work
- 1.3** Safety hazards that have not previously been identified are noted and risk control measures implemented
- 1.4** Commissioning plan is reviewed with relevant team members to ensure commissioning role/s of members are identified and ensure work is coordinated effectively in accordance with workplace procedures
- 1.5** Measurement parameters are identified with team in accordance with workplace procedures, process requirements and manufacturer instructions
- 1.6** Tools, equipment and testing devices required for work are obtained in accordance with workplace procedures and checked for correct operation and safety
- 1.7** Preparatory work is checked to ensure no damage has occurred and work is in accordance with relevant industry standards
- 1.8** Need to test and measure live work is determined in accordance with WHS/OHS requirements and

		workplace procedures
	1.9	Circuits are checked and isolated in accordance with WHS/OHS requirements and workplace procedures
2 Assist in commissioning process control systems	2.1	WHS/OHS risk control measures and workplace procedures for carrying out work are followed
	2.2	Commissioning testing/measuring devices are connected and set up in accordance with relevant industry standards for control system and work instructions
	2.3	Process instruments and apparatus are set up and adjusted in accordance with relevant industry standards, process control requirements, equipment manufacturer instructions and work instructions
	2.4	Adjustments are made to provide optimum transmission/reception performance in accordance with relevant industry standards
	2.5	Decisions for dealing with unplanned situations are made from discussions with relevant person/s and/or job specifications
	2.6	Methods for dealing with unplanned situations are selected in accordance with WHS/OHS requirements and job specifications
	2.7	Commissioning assistance is carried out efficiently without waste of materials or damage to apparatus, the surrounding environment or services using sustainable energy principles
3 Complete and report commissioning activities	3.1	WHS/OHS risk control work completion measures and workplace procedures are followed
	3.2	Worksite is cleaned and made safe in accordance with workplace procedures
	3.3	Adjustment settings are 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.

Process control systems incorporating closed loop control and digital and analogue elements must include at least five of the following:

- interacting control functions

Unit Mapping Information

This unit replaces and is equivalent to UEENEEI122A Assist in commissioning process and instrumentation control 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 UEEIC0003 Assist in commissioning process and instrumentation control 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
- assisting in commissioning process control systems
- carrying out commissioning assistance without waste of materials or damage to apparatus, the surrounding environment or services using sustainable energy principles
- checking and isolating circuits
- checking preparatory work to ensure no damage has occurred
- connecting and setting up commissioning testing/measuring devices in accordance with relevant industry standards for particular control system and work instructions
- dealing with unplanned situations with decisions from discussions with relevant person/s and/or job specifications
- determining need to test and measure live work
- documenting adjustment settings in accordance with workplace procedures
- identifying measurement parameters by reviewing process requirements and equipment manufacturer instructions
- identifying roles of each commission team member
- making adjustments to provide optimum transmission/reception performance
- obtaining tools, equipment and testing devices required for work
- preparing to assist in commissioning process control systems
- setting up and adjusting process instruments and apparatus in accordance with relevant industry standards for process control, equipment manufacturer instructions and work instructions.

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
- process instruments and apparatus
- relevant commissioning process, including:
 - commissioning planning and documentation
 - procedures for commissioning instrumentation
 - purpose and importance of documentation
 - purpose of commissioning
- relevant industry standards for control system
- relevant manufacturer specifications and operating instructions
- relevant measurement parameters
- relevant job safety assessments or risk mitigation processes
- relevant tools, equipment and testing/measuring device
- relevant WHS/OHS legislated requirements
- relevant workplace documentation, including:
 - commissioning plan
- relevant workplace instructions, policies and procedures
- sustainable energy principles.

Assessment Conditions

As a minimum, assessors must satisfy applicable regulatory requirements, which include requirements in the Standards for Registered Training Organisations current at the time of assessment.

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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 assisting in commissioning process control systems
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

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