Australian Government

UEEIC0030 Set up and adjust advanced PID process control loops

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 set up and adjust advanced proportional-integral-derivative (PID) process control loops.

It includes working safely and to standards, following set-up and adjustment procedures, applying knowledge of process requirements, testing and reporting.

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

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	PERFORMANCE CRITERIA
Elements describe the essential outcomes.	Performance criteria describe the performance needed to demonstrate achievement of the element.
1 Prepare to tune control loop with advanced functions	**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 Safety hazards that have not previously been identified are noted and risk control measures implemented
	1.4 Relevant person/s is consulted to ensure work is coordinated effectively with others involved on the worksite
	1.5 Advanced control loop parameters are identified by reviewing process specifications and equipment 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 inspect, test and measure live work is determined in accordance with WHS/OHS requirements and workplace procedures
	1.9 Circuits/machines/plant are inspected, tested and isolated in accordance with WHS/OHS requirements and workplace procedures
2 Tune control loop for advanced functions	**2.1** WHS/OHS risk control measures and workplace procedures for carrying out the work are followed

	2.2	Testing/measuring devices are connected and set up in accordance with relevant industry standards and control system for advanced functions
	2.3	Control set-point is determined and control loop adjusted in accordance with relevant industry standards and process specifications
	2.4	Process is observed and decisions made in consultation with process operation personnel to readjust control loop settings to ensure process demand and output quality are met
	2.5	Process control loops are readjusted, as required, and checked
	2.6	Methods for dealing with unexpected situations are discussed with relevant person/s and documented
	2.7	Unplanned situations are dealt with safely and with the approval of relevant person/s in accordance with workplace procedures
	2.8	Quality inspection is conducted of process output to ensure control loop is tuned in accordance with workplace procedures
	2.9	Tuning 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 control loop tuning 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	Control loop 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.

Unit Mapping Information

This unit replaces and is equivalent to UEENEEI110A Set up and adjust advanced PID process control loops.

Links

Companion Volume implementation guides are found in VETNet - - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=b8a8f136-5421-4ce1-92e0-2b50341431b6