



Australian Government

Assessment Requirements for UEEIC0028 Provide solutions to problems in industrial 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.

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 implementing risk control measures
- applying sustainable energy principles and practices
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- determining extent of and evaluating solutions to resolve industrial control system problems
- documenting justification of solutions implemented in accordance established procedures
- meeting scheduled timelines
- obtaining parameter specifications and performance requirements
- preparing to provide solutions to industrial control system problems
- providing solutions to industrial control system problems
- testing and documenting solutions to industrial control system problems
- testing solution to industrial control system problems.

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:

- control amplifiers, including:
 - introduction
 - amplifier operation
 - operational amplifiers
 - operational amplifier configurations
- industrial transducers, including:
 - introduction
 - International System of Units (SI)

- forms of energy
- transducer terminology
- temperature measurement
- force measurement
- speed measurement
- positional measurement
- industrial final control elements, including:
 - introduction
 - electromagnetic devices
 - valves
 - solid state switching devices
- industrial control systems, including:
 - automatic control
 - open loop control
 - closed loop control
 - control system terminology
 - control system evaluation
 - two position control
 - proportional control (P)
 - proportional + integral control (P+I)
 - proportional + derivative control (P+D)
 - proportional + integral + derivative control (P+I+D)
- industrial control loops and control signals, including:
 - introduction
 - control loops
 - converters (digital-to-analogue and analogue-to-digital)
 - multiplexing
- circuit operation, characteristics and applications
- industrial control systems problems
- operation and safety of relevant tools, equipment and testing devices
- parameter specifications and performance requirements for control system problems
- relevant job safety assessments or risk mitigation processes, including risk control measures
- relevant manufacturer specifications
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- solutions to industrial control system problems
- sustainable energy principles and practices.

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 workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in simulated 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 other simulations
- relevant and appropriate materials, tools, equipment and personal protective equipment (PPE) currently used in industry
- applicable documentation, including workplace procedures, equipment specifications, regulations, codes of practice and operation manuals.

Links

Companion Volume implementation guides are found in VETNet - -

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