Assessment Requirements for UEEIC0015 Develop, enter and verify word and analogue control programs for programmable logic controllers

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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
- consulting with relevant person/s
- correcting programming anomalies
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- determining modes of operation from job specifications
- developing and entering programs for industrial control systems
- developing control solutions
- developing control systems to required operating functions and parameters
- documenting control system and programming clearly
- entering programming functions and parameters
- identifying industrial control systems/programs
- installing programmable controllers
- monitoring, verifying and documenting programming activities
- obtaining relevant equipment, software and testing devices
- testing and verifying device operations
- using arithmetic functions to scale and un-scale engineering values
- using word data, numbering systems and codes.

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:

- numbering systems and codes, including:
    - types of numbering systems

- codes
- application of codes
- conversion between codes and numbering systems

- use programmable logic controller (PLC) software, including:
  - install programming software
  - memory mapping
  - computer software
  - manufacturer's instruction manuals
- PLC hardware, including selection, installation, configuration, signals and resolution
- analogue modules, including:
  - comparison of signals
  - resolution of analogue signals
  - connection of analogue field
  - programming
  - loop fault
- data manipulation, including:
  - IEC data types
  - word structure
  - select bits transfer
  - move
  - block transfer
  - compare
  - block compare
  - and words
  - mask
  - maths function
  - scaling and un-scaling
  - special registers
  - shift register
  - multiplexing
- sequencer, including:
  - application
  - event and time driven
  - programming application
- languages including:
  - ladder
  - code structure format (CSF)
  - state logic (STL)
- diagnostics, including:
  - special register

- software diagnostics
- edits
- rung scan faults
- complex industrial process, including:
  - describe process
  - write program
  - edit program
  - connect and run program
  - documentation
- analogue and word programming
- analogue modules
- control systems and programmable controllers
- job safety assessments or risk mitigation processes
- numbering systems and codes
- relevant arithmetic functions
- relevant equipment, software and testing devices
- relevant manufacturer specifications
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures.

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