



Australian Government

**Assessment Requirements for UEEIC0006
Design and configure Human-Machine
Interface (HMI) networks**

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 problem-solving techniques
- applying relevant work health and safety (WHS)/occupational health and safety (OHS) requirements, including:
 - implementing workplace procedures and practices
 - using of risk control measures
- applying sustainable energy principles and practices
- configuring management components of human-machine interface (HMI) network services
- creating security components of HMI network services
- dealing with unplanned events/situations in accordance with workplace procedures in a manner that minimises risk to personnel and equipment
- developing solutions to optimise network performance
- documenting HMI network services development activities
- establishing network services to be developed
- identifying and rectifying HMI network malfunctions/faults
- installing and configuring network infrastructure components
- installing and configuring structural components of directory services
- installing, configuring and managing HMI control system networks
- preparing to design control system networks
- reporting network administration activities in accordance with workplace procedures.

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:

- problem-solving techniques and troubleshooting remote access including remote access policy, configuration of remote access profile, virtual private network (VPN), multi-link connection, routing and remote access for dynamic host configuration protocol (DHCP)

- control system networks interface
- DHCP
- HMI control system networks
- installation, configuring and troubleshooting of internet protocol (IP) routing protocols including updating routing tables and implementing demand-dial routing
- internet naming services in a network
- IP routing, including border routing, internal routing and IP routing protocols
- network address translation (NAT)
- network infrastructure
- network protocols
- open and common proprietary control system networks models (layers) and protocols, including CANopen, ControlNet, devicenet, ethernet, foundation fieldbus, interbus, modbus and profibus
- purpose and application of HMI control system networks systems
- relevant certificate services
- relevant domain name service (DNS)
- relevant job safety assessments or risk mitigation processes
- relevant manufacturer specifications
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- remote access security including authentication protocols, encryption protocols and access policy.

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 suitable workplace operational situations where it is appropriate to do so; where this is not appropriate, assessment must occur in suitable 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 simulations
- relevant and appropriate materials, tools, facilities, equipment currently used in industry
- resources that reflect current industry practices in relation to designing and configuring HMI networks
- 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>