



Australian Government

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.

Application

This unit involves the skills and knowledge required to design and configure human-machine interface (HMI) networks.

It includes applying safe working practices; designing, installing and configuring controllers and devices; monitoring system operations; diagnosing malfunctions and faults; and documenting development activities.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

Pre-requisite Unit

Not applicable

Competency Field

Instrumentation & Control

Unit Sector

Electrotechnology

Elements and Performance Criteria

ELEMENTS

Elements describe the essential outcomes.

1 Select and design HMI control system network

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 Hazards are identified, WHS/OHS risks assessed, and

control measures and workplace procedures are implemented in preparation for work

- 1.3** Scope of HMI control system network is determined from network specifications/design brief and in consultation with relevant person/s
- 1.4** Activities are planned to meet scheduled specifications/design brief timelines in consultation with person/s involved in the work
- 1.5** Management tools and software are selected based on specified requirements and performance standards
- 1.6** Strategies are implemented to ensure network development is carried out efficiently

2 Install, configure and manage HMI control system network

- 2.1** WHS/OHS risk control measures and workplace procedures for carrying out work are followed
- 2.2** Network infrastructure components are installed and configured in accordance with industry standards and variants as specified for the network
- 2.3** Structural components of directory services are installed and configured in accordance with industry standards and variants as specified for the network
- 2.4** Management components of network control system are configured in accordance with industry standards and requirements specified for the network
- 2.5** Security components of network control system are created in accordance with industry standards and requirements specified for the network
- 2.6** Network malfunctions/faults are identified and rectified using logical problem-solving techniques of complex network control system infrastructure
- 2.7** Network is monitored and solutions are developed to optimise network performance and reliability in accordance with workplace procedures
- 2.9** Security events are analysed and actions taken in accordance with workplace policies and protocols
- 2.10** Methods for dealing with unplanned issues/problems are analysed to provide the most effective solutions in

		accordance with workplace procedures
	2.11	Quality of work is monitored in accordance with performance agreement/specifications and/or workplace procedures or industry standards
3 Report HMI network administration activities	3.1	Written justification is produced for HMI network services development activities and relevant person/s notified in accordance with workplace procedures
	3.2	Network service development records are maintained 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.

Designing and configuring HMI networks must include at least the following:

- controllers and devices installation and configuration
- development activities documentation
- malfunctions and faults diagnostics
- operation of distributive and central control system networks monitoring and maintenance
- safe working practices
- system operations monitoring

Unit Mapping Information

This unit replaces and is equivalent to UEENEEI153A Design and configure Human-Machine Interface (HMI) networks.

Links

Companion Volume implementation guides are found in VETNet - -

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

