



**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>

