



Australian Government

**Assessment Requirements for UEERS0006
Install and maintain computer-based
interlocking rail systems**

Release: 1

Assessment Requirements for UEERS0006 Install and maintain computer-based interlocking rail systems

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 and performance criteria on at least one occasion and includes:

- maintaining computer-based and solid-state interlocking (SSI) equipment to operational requirements, plans and specifications
- interpreting specifications and plans correctly
- using appropriate testing and fault-finding techniques
- rectifying faults with minimal disruption to rail traffic and services
- using tools and test equipment correctly
- following relevant codes of practice, work health and safety (WHS)/occupational health and safety (OHS) and environmental protection procedures requirement
- completing relevant technical reports, records and documentation
- dealing with unplanned events
- applying rail safe working practices and relevant industry standards, codes and rail safety regulations
- applying relevant WHS/OHS requirements, including:
 - implementing workplace procedures and practices
 - using risk control measures
- applying sustainable energy principles and practices
- completing installation and maintenance of computer-based interlocking (CBI) system
- installing and maintaining CBI system.

Knowledge Evidence

Evidence required to demonstrate competence in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria and include knowledge of:

- CBI systems installation/maintenance
- electronic communications, principles encompassing:
 - requirements of a basic communications system - satellites, data communications, navigation, telecommunications and noise
 - antennae and electro-magnetic wave propagation

- reason for modulation
- amplitude and frequency modulation, difference, advantages and disadvantages
- simple transmitter and receiver circuits (block diagram level)
- optical communications principles
- rail signalling - electronic equipment encompassing:
 - equipment and their components - telemetry (supervisory control and data acquisition (SCADA)), monitoring systems, IASS, train describer and panel processors
 - operating principles and parameters
 - servicing procedures
- computer peripherals encompassing:
 - types and applications
 - operating principles
 - software (drivers) installation
 - network management of peripheral devices
- personal computers (PCs), engineering applications and software basics encompassing:
 - application software types
 - configurations and preferences
 - use of particular software packages - word processor, spreadsheet, database, presentation software, web/document publisher, computer-aided design (CAD)/drawing packages, email, and client and business management
- rail signalling - CBI encompassing:
 - equipment and their components - SSI, Microlock and Westrace
 - operating principles and parameters
 - servicing procedures
- rail signalling - computer applications encompassing:
 - types of software and their scope - interrogator software for loggers, monitors and CBI and database (work instruction, commissioning work structures and cable schedules)
 - setting up and use
- rail signalling - remote control systems encompassing:
 - equipment and their components - programmable logic controllers (PLCs), dedicated PCs and prep systems
 - operating principles and parameters
 - servicing procedures
- electronic equipment
- relevant job safety assessments or risk mitigation processes
- relevant manufacturer specifications
- relevant WHS/OHS legislated requirements
- relevant workplace documentation
- relevant workplace policies and procedures
- safe working practices and relevant industry standards, codes and regulations.

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 other simulations
- relevant and appropriate materials, tools, facilities, equipment and personal protective equipment (PPE) currently used in industry
- resources that reflect current industry practices in relation to installing/maintaining computer-based and SSI systems
- 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>