



Australian Government

Assessment Requirements for UEERS0027 Maintain computer-based interlocking rail systems

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.

This unit replaces and is equivalent to UEERS0006 Install and maintain computer based interlocking rail systems.

Modifications this release include:

- Title changed.
- Application updated to reflect title change.
- Element titles and performance criteria amended to reflect title change.
- Performance criteria 1.6, 2.2, 3.2 and 3.3 added.
- Performance and Knowledge Evidence updated for clarity.
- Knowledge Evidence items added.

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:

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

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:

- interlocking operating principles and parameters including:
 - normal mode operation
 - route selection logic
 - signal approach logic and timers
 - point release logic and timers
 - panel displays and logic
 - wrong-side protection mode
 - alarm mode
 - use of control tables
 - relay interfaces
 - emergency operation
 - correct operation in accordance with control and locking tables
- electronic communications, principles including:
 - requirements of a basic communications system
 - simple transmitter and receiver circuits (block diagram level)
 - optical communications principles
- rail signalling - electronic equipment including:
 - equipment and their components
 - operating principles and parameters
 - servicing procedures
- rail signalling - CBI including:
 - equipment and their components
 - operating principles and parameters
 - servicing procedures
- rail signalling - computer applications including:
 - types of software and their scope - interrogator software for loggers, monitors and CBI and database
 - setting up and use
- serial communications
- importance of cyber security for the signalling asset
- internet protocol including:
 - set an IP address
 - visual diagnostics
 - web interface diagnostics
 - upgrading/downgrading firmware
 - uploading/downloading configuration file
- signaller controls/indications
- servicing procedures including:
 - maintenance documentation

- coordination/planning sequence
- operational test procedures
- scheduled/preventative maintenance
- unscheduled/corrective maintenance
- certifying interlocking equipment
- rail signalling, drawings and diagrams
- drawing types and applications encompassing:
 - drawing layouts and conventions
 - drawing symbols
 - cable and equipment schedules
- certifying procedures applicable for compliance with rail operator and/or enterprise standards
- relevant manufacturer specifications and manuals.

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 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>