Australian Government

Assessment Requirements for UEERS0013 Install and maintain train detection equipment

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 and performance criteria on at least two separate occasions and include:

- interpreting plans and specifications correctly
- installing/maintaining, adjusting and testing equipment in accordance with workplace procedures
- using tools and test equipment safely
- checking that technical operational specifications are met and equipment is in compliance with work orders
- following relevant codes of practice, work health and safety (WHS)/occupational health and safety **(**OHS) and environmental protection procedures and requirements, including:
  - implementing workplace procedures and practices
  - using risk control measures
- 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
- completing the installation/maintenance of train detection equipment
- preparing to install/maintain train detection equipment.

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:

- train detection equipment installation and maintenance, safe working practices and relevant standards, codes and regulations, including:
  - rail signalling, train detection equipment
  - train detection equipment and their components encompassing:
    - track circuits, including jointed, jointless, non-vital, axle counters, treadles and level crossing predictors
    - alternating current (a.c.) and direct current (d.c.) power supplies

- transmitters
- receivers
- relays
- track shunts
- tuned joint couplers
- central processor
- diagnostics
- fixtures to ironwork

- operating principles and parameters encompassing:
  - interpreting circuits diagrams to evaluate correct operation and relationship to other signalling circuits
  - normal mode operation:
    - instantaneous coil energisation and delay pick-up
    - wrong-side operation
    - failure mode operation, including wrong-side and right-side conditions
  - alarm mode
  - redundancy mode
  - correct operation in accordance with control and locking tables
  - servicing procedures encompassing:
    - maintenance documentation
    - coordination/planning sequence
    - operational test procedures
    - scheduled/preventative maintenance
    - unscheduled/corrective maintenance
    - certification of train detection equipment (commission and decommission)
    - certifying procedures applicable for compliance with rail operator and/or enterprise standards
- safe working practices and relevant standards, codes and regulations
- relevant job safety assessments or risk mitigation processes
- relevant manufacturer specifications
- relevant WHS/OHS legislated requirements
- relevant workplace policies and procedures.

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 train detection equipment
- 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