



Australian Government

Department of Education, Employment and Workplace Relations

TLIB3107A Test mechanical signalling equipment and isolate faults

Release: 1

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Modification History

Not Applicable

Unit Descriptor

Unit Descriptor

This unit involves the skills and knowledge required to test mechanical signalling equipment and isolate faults in accordance with safeworking and regulatory requirements and workplace procedures. It includes undertaking preparation tasks, conducting testing and/or isolation of equipment, checking equipment operation, and finalising the testing and/or isolation of equipment in accordance with workplace procedures and relevant regulatory requirements. Licensing or certification requirements are not applicable to this unit.

Application of the Unit

Application of the Unit

Work must be carried out in accordance with codes/regulations and workplace requirements relevant to the testing of mechanical signalling equipment and the isolation of faults.

Work is performed under minimal supervision, generally within a team environment. It involves the application of regulatory requirements and workplace procedures to the testing and the isolation of faults in mechanical signalling equipment.

Licensing/Regulatory Information

Refer to Unit Descriptor

Pre-Requisites

Not Applicable

Employability Skills Information

Employability Skills This unit contains employability skills.

Elements and Performance Criteria Pre-Content

Elements describe the essential outcomes of a unit of competency.

Performance criteria describe the required performance needed to demonstrate achievement of the element. Assessment of performance is to be consistent with the evidence guide.

Elements and Performance Criteria

ELEMENT	PERFORMANCE CRITERIA
1 Prepare to test and/or isolate equipment	1.1 Testing is appropriately sequenced in accordance with job schedule 1.2 Appropriate personnel are consulted to ensure the work is coordinated effectively with others involved on the worksite 1.3 Location of equipment to be tested/isolated is determined from job specifications and diagrams 1.4 Tools, equipment and testing devices needed to test and/or isolate are obtained in accordance with established procedures and checked for correct operation and safety
2 Test and/or isolate equipment	2.1 Initial visual check of operational equipment is performed to identify any equipment faults 2.2 Identified equipment is isolated in accordance with relevant operational rules and procedures 2.3 Established methods for dealing with unexpected situations are discussed with appropriate personnel and documented 2.4 Unexpected situations are dealt with safely and with the approval of an authorised person
3 Check equipment operation	3.1 Approval to conduct a check of equipment operation is obtained in accordance with relevant operational rules and procedures 3.2 Authorised equipment check is carried out in accordance with operating procedures to identify any equipment faults 3.3 Operational effectiveness of equipment is confirmed through observation during train movements if required 3.4 Equipments faults are correctly identified, recorded and appropriate corrective action is taken 3.5 Service equipment is locked and secured to prevent unauthorised access 3.6 Work completion is documented and appropriate personnel are notified in accordance with established procedures
4 Finalise testing and/or isolation of equipment	4.1 Test results are documented in accordance with organisation requirements 4.2 Faulty or replaced equipment is tagged and despatched to maintain equipment spares 4.3 Fully operational equipment is handed over to approved personnel ensuring that hand over procedures are accurately followed and final documentation is completed

Required Skills and Knowledge

REQUIRED KNOWLEDGE AND SKILLS

This describes the essential knowledge and skills and their level required for this unit.

Required knowledge:

- Relevant sections of regulatory requirements &/or organisation's procedures where applicable to the testing of mechanical signalling equipment and the isolation of faults
- Relevant safety, OH&S and environmental procedures and regulations
- Workplace procedures and policies for the testing of mechanical signalling equipment and the isolation of faults, including the tagging and reporting of faulty equipment and components
- Focus of operation of work systems, equipment, management and site operating systems for the testing of mechanical signalling equipment and the isolation of faults
- Fault-finding techniques including identification of cost/time effective rectification procedures
- Tools, meters, gauges and equipment used during the testing of mechanical signalling equipment and the isolation of faults and the precautions and procedures that should be followed in their use
- Guidelines relating to the safe use of machinery and equipment including the tagging of unserviceable or damaged items
- Faults that may occur with equipment, and appropriate action that can be taken to report and/or rectify the identified faults in the equipment or its components
- The characteristics, capabilities and limitations of the equipment
- Operational safety requirements for the equipment concerned
- Housekeeping standards procedures required in the workplace
- Site layout and obstacles
- Documentation and record requirements

Required skills:

- Communicate effectively with others when testing mechanical signalling equipment and isolating faults
- Read and interpret instructions, procedures, information and signs relevant to the testing of mechanical signalling equipment and the isolation of faults
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to the testing of mechanical signalling equipment and the isolation of faults
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when testing mechanical signalling equipment and isolating faults
- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when testing mechanical signalling equipment and isolating faults in accordance with regulatory requirements and workplace procedures

Required skills:

- Implement contingency plans for unplanned events
- Apply precautions and required action to minimise, control or eliminate hazards that may exist during work activities
- Monitor work activities in terms of planned schedule
- Modify activities depending on differing operational contingencies, risk situations and environments
- Work systematically with required attention to detail without injury to self or others, or damage to goods or equipment
- Adapt to differences in equipment in accordance with standard operating procedures
- Select and use relevant meters, gauges, equipment and tools when testing mechanical signalling equipment and isolating faults
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Apply basic mechanical, hydraulic, pneumatic and electrical awareness to testing and fault identification activities

Evidence Guide**EVIDENCE GUIDE**

The evidence guide provides advice on assessment and must be read in conjunction with the performance criteria, required knowledge and skills, the range statement and the assessment guidelines for this Training Package.

Critical aspects for assessment and evidence required to demonstrate competency in this unit

- The evidence required to demonstrate competency in this unit must be relevant to and satisfy all of the requirements of the elements and performance criteria of this unit and include demonstration of applying:
 - the underpinning knowledge and skills
 - relevant legislation and workplace procedures
 - other relevant aspects of the range statement
- Assessment must include exercises which demonstrate competent performance of the following in a range of situations:
 - preparing to test and/or isolate equipment
 - testing and/or isolating equipment
 - checking equipment operation
 - finalising testing and/or isolation of equipment

Context of and specific resources

- Performance is demonstrated consistently over a period

EVIDENCE GUIDE

for assessment

of time and in a suitable range of contexts

- Resources for assessment include:
 - a range of relevant exercises, case studies and/or other simulated practical and knowledge assessment, and/or
 - access to an appropriate range of relevant operational situations in the workplace
- In both real and simulated environments, access is required to:
 - relevant and appropriate materials and equipment, and
 - applicable documentation including workplace procedures, regulations, codes of practice and operation manuals

Method of assessment

- Assessment of this unit must be undertaken by a registered training organisation
- As a minimum, assessment of knowledge must be conducted through appropriate written/oral tests
- Practical assessment must occur:
 - through activities in an appropriately simulated environment, and/or
 - in an appropriate range of situations in the workplace

Range Statement

RANGE STATEMENT

The range statement relates to the unit of competency as a whole. It allows for different work environments and situations that may affect performance.

Work may be conducted:

- in a range of external work environments

Customers may be:

- internal or external

Workplaces may comprise:

- large, medium or small worksites

Work may be conducted in:

- limited or restricted spaces
- exposed conditions
- controlled or open environments

Tests and the isolation of faults may be performed:

- on a range of equipment used in transport industries

RANGE STATEMENT

Personal protective equipment may include:

- gloves
- safety headwear and footwear
- safety glasses
- two-way radios
- high visibility clothing

Tests may include but are not limited to:

- tests of operational performance
- tests as part of routine servicing
- identification of causes of poor or out-of-specification performance
- tests following servicing and/or adjustment of equipment

Records/results of tests may include:

- details of faulty equipment or specific components
- details of action taken
- results of testing and associated recommendations
- details of repair and maintenance work to be undertaken
- defect (non-conformance)

Hazards in the work area may include exposure to:

- chemicals
- dangerous or hazardous substances
- movements of equipment, goods and materials
- a fire or explosion
- faulty equipment/tools
- trains
- motor vehicles
- plant and machinery

Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:

- company standards and procedures
- enterprise procedures
- organisational procedures
- established procedures

Consultative processes may involve:

- workplace personnel
- supervisors and managers
- equipment manufacturers
- site visitors
- contractors
- technical personnel

Communication in the work area may include:

- phone/mobile phone
- fax
- email
- internet
- RF communications
- oral, aural or signed communications

RANGE STATEMENT

Information/documents may include:

- workplace procedures and policies for the checking and assessment of the equipment concerned
- specifications for equipment/tools
- equipment identification labels, serial numbers
- supplier and/or client instructions
- material safety data sheets (MSDSs)

Applicable regulations, legislation and codes may include:

- relevant state/territory regulations, codes of practice and safeworking system requirements
- relevant state/territory OH&S legislation
- relevant state/territory environmental protection legislation
- relevant Australian standards and certification requirements

Unit Sector(s)

Not Applicable

Competency Field

Competency Field

B - Equipment Checking and Maintenance