



**Australian Government**

**Department of Education, Employment and Workplace Relations**

# **TLIS3023A Erect and mount structures and housings for signalling equipment**

**Release: 1**

## **TLIS3023A Erect and mount structures and housings for signalling equipment**

### **Modification History**

Not Applicable

### **Unit Descriptor**

#### **Unit Descriptor**

This unit involves the skills and knowledge required to erect and mount structures and housings for signalling equipment in accordance with safeworking and regulatory requirements and workplace procedures including installing the foundations, assembling the components, and installing and mounting the structures and housings in accordance with specifications. Licensing, legislative, regulatory or certification requirements are applicable to this unit.

### **Application of the Unit**

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Persons achieving competence in this unit will need to fulfil the applicable legislated rail safety requirements including acts and regulations from each state and territory together with any nationally approved compliance codes and/or guidelines. Work is performed with under minimal supervision, generally within a team environment. It involves the application of routine operational principles and procedures to general site maintenance carried out as part of workplace activities across a variety of operational contexts within the Australian rail system.

### **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

<b>ELEMENT</b>	<b>PERFORMANCE CRITERIA</b>
<b>1 Install foundations</b>	<p>1.1 The worksite is inspected and appropriate arrangements made for safe access for heavy plant and equipment</p> <p>1.2 Foundations are poured/laid in the correct location, size and quality requirements as per the work orders and job specifications</p> <p>1.3 Required authorisation is confirmed to ensure safe train operations may continue</p>
<b>2 Assemble components</b>	<p>2.1 Components are correctly identified, prepared and laid out for assembly as per work orders/assembly specifications</p> <p>2.2 Components are pre-assembled in the correct sequence and checked to ensure safe and efficient installation can commence</p>
<b>3 Install and mount structures and housings</b>	<p>3.1 Structures are positioned on foundations and checked for compliance to job specifications in preparation for securing</p> <p>3.2 Structures are secured and checked for compliance with safety requirements and job specifications</p> <p>3.3 Housings and other equipment/components are correctly positioned, installed and secured to comply with work orders and job specification requirements</p> <p>3.4 Housings and other equipment/components are secured to ensure correct orientation to track and to prevent unauthorised access</p> <p>3.5 Structures and housings are positioned to ensure they are clear of all other structures, obstructions and interference, including minimum structure gauge</p> <p>3.6 All equipment is locked and secured to maintain site safety and security</p>

## Required Skills and Knowledge

### REQUIRED KNOWLEDGE AND SKILLS

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

#### Required knowledge:

- Applicable legislated rail safety requirements including acts and regulations from each state and territory together with any nationally approved compliance codes and/or guidelines
- Relevant OH&S and environmental procedures and regulations
- Workplace procedures for the erection and mounting of structures and housings for signalling equipment
- Problems that may occur during the erection and mounting of structures and housings for

## **REQUIRED KNOWLEDGE AND SKILLS**

signalling equipment and action that can be taken to report or resolve the problems

## REQUIRED KNOWLEDGE AND SKILLS

- Hazards that may exist during the erection and mounting of structures and housings for signalling equipment and ways of controlling the risks involved
- Information in workplace technical manuals and instructions
- Characteristics of plant and equipment, transport, structures, hardware and components used in work activities
- Impact on work activities of regulatory requirements
- Workplace documentation and records system management related to the work concerned
- Material safety data sheets
- Chemicals, paints and lubricants
- Rail operations and train movement
- Materials procurement procedures
- Track layout
- Principles of signalling
- Hazardous materials and situations and related personal protection measures
- Relevant recording and documentation procedures

### Required skills:

- Communicate effectively with others when erecting and mounting structures and housings for signalling equipment
- Read and interpret technical data, instructions and manuals relevant to the erection and mounting of structures and housings for signalling equipment
- Interpret and follow operational instructions and prioritise work when erecting and mounting structures and housings for signalling equipment
- Complete documentation related to the erection and mounting of structures and housings for signalling equipment
- Operate electronic communication equipment to required protocol
- Work collaboratively with others when erecting and mounting structures and housings for signalling equipment
- Adapt appropriately to cultural differences in the workplace, including modes of behaviour and interactions with others
- Promptly report and/or rectify any identified problems, faults or malfunctions that may occur when erecting and mounting structures and housings for signalling equipment in accordance with regulatory requirements and workplace procedures
- Plan own work including predicting consequences and identifying improvements
- 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

**Required skills:**

damage to equipment

**Required skills:**

- Measure and lay out plans
- Assemble and pre-assemble pre-made components
- Check compliance between work and job specifications
- Use and dispose of a range of chemicals, paints and lubricants
- Position, secure and check structures, housings and components
- Work at heights and in confined spaces
- Select and use required personal protective equipment
- Select and use relevant equipment and tools

**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

**Context of and specific resources for assessment**

- Performance is demonstrated consistently over a period 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



## EVIDENCE GUIDE

### 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 at the registered training organisation, 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.

- Operations may be conducted:
- by day or night
  - in all possible weather conditions
- Site preparation may include:
- site clearance
  - positioning
  - levelling
  - sub-foundation and ground preparation
  - drainage and concrete form work (prefabricated or prepared on site using steel or timber)
- Foundations may be:
- poured concrete (pre-mixed or mixed on site) or pre-cast concrete slabs
  - flooring
  - sub-stands
  - blocks
- Structures may include:
- signal posts
  - level crossing protection
  - gantries
  - ground frames/bases
  - A frames
  - cranks
  - prefabricated structures, but do not include major structures covered by the Building Code
- Housings:
- may include prefabricated structures, cupboards and location cases

## **RANGE STATEMENT**

- may be mounted on the ground, on structures, inside control cases or on external surfaces. Housings covered by the building code are not included

## RANGE STATEMENT

- Preparation may include:
- ensuring compliance with drawings/specifications, functionality, minor adjustments
  - locating/securing and painting or other protective measures
- Job specifications may be defined in:
- relevant technical manuals
- Installation and assembly may include the application of:
- protective coatings, paints or lubricants
- Gauge structure is:
- as required by each organisation for clearance
- Communications equipment may include:
- two-way radios, and/or
  - telephones
- Depending on work context, safety and protective equipment may include:
- high visibility clothing
  - hearing protection
  - gloves
  - sunscreen
  - sunglasses
  - safety glasses
  - insect repellent
  - safety headwear
  - safety footwear
  - portable radios
  - hand lamps
  - flags
  - safety devices
- Depending on the type of organisation concerned and the local terminology used, workplace procedures may include:
- company procedures
  - enterprise procedures
  - organisational procedures
  - established procedures
- Information/documents may include:
- applicable legislated rail safety requirements including acts and regulations from each state and territory together with any nationally approved compliance codes and/or guidelines
  - operational instructions, policies and workplace procedures
  - relevant logs or record books
  - work orders
  - technical instructions
  - manufacturers or workplace equipment instructions and

## RANGE STATEMENT

- Applicable procedures and codes may include:
- operation manuals
  - emergency procedure manuals
  - two-way radio operation procedures
  - QA plans, data and document control
  - conditions of service, legislation and industrial agreements including workplace agreements and awards
  - relevant state/territory regulations, codes of practice and safeworking system requirements
  - relevant Australian Standards and related requirements
  - relevant state/territory OH&S legislation
  - relevant state/territory environmental protection legislation

## Unit Sector(s)

Not Applicable

## Competency Field

**Competency Field**                      S - Construction and Installation