



**Australian Government**

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

# **TLIC3031A Stable a heritage steam locomotive**

**Release: 1**

## **TLIC3031A Stable a heritage steam locomotive**

### **Modification History**

Not Applicable

### **Unit Descriptor**

#### **Unit Descriptor**

This unit involves the skills and knowledge required to stable a heritage steam locomotive in accordance with relevant workplace practices, rail regulations and codes of practice. It includes determining the required stabling location, shunting and securing the train, stabling and securing the heritage steam locomotive, carrying out all required post-operational checks and completing post-operational paperwork. This unit replaces part of the previous unit TDTC1401A Prepare, operate, monitor and stable heritage steam locomotive. 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 and local rail regulations and codes of practice as they apply to the operation of heritage railway systems.

Work is performed under minimal supervision, generally within a team environment. It involves the application of routine operational principles and procedures to the stabling and securing a steam locomotive across a variety of operational contexts in the Australian heritage 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

ELEMENT	PERFORMANCE CRITERIA
<b>1 Determine stabling location</b>	1.1 Contact is made with train controller and yard staff to determine planned location for stabling the steam locomotive 1.2 Directions of train controller and yard staff are interpreted and followed 1.3 Care is taken to keep clear of other roads
<b>2 Stable and shut down steam locomotive</b>	2.1 Carriages or vehicles are shunted and secured in accordance with directions, workplace procedures and rail regulations 2.2 Steam locomotive is stabled in correct location as directed 2.3 Derailers are set in place as per workplace procedures and rail regulations 2.4 Handbrakes are applied 2.5 Park brakes are secured 2.6 Steam locomotive is stabled as per operator's instructions and workplace procedures 2.7 Cab is secured as per workplace procedures
<b>3 Carry out post-operational checks</b>	3.1 Fluid and fuel levels are checked and any required action is taken to top up levels 3.2 Visual check is made of steam locomotive as per workplace procedures 3.3 Any identified faults and defects are fixed or reported and recorded as per workplace procedures 3.4 Faulty and defective equipment that presents a safety risk is isolated and tagged as per workplace procedures and rail regulations 3.5 Outcomes of post-operational checks are recorded as per workplace procedures
<b>4 Complete post-operational paperwork</b>	4.1 Timesheet or other work record is completed 4.2 Roster is checked for future work allocation 4.3 Issues and variations are discussed and resolved with roster clerk 4.4 All required safeworking documentation and actions are completed as per workplace procedures and rail regulations 4.5 All equipment is returned and stowed as per workplace requirements

## 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 and local rail regulations and codes of practice as they relate to heritage railway operations
- Relevant OH&S and environmental procedures and regulations
- Steam locomotive controls, instruments and indicators and their purpose, location and use
- Procedures for operating and stabling a steam locomotive
- Braking and safety system procedures
- Operating controls to start, accelerate, decelerate and stop a steam locomotive
- Speed and load limits
- Procedures for managing hazardous situations when operating and stabling a steam locomotive
- Procedures for operating and shutting down ancillary systems
- Procedure for completing relevant documentation when stabling a steam locomotive
- Procedures to be followed in the event of an emergency
- Procedures for minor maintenance, cleaning, lubricating and servicing of steam locomotives
- Procedures for identifying equipment defects, assessing and reporting for appropriate action
- Monitoring devices; braking and power equipment, auxiliary systems, and signalling systems
- Local procedures and operating requirements
- Typical defects that can occur on a steam locomotive and related action that should be taken
- Procedures for operating electronic communications equipment with required protocol

### Required skills:

- Communicate effectively with others when stabling a heritage steam locomotive
- Read and interpret instructions, procedures and information relevant to the stabling of a steam locomotive
- Interpret and follow operational instructions and prioritise work
- Complete documentation related to the stabling of a steam locomotive
- Operate electronic communications equipment to required protocol
- Work collaboratively with others when stabling a steam locomotive
- Identify and assess steam locomotive defects and deficiencies and take appropriate action to report, isolate, repair or replace any identified defective equipment as per workplace procedures
- Satisfactorily manage unplanned events
- Apply precautions and required action to minimise, control or eliminate hazards that may exist when stabling a steam locomotive

**Required skills:**

- Recognise problems that may arise when stabling a steam locomotive and take appropriate action
- Check and replenish fluids and fuel and carry out lubrication requirements on a steam locomotive
- Modify activities depending on differing operational contingencies, risk situations and environments
- Adapt to differences in steam locomotives and associated equipment and procedures
- Select and use required personal protective equipment conforming to industry and OH&S standards
- Conduct an inspection of a steam locomotive
- Document outcomes of inspection of a steam locomotive
- Stable a steam locomotive after service

**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

## EVIDENCE GUIDE

- Method of assessment**
- applicable documentation including workplace procedures, regulations, codes of practice and operation manuals
  - 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 relevant weather conditions
- Heritage steam locomotives may include:
- any heritage steam locomotives in service within Australia
- Equipment on a steam locomotive may include:
- steam locomotive instrumentation (gauges)
  - feed water controls
  - boiler controls and safety devices
  - braking systems
  - driving and other operational controls
  - communication systems
  - warning equipment
  - ancillary systems
  - vigilance systems
  - traction systems
  - head and marker lights
- Inspection of a heritage steam locomotive may include:
- lights and power systems
  - hoses
  - couplings
  - head boards
  - doors and door locks

## RANGE STATEMENT

- suspension
  - brake equipment
  - wheels
  - seals
  - sand and fuel
  - boiler and mountings
  - cables
  - glass windows and doors
  - audible faults (e.g. hiss of escaping air or steam)
  - visible faults (e.g. oil leaks, tears and cracks)
- Communications equipment may include:
- portable and fixed two way radio
  - mobile phone
- Auxiliary equipment may include:
- steam regulator
  - cab sprinkler
  - gauges
  - generator
  - sandboxes
  - whistle
  - steam turbine generator
  - all ancillary valves
  - hand brake
  - injectors
  - lubricators
  - gauge glasses
  - blower
  - damper
  - cylinder cocks
  - mechanical stoker
  - oil burning apparatus
- Post operation checks may include:
- lubrication system
  - checking for fluid leaks
  - brake testing
  - checking of fluid and fuel levels
- Risk minimisation may require differentiating between faults, defects and deficiencies that:
- do not present a hazard and could be attended to under running maintenance or in a normal maintenance schedule
  - present a potential hazard and need to be attended to under running maintenance or at the next most practical opportunity
  - present an immediate hazard and require immediate attention



## RANGE STATEMENT

- Relevant personnel may include:
- train crew
  - train controllers and signallers
  - rostering supervisors and staff
  - other train drivers and crews
  - depot coordinators
  - yard masters, supervisors and other operational personnel
  - service delivery supervisors
  - station yard staff
  - maintenance personnel
  - immediate internal or external customers
- Action taken upon the identification of faults, defects or deficiencies may include:
- reporting the problem and carrying out repairs (depending on the level and extent of work required), or isolating and tagging the faulty equipment and advising appropriate personnel of the fault and need for repair or replacement
- Depending on the organisation concerned workplace procedures may be called:
- standard operating procedures
  - company procedures
  - enterprise procedures
  - organisational procedures
  - established procedures
- Safety and personal protective equipment may include:
- gloves
  - sunscreen and sunglasses
  - safety glasses
  - insect repellent
  - safety headwear and footwear
  - two-way radios
  - hand lamps
  - flags
  - safety devices
  - audible indicators
  - breathing equipment
  - fire extinguishers
  - high visibility clothing
  - hearing protection
- Positioning of heritage motive power unit may involve:
- operation of manual points
  - operation of turntable
  - coupling/uncoupling to other rolling stock
- Information and 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

## RANGE STATEMENT

- steam locomotive operational records and user log books
  - maintenance notices, records and requests
  - preparation sheets certificates and service docket
  - train running sheets
  - time sheets
  - roadworthy certificate
  - train wire (status list, dangerous goods list, consist information, etc.)
  - operational instructions, policies and procedures, including: those related to preventing steam locomotives from moving; track speed, length and load limitations; monitoring and complying with signals; and procedures for operating in accordance with specific track conditions
  - emergency procedures manual
- Applicable legislation, regulations and codes 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
  - 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**

C - Vehicle Operation