



Australian Government

Department of Education, Employment and Workplace Relations

TLIW2028A Identify the principles of ballast cleaning operations

Release: 1

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Modification History

Not applicable.

Unit Descriptor

This unit involves the skills and knowledge required to identify the principles of ballast cleaning operations.

The unit provides an introduction to ballast cleaning and is not to be used for their operation, which must be covered by individual certification for the particular machine.

Licensing, legislative, regulatory or certification requirements may apply to this unit.

Application of the Unit

Operators of ballast cleaning machines must have undertaken training and hold the relevant licence, permit or certificate and be recognised as competent for each type of machinery being used.

Licensing/Regulatory Information

Refer to Unit Descriptor.

Pre-Requisites

Not applicable.

Employability Skills Information

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 Determine components and work stations of ballast cleaning machines

1.1 Components and where applicable individual work stations of the ballast cleaning machine are identified

1.2 Purpose of identified components and work stations are identified

1.3 Associated hazards of each component and appropriate control methods are identified

2 Identify the basic functions of ballast cleaning

2.1 Purposes of ballast cleaning are identified

2.2 Method by which the machine completes ballast cleaning operations in accordance with network owner's standards is identified

3 Identify hazards and risks associated with ballast cleaning operations

3.1 Environmental risks are identified

3.2 Risks to the rail infrastructure are identified

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 safety, OH&S and environmental procedures and regulations
- Workplace procedures for using a ballast cleaning machine
- Problems that may occur when cleaning ballast, and action that can be taken to resolve and report them
- Hazards that may exist when cleaning ballast, and ways of controlling the risks involved
- Ballast profile standards
- Functions of ballast

Required skills:

- Use agreed communication methods
- Work collaboratively with others when using a ballast cleaner
- Use appropriate numeric functions when using a ballast cleaner
- Report problems, faults and malfunctions that may occur when using a ballast cleaning machine in accordance with organisational procedures
- Work systematically with required attention to detail without injury to self or others, or damage to equipment in accordance with organisational procedures
- Select and use required personal protective equipment (PPE)

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

Method of assessment

- 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.

Components may include:

- rail sweeps
- ballast hoppers
- auxiliary wagons
- hand tools and small plant
- ballast ploughs
- side/wing ploughs
- ballast brooms
- ballast conveyor
- ballast screens
- cutter bar and chain
- centre jacks/lift lining frame
- emergency stop devices

Work stations may include:

- drive station
- main operator station
- boom operator station
- screen operator station
- internal work station
- external work station

Environmental hazards may include:

- dust
- noise
- oil and/or fuel spills
- environmentally sensitive sites
- hazardous substances
- flying debris

Risks to rail infrastructure may include:

- fouling ballast
- sleeper damage
- fastener damage
- drainage
- structures
- formation
- signage/track survey monuments
- signalling equipment
- in-track and trackside equipment
- damage to adjacent line
- damage/fouling points and crossings
- level crossings

Communication systems may include:**Depending on work context, safety and PPE may include:****Depending on the type of organisation concerned and the local terminology used, organisational procedures may include:****Information and documents may include:****Applicable procedures and codes may include:**

- damage to external assets
- two-way radios
- telephones, including mobile phones
- agreed audible or hand signals
- high visibility clothing
- hearing protection
- gloves
- sunscreen
- sunglasses
- safety glasses
- dust mask
- insect repellent
- safety headwear
- safety footwear
- portable radios and mobile phones
- hand lamps
- flags
- safety devices
- company procedures
- enterprise procedures
- workplace procedures
- established procedures
- operational instructions, policies and workplace procedures
- local authority regulations and procedures
- technical instructions
- manufacturer or workplace equipment instructions and operation manuals
- emergency procedure manuals
- two-way radio or mobile telephone operation procedures
- relevant state and territory legislation relating to:
 - environmental protection
 - OH&S
 - rail safety

Unit Sector(s)

Not applicable.

Competency Field

W – Equipment and Systems Operations