



Australian Government

UEENEEN126A Develop rail signalling system maintenance programs

Release: 2

UEENEEN126A Develop rail signalling system maintenance programs

Modification History

Not applicable.

Unit Descriptor

Unit Descriptor

1) Scope:

1.1) Descriptor

This unit covers the development of programs for the maintenance of rail signalling equipment and infrastructure. It encompasses safe working, regulatory requirements, and work procedures including identifying tasks and work responsibilities and reporting.

Application of the Unit

Application of the Unit 2)

This unit shall apply to qualifications in installation and maintenance of rail signalling.

Licensing/Regulatory Information

License to practice 3)

The skills and knowledge described in this unit may only be practised in the workplace under the codes of practice and regulations of the State/Territory for which the work is carried out. This includes codes of practice such as the 'Code of Practice for the Defined Interstate Rail Network' for work carried out on that network.

Pre-Requisites

Prerequisite Unit(s) 4)

Competencies 4.1)

Granting competency in this unit shall be made only after competency in the following unit(s) has/have been confirmed.

UEENEEN 106A Install and maintain non-vital screen based rail control systems

UEENEEN 110A Install and maintain non-vital telemetry systems

UEENEEN 118A Find and repair rail signalling system faults

And

Relevant work place requirements in 'Work site protection' have been acquired.

Literacy and numeracy skills 4.2)

Participants are best equipped to achieve competency in this unit if they have reading, writing and numeracy skills indicated by the following scales. Description of each scale is given in Volume 2, Part 3 'Literacy and Numeracy'

Reading 3 Writing 3 Numeracy 3

Employability Skills Information

Employability Skills 5)

This unit contains Employability Skills

The required outcomes described in this unit of competency contain applicable facets of Employability Skills. The Employability Skills Summary of the qualification in which this unit of competency is packaged will assist in identifying Employability Skill requirements.

Elements and Performance Criteria Pre-Content

6) Elements describe the essential outcomes of a competency standard unit
 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 develop rail signalling maintenance programs	1.1 OHS procedures for a given work area are identified, obtained and understood.
	1.2 Established OHS risk control measures and procedures are followed in preparation for the work.
	1.3 Safety hazards that have previously been identified are noted, and established risk control measures are implemented.
	1.4 Maintenance programming is appropriately sequenced in accordance with job schedule.
	1.5 Appropriate personnel are consulted to ensure the work is coordinated effectively with others involved on the work site.
	1.6 Location of equipment to be maintained is determined from job specifications and diagrams.
2 Develop rail signalling maintenance programs	2.1 Maintenance programs are developed to cover all work requirements with regard to relevant workplace conditions
	2.2 Programs are arranged to allow sufficient flexibility to allow contingency plans to be implemented

ELEMENT**PERFORMANCE CRITERIA**

- | | | |
|--|-----|---|
| | 2.3 | Programs are circulated in accordance with workplace policies and procedures for review by affected personnel |
| | 2.4 | Established methods for dealing with unexpected situations are discussed with appropriate person(s) and documented. |
| 3 Finalise rail signalling maintenance program | 3.1 | Feedback from personnel associated with the maintenance program is addressed and acceptable modifications agreed. |
| | 3.2 | Final rosters are documented and distributed to ensure work requirements are accurately communicated. |

Required Skills and Knowledge

REQUIRED SKILLS AND KNOWLEDGE

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

Evidence shall show that knowledge has been acquired of safe working practices and developing rail signalling maintenance programs.

All knowledge and skills detailed in this unit should be contextualised to current industry practices and technologies.

KS01-EN126A development

Rail signalling maintenance program

Evidence shall show an understanding of rail signalling maintenance program development, applying safe working practices and relevant Standards, Codes and Regulations to an extent indicated by the following aspects:

Maintenance principles encompassing:

maintenance function

role of maintenance department

occupational health and safety requirements

Maintenance systems encompassing:

maintenance terminology

preventative maintenance

predictive maintenance

corrective maintenance

Data acquisition encompassing:

plant history cards/files

inspection techniques

predictive maintenance

remote visual inspection

non-destructive testing

thermography

vibration analysis

oil analysis

Rail signalling maintenance plan development encompassing:

REQUIRED SKILLS AND KNOWLEDGE

characteristics of rail signalling operation
assessment of failure characteristics
link failure characteristics to maintenance systems
identify of maintenance windows
resources
labour
materials
establish plan
implementation procedures and records
plan review

Evidence Guide

EVIDENCE GUIDE

9) The evidence guide provides advice on assessment and must be read in conjunction with the Performance Criteria, Required Skills and Knowledge, the Range Statement and the Assessment Guidelines for this Training Package.

The Evidence Guide forms an integral part of this unit. It must be used in conjunction with all components parts of this unit and performed in accordance with the Assessment Guidelines of this Training Package.

Overview of Assessment 9.1)

Longitudinal competency development approaches to assessment, such as Profiling, require data to be reliably gathered in a form that can be consistently interpreted over time. This approach is best utilised in Apprenticeship programs and reduces assessment intervention. It is the industry-preferred model for apprenticeships. However, where summative (or final) assessment is used it must include the application of the competency in the normal work environment or, at a minimum, the application of the competency in a realistically simulated work environment. In some circumstances, assessment in part or full can occur outside the workplace. However, it must be in accordance with industry and regulatory policy.

Methods chosen for a particular assessment will be influenced by

various factors. These include the extent of the assessment, the most effective locations for the assessment activities to take place, access to physical resources, additional safety measures that may be required and the critical nature of the competencies being assessed.

The critical safety issues inherent in working with electricity, electrical equipment, gas or any other hazardous substance/material present a challenge for those determining competence. Sources of evidence need to be 'rich' in nature to minimise error in judgment.

Activities associated with normal everyday work influence decisions about how/much the data gathered will contribute to its 'richness'. Some skills are more critical to safety and operational requirements while the same skills may be more or less frequently practised. These points are raised for the assessors to consider when choosing an assessment method and developing assessment instruments. Sample assessment instruments are included for Assessors in the Assessment Guidelines of this Training Package.

**Critical aspects
of evidence
required to
demonstrate
competency in
this unit**

9.2)

Before the critical aspects of evidence are considered all prerequisites must be met.

Evidence for competence in this unit shall be considered holistically. Each Element and associated performance criteria shall be demonstrated on at least two occasions in accordance with the 'Assessment Guidelines – UEE11'. Evidence shall also comprise:

- A representative body of work performance demonstrated within the timeframes typically expected of the discipline, work function and industrial environment. In particular this shall incorporate evidence that shows a candidate is able to:
 - Implement Occupational Health and Safety workplace procedures and practices including the use of risk control measures as specified in the performance criteria and range statement
 - Apply sustainable energy principles and practices as specified in the performance criteria and range statement
 - Demonstrate an understanding of the essential knowledge

and associated skills as described in this unit. It may be required by some jurisdictions that RTOs provide a percentile graded result for the purpose of regulatory or licensing requirements.

- Demonstrate an appropriate level of skills enabling employment
- Conduct work observing the relevant Anti Discrimination legislation, regulations, policies and workplace procedures
- Demonstrated consistent performance across a representative range of contexts from the prescribed items below:
 - Develop rail signalling maintenance programs as described in 8) and including:
 - a. Interpreting specifications correctly
 - b. Checking that technical/operational specifications are met and that equipment is in compliance with work orders
 - c. Ensuring safe train movement through work area
 - d. Following relevant codes of practice, OHS and environmental protection procedures and requirements
 - e. Completing relevant technical reports, records and documentation, and
 - f. Dealing with unplanned events by drawing on essential knowledge and skills to provide appropriate solutions incorporated in the holistic assessment with the above listed items.

Note:

Successful completion of relevant vendor training may be used to contribute to evidence on which competency is deemed. In these cases the alignment of outcomes of vendor training with performance criteria and critical aspects of evidence shall be clearly identified.

Context of and specific resources for assessment

9.3)

This unit should be assessed as it relates to normal work practice using procedures, information and resources typical of a workplace. This should include:

- OHS policy and work procedures and instructions.
- Suitable work environment, facilities, equipment and materials to undertake actual work as prescribed by this unit.

These should be used in the formal learning/assessment

environment.

Note:

Where simulation is considered a suitable strategy for assessment, conditions must be authentic and as far as possible reproduce and replicate the workplace and be consistent with the approved industry simulation policy.

The resources used for assessment should reflect current industry practices in relation to developing rail signalling maintenance programs.

Method of assessment

9.4)

This unit shall be assessed by methods given in Volume 1, Part 3 'Assessment Guidelines'.

Note:

Competent performance with inherent safe working practices is expected in the Industry to which this unit applies. This requires assessment in a structured environment which is intended primarily for learning/assessment and incorporates all necessary equipment and facilities for learners to develop and demonstrate the essential knowledge and skills described in this unit.

Concurrent assessment and relationship with other units

9.5)

There are no concurrent assessment recommendations for this unit.

Range Statement

RANGE STATEMENT

10) This relates to the unit as a whole providing the range of contexts and conditions to which the performance criteria apply. It allows for different work environments and situations that will affect performance.

This unit shall be demonstrated in relation to:

- The relevant State or Territory codes of practice and safe working requirements
- Equipment relevant to a particular rail network
- Code of practice for Defined Interstate Rail Networks

Generic terms used throughout this Vocational Standard shall be regarded as part of the Range Statement in which competency is demonstrated. The definition of these and other terms that apply are given in Volume 2, Section 2.1.

Unit Sector(s)

Not applicable.

Competency Field

Competency Field	11)
	Rail Signalling