

Title	Conduct inspection of signals and related structures in a rail environment		
Level	3	Credits	2

Purpose	People credited with this unit standard are able to: plan and prepare for inspections of signals and related structures; follow rail permission systems; inspect signals and related structures; and report findings and make recommendations.
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Classification	Rail Transport > Rail Infrastructure
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Available grade	Achieved
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Guidance Information

- 1 Assessment against this unit standard is to be carried out within the context of an organisation operating under a current, valid Rail Licence issued in accordance with the provisions of the Railways Act 2005. The organisation's operating rules, codes, and instructions, referred to in this unit standard, are those the organisation has in place to meet the requirements of the Rail Licence.
- 2 Candidates for assessment against this unit standard must be appropriately qualified in workplace practices/procedures that support the outcomes of this unit standard, and where applicable, hold the relevant licence/permit/certificate. Examples include but are not limited to: electrical service technician, registered electrician.
- 3 Legislation relevant to this unit standard includes the Health and Safety in Employment Act 1992, Railways Act 2005, Electricity Act 1992, Electricity Regulations 1997, and Health and Safety in Employment Regulations 1995.
- 4 Standards relevant to this unit standard may include but are not limited to – AS/NZS 3000:2007, *Electrical installations (known as the Australian/New Zealand Wiring Rules)*; and their subsequent amendments and replacements.
- 5 Competence is to be demonstrated on at least one of each of the following: mast-mounted signal; ground-mounted signal; level crossing alarm.
- 6 Definitions
Organisational procedures refer to documents that include: worksite rules, codes, and practices; equipment operating instructions; documented quality management systems; and health and safety requirements.
Related structures refer to signal support structures in a rail environment that may include but are not limited to: masts, signal foundations, formations, equipment shelters, cages.

Relevant personnel refers to personnel who should be consulted with/reported to in accordance with organisational procedures. This may include but is not limited to: supervisor, site manager, signal operator, train controller.

Signals refer to types of signals in a rail environment that include: mechanical, searchlight, level crossing alarm, multi-aspect, track warrant control indicator, multi-lamp route indicator.

Outcomes and performance criteria

Outcome 1

Plan and prepare for inspection of signals and related structures.

Performance criteria

- 1.1 Inspection programme or works order is analysed to confirm site inspection requirements in accordance with organisational procedures.
- 1.2 Operational history of signal and related structure is reviewed from available sources in accordance with organisational procedures.
 - Range may include but not limited to – inspection findings, fault reports, compliance checks.
- 1.3 Previous condition identified in reports is noted to enable rechecking of problem areas in accordance with organisational procedures.
- 1.4 Relevant personnel are contacted as required to identify any reported complaints or indications of failure, damage, or deterioration in accordance with organisational procedures.
- 1.5 Resources required are identified and scheduled in accordance with organisational procedures.
 - Range may include but is not limited to – inspection documents, inspection equipment, safety equipment, personnel.
- 1.6 Regulations 2 and 26 of the Health and Safety in Employment Regulations 1995 are complied with regarding notifications and work permits.
- 1.7 Personnel participating in task are fully briefed in accordance with organisational procedures.

Outcome 2

Follow rail permission systems.

Performance criteria

- 2.1 Track protection is established in accordance with organisational procedures.
- 2.2 Train movement information is accessed and interpreted in accordance with organisational procedures.
- 2.3 Permission to work or travel is obtained in accordance with organisational procedures.

Outcome 3

Conduct inspection of signals and related structures.

Performance criteria

- 3.1 Personal protective equipment (PPE) is used in accordance with organisational procedures.
- Range may include but is not limited to – fall arrest equipment, high visibility clothing, hearing protection, gloves, sunscreen, sunglasses, safety glasses, insect repellent, safety headwear, safety footwear, portable radios, hand lamps, flags, safety devices, fall restraint device.
- 3.2 Worksite requirements are confirmed and hazards identified by site inspection in accordance with organisational procedures.
- 3.3 Signals and related structures are inspected for signs of failure, damage, and/or deterioration in accordance with organisational procedures.
- Range inspection of signal must include but is not limited to – lamp/s, lens/es, focusing, name plate, wiring, power supply, cable/wiring termination; signs of failure, damage, and deterioration may include but are not limited to – vermin/insect infestation, moisture, vandalism, obstructions, lightning damage, corrosion, soundness, corrosion, erosion, cracks, decay, paint deterioration.
- 3.4 Inspection method and use of equipment are in accordance with organisational procedures.
- Range may include but is not limited to – visual inspection, non-destructive testing, earth leakage testing.
- 3.5 Action is taken to safeguard operation of the rail network in accordance with organisational procedures.
- Range may include but is not limited to – setting up protection, speed restrictions, arranging emergency repair, arranging subsequent inspection.

Outcome 4

Report findings on signals and related structures and make recommendations.

Performance criteria

- 4.1 Inspection findings are analysed, prioritised, and reported in accordance with organisational procedures.
- 4.2 Maintenance requirements are recommended in accordance with organisational procedures.
- 4.3 Actions taken to safeguard operation of the rail network are reported to relevant personnel in accordance with organisational procedures.

This unit standard is expiring. Assessment against the standard must take place by the last date for assessment set out below.

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	26 May 2003	31 December 2024
Review	2	21 November 2008	31 December 2024
Review	3	24 February 2022	31 December 2024

Consent and Moderation Requirements (CMR) reference	0013
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.