

Title	Operate a diesel-electric shunt class locomotive		
Level	3	Credits	5

Purpose	People credited with this unit standard are able to: ensure diesel-electric shunt class locomotive is fit for purpose and ready for operation; start up, drive, and shut down a diesel-electric shunt class locomotive; identify faults in a diesel-electric shunt class locomotive and take appropriate action; and prepare a diesel-electric shunt class locomotive for towing dead.
----------------	--

Classification	Rail Transport > Rail Operations
-----------------------	----------------------------------

Available grade	Achieved
------------------------	----------

Guidance Information

- 1 Recommended skills and knowledge for entry:
Unit 19281, *Perform core stationary shunting duties*.
- 2 Assessment against this unit standard must 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.
- 3 Legislation relevant to this unit standard includes the:
Health and Safety at Work Act 2015.
Railways Act 2005 and subsequent amendments.
- 4 Range
Shunt class locomotives for this unit standard may include but are not limited to – NZGR DSC; Toshiba DSG, DSJ; English Electric DE; and General Electric DH; evidence is required for the operation of at least one type of diesel-electric shunt class locomotive.
- 5 Definitions
Organisational procedures refer to documents that include: operating rules, codes, instructions, and practices; equipment operating instructions; documented quality management systems; and health and safety requirements.
Towing dead refers to a locomotive that is without power acting as a conventional rail wagon.

- 6 Assessment information
- a All activities and evidence must be in accordance with organisational procedures.
 - b Assessment against this unit standard requires the candidate to drive the locomotive to demonstrate operation of the locomotive controls. Driving and positioning of the locomotive is restricted to yard limits and must not include the coupling of any other rail vehicles.
 - c Operation of the locomotive must be via a driver operating from the cab of the locomotive as distinct from the use of a remote-control system.

Outcomes and performance criteria

Outcome 1

Ensure diesel-electric shunt class locomotive is fit for purpose and ready for operation.

Performance criteria

- 1.1 Safety check is carried out.

Range repair book entries, no staff working on or under, presence of warning signs, clear of adjacent equipment.

- 1.2 Locomotive checks are performed.

Range fluid levels, head and auxiliary lights, running gear, brake rigging, brake shoe wear, draw gear, footplates, handrails, steps, windows, sand box level, airbrake systems, functioning radio, traction motor bellows.

- 1.3 Breakdown and emergency equipment checks are performed.

Range may include but is not limited to – detonators, signal flags, spare coupling hooks, emergency airline plugs, spare air hoses, fire extinguisher; evidence is required for at least four items of equipment.

- 1.4 Exceptions are reported.

Range may include but is not limited to – fluid leaks, light failures, excessive wear, missing equipment, internal and/or external damage to locomotive, loss of air pressure.

Outcome 2

Start up, drive, and shut down a diesel-electric shunt class locomotive.

Performance criteria

- 2.1 The status of control equipment is determined prior to starting the locomotive.
- Range throttle lever, handbrake, airbrake levers, instrumentation, switches, circuit breakers, warning devices; evidence is required for at least six types of control equipment.
- 2.2 Locomotive is started.
- Range circuit breakers, battery knife switch, engine start, handbrake.
- 2.3 Locomotive is driven to a designated position in accordance with job requirements.
- Range half wheel turn test, rate of acceleration, emergency stop, service stop.
- 2.4 Locomotive is secured and stabled.
- 2.5 Locomotive is shut down.

Outcome 3

Identify faults in a diesel-electric shunt class locomotive and take appropriate action.

Performance criteria

- 3.1 Faults are identified.
- Range may include but is not limited to – insufficient air pressure, excessive motor noise, excessive exhaust emissions, malfunctioning auxiliary equipment, failure to start or idle, locomotive fails to move with increased engine revolutions; evidence is required for at least two locomotive faults.
- 3.2 The status of warning devices is interpreted.
- Range warning lights, audible alarms.
- 3.3 Locomotive faults are corrected and/or reported for further action.

Outcome 4

Prepare a diesel-electric shunt class locomotive for towing dead.

Performance criteria

- 4.1 Preparations for towing dead are demonstrated.
- Range mechanical couplings, airbrake equipment.

Planned review date	31 December 2025
----------------------------	------------------

Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	19 December 2001	31 December 2022
Review	2	23 May 2005	31 December 2022
Review	3	20 November 2009	31 December 2022
Review	4	29 April 2021	N/A

Consent and Moderation Requirements (CMR) reference	0013
--	------

This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Competenz qualifications@competenz.org.nz if you wish to suggest changes to the content of this unit standard.