

<b>Title</b>	<b>Interpret and identify track geometry exceedances and perform root cause analysis for rail infrastructure</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>10</b>

<b>Purpose</b>	People credited with this unit standard are able to: explain track evaluation car (TEC) results; interpret and identify track geometry exceedances using results from a track evaluation car; perform root cause analysis of track geometry exceedances; and identify requirements to restore track geometry.
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<b>Classification</b>	Rail Transport > Rail Infrastructure
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<b>Available grade</b>	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 Legislation relevant to this unit standard includes:  
Health and Safety at Work Act 2015;  
Railways Act 2005.
- 3 Definition  
*Organisational procedures* refer to documents that include – worksite rules, codes, and practices; equipment operating instructions; documented quality management systems; and health and safety requirements.  
*TEC* refers to track evaluation car, which is an automated track inspection vehicle also known as track geometry car or track recording car.
- 4 Assessment information  
All activities and evidence must be in accordance with organisational procedures.

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### Outcomes and performance criteria

#### Outcome 1

Explain track evaluation car (TEC) results.

**Performance criteria**

1.1 Exceedances reports are explained.

Range may include but is not limited to – cant, top, gauge, line, twist, rate of change of cant deficiency, cyclic.

1.2 Trace report is explained.

**Outcome 2**

Interpret and identify track geometry exceedances using results from a track evaluation car.

**Performance criteria**

2.1 Results are interpreted.

Range may include but is not limited to – trace, exceedance reports, TEC repair and safety actions table.

2.2 Exceedances are identified.

Range may include but is not limited to – cant, top, gauge, line, twist, rate of change of cant deficiency, cyclic.

**Outcome 3**

Perform root cause analysis of track geometry exceedances.

**Performance criteria**

3.1 Root cause analysis is performed, and results are interpreted.

3.2 Results are verified.

**Outcome 4**

Identify requirements to restore track geometry.

**Performance criteria**

4.1 Requirements to restore track geometry are identified and reported.

Range may include but is not limited to – materials, resources, equipment, staffing, engineering advice, priority, principles and standards, task instruction, track protection, safety.

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<b>Planned review date</b>	31 December 2026
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**Status information and last date for assessment for superseded versions**

Process	Version	Date	Last Date for Assessment
Registration	1	24 February 2022	N/A

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

**Comments on this unit standard**

Please contact Hanga-Aro-Rau Manufacturing, Engineering, and Logistics Workforce Development Council [qualifications@hangaarorau.nz](mailto:qualifications@hangaarorau.nz) if you wish to suggest changes to the content of this assessment standard.