

RISSB

RAIL INDUSTRY SAFETY AND STANDARDS BOARD

GUIDELINE

Derailment Investigation and Analysis

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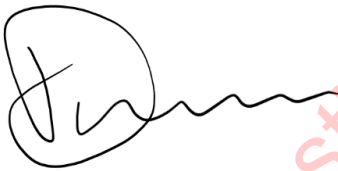
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RISSB wishes to acknowledge the positive contribution of subject matter experts in the development of this Guideline. Their efforts ranged from membership of the Development Group through to individuals providing comments on a draft of the product during the open review.

I commend this Guideline to the Australasian rail industry as it represents industry good practice and has been developed through a rigorous process.



Damien White
Chief Executive Officer
Rail Industry Safety and Standards Board

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Approval

Name	Date
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Objective

The objective of this Guideline is to provide the technical information in determining the contributing factors of a derailment for anyone undertaking a rail safety investigation into a derailment.

It also guides the reader on what evidence to collect and how to interpret it in determining the contributing factors of a derailment.

The derailment occurrence site can present those involved in the response, including an investigator, with safety hazards which must be identified and managed. This Guideline also provides information on likely hazards that are exceptional to derailments.

It also guides the reader on what evidence to collect and how to interpret it in determining the contributing factors of a derailment.

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Section 1 Scope and general

1.1 Scope

The *Derailment Investigation and Analysis Guideline* has been written to provide a technical resource to identify and analyse different modes of derailment to supplement an investigation undertaken in accordance with the *RISSB Rail Safety Investigations Code of Practice*.

This document provides guidance for the investigation of the track and rolling stock aspects of derailments to assist investigators in establishing the causes of derailments on the rail network. Investigators are encouraged to involve other disciplines within the investigation process investigation for technical advice such as subject matter experts and refer to appropriate railway safety standards and codes where applicable.

The document does not provide repair instructions for track or rolling stock following derailments.

The document also serves as a guide for derailment site analysis and evidence collection for a worker undertaking a rail safety investigation into a derailment.

This document describes aspects of rail operations, rolling stock, infrastructure, environments and human factors that could cause or contribute to a derailment.

References to rolling stock within this document are generally referred to as trains and include locomotives, electrical multiple units, rail freight vehicles, passenger carriages, light rail vehicles, track machines and road rail vehicles.

This Guideline has been developed for heavy rail; however it could be applicable in other wheel-on-rail networks.

1.2 Referenced document

The following documents are referred to in the text in such a way that some or all of their content is considered in this Guideline:

- AS 7509, *Rolling Stock – Dynamic Behaviour*
- AS 7635, *Track Geometry*
- AS 7639, *Track Structures and Supports*
- AS 7640, *Rail Management*
- AS 7642, *Turnouts and Other Special Trackwork*
- TLIF5023, *Undertake a Derailment Investigation*
- RISSB, *Rail Safety Investigation Code of Practice*
- RISSB, *Wheel Rail Profile Development Guideline*
- *Wheel and Rail Profile Development Guideline*
- *Handbook of Railway Vehicle Dynamics – Chapter 11: Railway Vehicle Derailment and Prevention – Wu, Wilson, Klopp, Keylin*