



Unauthorized movement protection - Operational requirements



Train Control Systems Standard



This Australian Standard® AS 7724 Unauthorized movement protection - Operational requirements was prepared by a Rail Industry Safety and Standards Board (RISSB) Development Group consisting of representatives from the following organisations:

Transport for NSW

Siemens

Beach Wagner

Genesee & Wyoming Australia

Pacific National

Rail Safety Consulting Australia

Queensland Rail

Rio Tinto

The Standard was approved by the Development Group and the Rolling stock Standing Committee in May, 2020. On June 01, 2020 the RISSB Board approved the Standard for release.

This standard was issued for public consultation and was independently validated before being approved.

Development of the Standard was undertaken in accordance with RISSB's accredited process. As part of the approval process, the Standing Committee verified that proper process was followed in developing the Standard

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

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



Deb Spring
Exec. Chair / CEO
Rail Industry Safety and Standards Board

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This Standard was prepared by the Rail Industry Safety and Standards Board (RISSB) Development Group AS 7724 Unauthorized movement protection - Operational requirements. Membership of this Development Group consisted of representatives from the organisations listed on the inside cover of this document

Objective

The objective of this Standard is to support a consistent approach to identifying engineering processes for the protection of running lines against unauthorized movements of rolling stock.

It includes common causes, the possible hazards of unauthorized movements of rolling stock, operational considerations and identifies situations where protection could be required.

This standard outlines the different engineering controls available within this category of protection.

This standard applies to new and/or upgraded track arrangements. It is recommended that Rail Infrastructure Managers (RIMS) risk assess existing installations against this standard and manage the identified risk in accordance with their safety management system (SMS).

This standard does not address technical aspects of design, manufacture, maintenance, commissioning or decommissioning of catch points, derailleurs (although there is some discussion on the performance characteristics of derailleurs as this was largely missing in other sources), crowders, baulks, ballast drags or end of line protection. These requirements are referred to in the AS 1085 series and AS 7642.

Future reviews of this portfolio of documents will provide further information in these areas and is likely to lead to reorganising the content more logically across/between these Standards.

Compliance

There are two types of control contained within Australian Standards developed by RISSB:

1. Requirements.
2. Recommendations.

Requirements – it is mandatory to follow all requirements to claim full compliance with the Standard. Requirements are identified within the text by the term 'shall'.

Recommendations – do not mention or exclude other possibilities but do offer the one that is preferred. Recommendations are identified within the text by the term 'should'.

Recommendations recognise that there could be limitations to the universal application of the control, i.e. the identified control is not able to be applied or other controls are more appropriate or better.

For compliance purposes, where a recommended control is not applied as written in the standard it could be incumbent on the adopter of the standard to demonstrate their actual method of controlling the risk as part of their WHS or Rail Safety National Law obligations. Similarly, it could also be incumbent on an adopter of the standard to demonstrate their method of controlling the risk to contracting entities, or interfacing organisations where the risk could be shared.

Controls in RISSB standards address known railway hazards are addressed in Appendix A.

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Preview

1 Introduction

1.1 Scope

This Standard provides mandatory and recommended requirements for the differing engineering options to protect running lines against unauthorized movements of rolling stock.

The scope of this Standard includes the following:

- (a) Functional requirements.
- (b) Application considerations.
- (c) Network design and operational requirements.

1.2 Exclusions

The following items are excluded from this Standard.

- (a) Onboard systems used for securing rolling stock including hand brakes and chocks.
- (b) Train stops and Automatic Train Protection (ATP) systems.
- (c) Connection of brake pipe to rail when the train is unattended.

1.3 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document:

- (a) AS 7718 Signal design process management.
- (b) AS 7642 Turnout and Other Special Trackwork.

NOTE: Documents for informative purposes are listed in a Bibliography in Appendix H of this Standard.

1.4 Definitions

For the purposes of this document, the terms and definitions given in RISSB Glossary: <https://www.rissb.com.au/products/glossary/> and the following apply:

- (a) **ballast drag**
ballast installed in a wide bed at a point where rolling stock could derail and designed to impede the movement of the rolling stock until it comes to a stop
- (b) **unauthorized movement**
movement of rolling stock that is either uncontrolled or movement that is controlled but exceeds the authorised limit of movement.

2 General operating requirements

2.1 General

Where there is a determined risk of an unauthorized movement of rolling stock fouling a running line or entering an exclusion area rail infrastructure managers (RIM) shall install a physical method of diverting, retarding, restraining or derailing the unauthorized movement.