



# Train control systems change management



Train Control Systems Standard



This Australian Standard® AS 7704 Train control systems change management was prepared by a Rail Industry Safety and Standards Board (RISSB) Development Group consisting of representatives from the following organisations:

Asset Standards Authority (ASA)  
Metro Trains Melbourne  
Rio Tinto

Downer Group  
PTA WA  
Transport for NSW

GHD  
Queensland Rail

The Standard was approved by the Development Group and the Train Control Systems Standing Committee in March, 2020. On March 24, 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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# AS 7704:2020

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This Standard was prepared by the Rail Industry Safety and Standards Board (RISSB) Development Group AS 7704 Train control systems change management. 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 describe the requirements to be applied by all rail organisations to ensure that safety risks associated with changes to railway train control systems (TCS) assets or systems are identified and eliminated or reduced so far as is reasonably practicable (SFAIRP).

This Standard provides the Australasian rail industry with a set of mandatory and recommended requirements for the management of change in TCS. It provides a framework for managing change that is consistent with AS 7717 and AS 7718.

This Standard is intended to be used by rail infrastructure managers, rail operators and suppliers of railway systems.

## 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 may be shared.

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## 1 Scope and general

### 1.1 Scope

Management of change (MOC) is a methodology that is used as part of the risk assessment and control process. This Standard outlines the key actions under the MOC methodology along with matters that should be considered as part of the MOC process.

This Standard applies to all organisations who are responsible for safety under the Rail Safety National Law (RSNL) Act and Regulations. For the purpose of this Standard and to be consistent with the RSNL, all organisations are referred to as rail transport operators (RTO).

This Standard applies to proposed changes to both greenfield and brownfield sites.

The scope of this Standard includes:

- (a) managing multiple changes on the one set of train control system infrastructure;
- (b) Safeworking system selection;
- (c) operational and technical requirements for changes and documenting operational performance of train control systems;
- (d) testing requirements for different levels of changes;
- (e) documentation requirements for changes including configuration management of the as-built system;
- (f) transition requirements for change management of train control system infrastructure;
- (g) collaboration with stakeholders;
- (h) records of change management, design changes and commissioning records of the new/amended systems;
- (i) rail user information of the changed systems as required for train drivers, safety personnel, rail protection officers, signaller/controllers, train operating organisations;
- (j) consideration of future requirements;
- (k) handover and maintenance;
- (l) interface with internal and external infrastructure providers.

### 1.2 Exclusions

Exclusions to this Standard are:

- (a) changes that involve a 'like for like' change (replacing one item with the same type of item) where a documented process or procedure is in place within the Rail Infrastructure Manager (RIM) to manage the risks associated with that change;

- (b) standard repairs to restore the original functionality carried out under an approved service schedule where 'like for like' parts are used. It does not include the introduction of new elements.

### 1.3 Normative references

There are no normative references provided for this Standard

NOTE: Documents for informative purposes are listed in a Bibliography (Appendix A) at the back of the Standard.

### 1.4 Terms and definitions

For the purposes of this document, the following terms and definitions apply:

- (a) **change**  
the process of causing a function, practice, system, asset or object to become different somehow to what is at present. RTOs can undergo changes in specific areas of the business, in its operations or as a whole. Changes can also occur in processes and technology and includes decommissioning/removal from service. Change is also a term describing the effects or outcomes after the transition or transformation of a function, method or object
- (b) **change owner**  
a person or body who is responsible for managing the change process
- (c) **RAMS**  
is an acronym for reliability, availability, maintainability and safety commonly used in engineering to characterize a product or system
- (d) **system integrator**  
a person or body who combines a combination of interacting elements into an integral whole to achieve one or more stated purposes
- (e) **train control system (TCS)**  
includes both below and above rail assets directly and indirectly related to the technology which creates and issues train movement authorities and enforcement of those authorities. It also includes those off-line support tools for the application configuration, configuration management and diagnostics

General rail industry terms and definitions are maintained in the RISSB Glossary:

<https://www.rissb.com.au/products/glossary/>