AS 7711:2018

Australian STANDARD®

Signalling Principles

RISSB
RAIL INDUSTRY SAFETY AND STANDARDS BOARD

Train Control Systems Standard

RISSB RAIL INDUSTRY SAFETY AND STANDARDS BOARD

This Australian Standard® AS 7711 Signalling Principles was prepared by a Rail Industry Safety and Standards Board (RISSB) Development Group consisting of representatives from the following organisations:

Arc Infrastructure	Aurizon	Australian Rail Track Corporation
BHP	KiwiRail	Metro Trains Melbourne
Public Transport Authority of Western Australia		Queensland Rail
Rio Tinto	Transport for NSW	VicTrack
Wabtec		

This Standard was approved by the Development Group and the Train Control Systems Standing Committee in June, 2018. On July 10, 2018 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.

Paul Daly
Chief Executive Officer
Rail Industry Safety and Standards Board

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1 Introduction

1.1 Scope

This Standard specifies the principles for railway signalling systems.

This Standard is applicable to heavy railways. This Standard is not generally applicable to light railways, monorails, inclined railways, tramways and other railways to which *Rail Safety National Law* does not apply.

Train control systems include people, procedures and technology. The procedures and technology together form the system of safeworking. This Standard is applicable to the technology (i.e. the signalling system) and its interfaces with people and procedures. The signalling system could include components that are infrastructure-based and components that are train-borne.

This Standard is applicable to systems of safeworking that rely upon train detection systems. Train detection systems include track circuits, axle counters, treadles and train-borne positioning systems. This Standard is not generally applicable to systems of safeworking that do not rely upon train detection systems, such as staff and ticket, electric staff and train order working.

This Standard is applicable to power operated signalling systems, including power operated lineside signals and in-cab signals. This Standard is not generally applicable to mechanically operated signalling systems, such as mechanically operated lineside signals, except where the mechanically operated equipment is included as part of a power operated signalling system (for instance, mechanical ground frames that are released by a power operated signalling system).

This Standard does not address the processes and competences for the design, construction and implementation, commissioning, monitoring and maintenance, modification, or decommissioning and disposal of a signalling system.

1.2 Objective

The objective of this Standard is to provide the rail industry with a set of signalling principles that will ensure the safe and efficient operation of a railway.

1.3 Application

The principles specified in this Standard are applicable to all railways within the scope stated in Clause 1.1.

However, different rail lines have different operational requirements – from freight only rail lines with low speeds and low traffic densities through to passenger carrying rail lines with high speeds and/or high traffic densities. These different operational requirements result in different risk profiles.

Rail Safety National Law requires that risks to safety are eliminated so far as is reasonably practicable, and if it is not reasonably practicable to eliminate risks to safety, to minimize those risks so far as is reasonably practicable.

The risk profile of a particular rail line affects what is reasonably practicable.