AS 7705:2019

Australian STANDARD®

Level crossing monitoring systems

RISSB
RAIL INDUSTRY SAFETY AND STANDARDS BOARD

Train Control Systems Standard

This Australian Standard® AS 7705 Level crossing monitoring systems was prepared by a Rail Industry Safety and Standards Board (RISSB) Development Group consisting of representatives from the following organisations:

Pacific National	BHP	MTM
Arc Infrastructure	Kiwi Rail	ARTC
WaveTrain Systems	Sydney Trains	Queensland Rail
PTA WA	Rio Tinto	Aurizon

The Standard was approved by the Development Group and the Train Control Standing Committee in November, 2019. On December 02, 2019 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
Chief Executive Officer
Rail Industry Safety and Standards Board

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Notice to users

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Approval

Name	Date
Rail Industry Safety and Standards Board	2/12/2019

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This Standard was prepared by the Rail Industry Safety and Standards Board (RISSB) Development Group AS 7705 Level crossing monitoring systems. Membership of this Development Group consisted of representatives from the organisations listed on the inside cover of this document

Objective

This Standard supports a consistent approach to level crossing signals monitoring requirements. This is done within the context of the industry trend towards extending maintenance and inspection intervals.

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.

Controls in RISSB standards address known railway hazards are addressed in an appendix.

Contents

Appendix Contents

1 Scope and general

1.1 Scope

This Standard provides mandatory and recommended requirements, primarily for the monitoring of level crossings that are fitted with active protection and warning systems.

The scope of this Standard includes the following:

(a) Equipment to monitor operation of level crossing active protection equipment.
(b) Condition monitoring in a healthy state.
(c) Correct sequence of operation.
(d) Remote alarming.
(e) Vehicle and pedestrian surveillance.
(f) Logging and recording of information.
(g) Obstruction detection.
(h) Accuracy and precision of recording events.
(i) Communication method and latency.
(j) Time synchronisation.
(k) Interface requirements.

1.2 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:

- AS 7703 Signalling Power Supplies.
- AS 7718 Signal Design Process Management

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

1.3 Terms and definitions

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

(l) ***level crossing monitoring system***
a system that monitors the condition of a level crossing and/or the activity at or around a level crossing

(m) ***battery test***
used to control battery test

(n) ***no fault***
this output is ON when no fault condition has been detected with the level crossing equipment

(o) ***no warning***
this output is ON when no warning condition has been detected with either the level crossing monitor or the level crossing equipment