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AUSTRALIAN RAIL INDUSTRY STANDARDS ORGANISATION

AS 7718

Signalling Design Process Management

STANDARDS

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Advancing safety and productivity

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Development of this Standard was prepared by an Australian Rail Industry Standards Organisation (ARISO) Development Group consisting of representatives from the following organisations:

Metro Trains Melbourne; Wabtec; Transport for NSW; Queensland Rail; Frauscher Sensor Technology India; Hayes Railway Signalling Pty Ltd; JMDR; Department of Transport and Planning

The Train Control Systems Standing Committee verified that ARISO's accredited process was followed in developing the product, before the ARISO Board approved the document for publication.

ARISO 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 comments 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.

Alan Fedda
Chief Executive Officer
Australian Rail Industry Standards Organisation

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Publication Version	Effective Date	Reason for and Extent of Change(s)
2026	1 May 2026	This document has been reviewed to ensure it remains relevant and applicable. The latest review assessed the content, confirming that while updates were made to align with current industry practices, technologies, and regulatory requirements, the original authorship and copyright have been acknowledged as required.

Approval

Name	Date
Australian Rail Industry Standards Organisation Board	1 May 2026

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Preface

This document was prepared by the Signalling Design Process Management Development Group, overseen by the ARISO Train Control Systems Standing Committee.

This document has been significantly altered from the previous version, including:

(a) more clearly defined process steps;

(b) information on documentation types and purposes; and

(c) clarity of roles and responsibilities within the process.

Objective

The objective of this document is to provide the Australian rail industry with a set of mandatory and recommended requirements for the signalling design management process. The main purpose is to promote a consistent approach to the signalling design process across the Australian rail industry.

This comprehensive process, if well implemented will substantially reduce the issues when developing the design as all aspects are considered in this process which will lead to:

(a) shortening of the implementation period;

(b) reduce the need for redesign;

(c) enable transferability of people;

(d) having a standard process;

(e) reduction in errors; and

(f) potential reduction in costs.

This document supersedes AS 7718:2017, *Signal Design Process Management*. It is a major update that clarifies lifecycle steps, aligns with systems engineering and RAMS, and sets clear roles, documentation, and change management requirements, supporting modern rail projects in Australia.

Compliance

There are four types of provisions contained within Australian Standards developed by ARISO:

(a) Requirements.

(b) Recommendations.

(c) Permissions.

(d) Constraints.

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 recognize 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.

Permissions – conveys consent by providing an allowable option. Permissions are identified within the text by the term ‘may’.

Constraints – provided by an external source such as legislation. Constraints are identified within the text by the term ‘must’.

ARISO Standards identify known hazards relevant to the railway industry. Appendix A provides a non-exhaustive list of hazards relevant to the scope of this Standard.

Appendices in ARISO Standards may be designated either “normative” or “informative”. A "normative" appendix is an integral part of a Standard and compliance with it is a requirement, whereas an "informative" appendix is only for information and guidance.

Commentary

Commentary *C Preface*

This Standard includes a commentary on some of the clauses. The commentary directly follows the relevant clause, is designated by ‘C’ preceding the clause number and is printed in italics in a box. The commentary is for information and guidance and does not form part of the Standard.

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Section 1 Scope and general

1.1 Scope

This document specifies the process for the production and management of signalling designs for use on rail networks.

This document outlines how a signalling design process can align with ISO 15288 and IEC 62278 (EN 50126) and is applicable to all signalling design works.

The processes described in this document can be scaled depending on the scope and size of the signalling project.

NOTE:

The following standards are interchangeable:

- IEC 62278 and EN 50126-1
- IEC 62425 and EN 50129

This document is intended to be used by project managers, signalling designers and suppliers of railway systems to assist in the implementation of a detailed signalling design process.

This document covers signalling design management through the design, installation & construction and testing & commissioning stages.

This document does not cover signalling system installation, construction, testing, commissioning, or operations and maintenance.

This document does not cover product based generic software design.

NOTE:

Implementation of new or bespoke signalling application and equipment could require a greater level of rigour than provided in this document.

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 7702:2023, *Rail Equipment Type Approval*

NOTE:

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

1.3 Defined terms and abbreviations

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

1.3.1
as built
as in service
design that accurately reflects the signalling system as installed and commissioned

1.3.2
derogation
waiver
process which captures non-conformity to requirements