AS 7474:2021

Australian STANDARD®

Rail industry – System safety

RiSSB
RAIL INDUSTRY SAFETY AND STANDARDS BOARD

Safety Standard

This Australian Standard® AS 7474 Rail industry – System safety was prepared by a Rail Industry Safety and Standards Board (RISSB) Development Group consisting of representatives from the following organisations:

Asset Engineering Services.	Abbott Risk Consulting.	Indic Consulting.
Kiwi Rail.	MTM.	Mott MacDonald.
Network Rail Consulting.	Public Transport Authority WA.	Queensland Rail.,
Rail Control Systems Australia.	SMEC.	Sydney Metro.
Transport for NSW.	Department of Transport Victoria.	

The Standard was approved by the Development Group and the Safety Standing Committee in March, 2021. On March 23, 2021 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

Keeping Standards up-to-date

Australian Standards developed by RISSB are living documents that reflect progress in science, technology and systems. To maintain their currency, Australian Standards developed by RISSB are periodically reviewed, and new editions published when required. Between editions, amendments may be issued. Australian Standards developed by RISSB could also be withdrawn.

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Notice to users

This RISSB product has been developed using input from rail experts from across the rail industry and represents good practice for the industry. The reliance upon or manner of use of this RISSB product is the sole responsibility of the user who is to assess whether it meets their organisation's operational environment and risk profile.

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Approval

Name	Date
Rail Industry Safety and Standards Board	23/03/2021

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This Standard was prepared by the Rail Industry Safety and Standards Board (RISSB) Development Group AS 7474 Rail industry – System safety. Membership of this Development Group consisted of representatives from the organisations listed on the inside cover of this document

Objective

To provide a clear standard for management of System Safety that addresses Australian legislative requirements and is readily scalable for the scope of rail projects undertaken within Australia.

Compliance

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

1. Requirements.
2. Recommendations.
3. Permissions.
4. 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 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.

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'.

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.

RISSB Standards address known hazards within the railway industry. Hazards, and clauses within this Standard that address those hazards, are listed in Appendix A

Contents

Appendix Contents

1   Scope and general

1.1   Scope

The System Safety Assurance standard is to provide key requirements for the elimination or minimisation of safety-related risks, so far as is reasonably practicable (SFAIRP) associated with the planning, design, build, installation, testing and commissioning, operation, maintenance and disposal of rail assets including rollingstock, track and supporting infrastructure.

This Standard is intended to provide a scalable set of requirements intended to support designers, manufacturers, transport operators and State entities in demonstrating and assuring that new or modified rail assets are safe in accordance with the Australian legislative framework.

1.2   Normative references

There are no normative references in this Standard.

NOTE: Documents referenced for informative purposes are listed in the Bibliography.

1.3   Terms and definitions

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

(a)   assurance
confidence in achieving a goal being pursued with a declaration intended to give that confidence (EN 50126-1:2017)

(b)   cumulative risk
the total risk generated by a system to all exposed groups which might include passengers, staff and members of the public

(c)   *independent safety assessment (ISA)*
the independent process to determine whether the system/product meets the specified safety requirements and to form a judgement as to whether the system/product is fit for its intended purpose in relation to safety (EN 50126-1:2017)

(d)   *risk*
risk is a product of the estimated likelihood of an event and the consequence of that event. The expression of risk can be either qualitative or quantitative

The above definition is consistent with AS/NZS ISO 31000:2009 which includes the notion of consequences and likelihood in determining the risk of an event occurring

(e)   *system safety*
the systems-based approach to safety engineering and risk management covering the identification and analysis of hazards and the elimination, control or management of those hazards through the lifecycle of a system or asset

General rail industry terms and definitions are maintained in the RISSB Glossary: https://www.rissb.com.au/products/glossary/