



Event Recorders



Rolling Stock Standard



This Australian Standard® AS 7527 Event Recorders was prepared by a Rail Industry Safety and Standards Board (RISSB) Development Group consisting of representatives from the following organisations:

RTBU	Faiveley Transport	Bruce Engineering
UGL Limited	Circuitlink	ONRSR
ARTC	MVTechnology	ASA
ATSB		

The Standard was approved by the Development Group and the Rolling Stock Standing Committee in June, 2015. On June 19, 2015 the RISSB Board approved the Standard for release.

This standard was issued for public consultation and was independently validated before being approved.

In 2019, this Standard was amended to align with the NSW Data Loggers Code, thus improving national harmonisation. This amendment was circulated for public comment on the 15 June 2018. On 21 June 2019 the RISSB Board approved an amended version of the Standard to be released

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 Australian Standards developed by RISSB could also be withdrawn.

It is important that readers assure themselves they are using a current Australian Standard developed by RISSB, which should include any amendments that have been issued since the Standard was published. Information about Australian Standards developed by RISSB, including amendments, can be found by visiting www.rissb.com.au.

RISSB welcomes suggestions for improvements and asks readers to notify us immediately of any apparent inaccuracies or ambiguities. Members are encouraged to use the change request feature of the RISSB website at: <http://www.rissb.com.au/products/>. Otherwise, please contact us via email at info@rissb.com.au or write to Rail Industry Safety and Standards Board, PO Box 518 Spring Hill Qld 4004, Australia.

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.

AS 7527:2015

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Document history

Publication Version	Effective Date	Reason for and Extent of Change(s)
2019	21/06/2019	Amended to align AS 7527 with the NSW Data Loggers Code, thus improving national harmonisation.
2015	19/06/2015	Published 2015 edition
2013	02/06/2013	First edition

Approval

Name	Approval	Date
Rail Industry Safety and Standards Board	2015 Edition	19/06/2015
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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 Appendix A.

Spreadsheet Layout

The "Section" plus "Clause" columns provide a unique identifier for each sentence/row/requirement in the document.

The "Requirements" column contains the main body of the document.

White-coloured cells in the "Requirements" column contain the document requirements.

Light blue cells in the "Requirements" column contain additional supporting information.

Dark blue cells in the "Requirements" column contain the section heading descriptions.

The "Type" column categorises each row into one of supporting information (SUP), a heading (HED), a mandatory requirement (MAN) or a recommended requirement (REC).

The "Hazard" column lists the hazard number, taken from the rolling stock Hazard Trees, for the hazard(s) being controlled by each requirement.

The "IC" column identifies, by an "X" in the cell, those items that may need to be considered for inclusion in an Interface Coordination Plan.

The "Background Information" column contains details about the source or rationale of a sentence/row/requirement.

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Section	Clause	Requirements	Type	Hazard	IC	Background Information
1		Introduction	HED			
1.1		Purpose	HED			
	1	This document describes the requirements for event recorders installed in locomotive, self-propelled passenger, and infrastructure maintenance rolling stock vehicles.	SUP			
	2	The main purpose of the requirements is to ensure that event recorders fitted to rolling stock capture a minimum set of appropriate data for the use of rolling stock operators, rail infrastructure managers, investigators and maintainers for forensic investigations of rail incidents.	SUP			
1.2		Scope	HED			
	1	This document applies to new, modified and existing locomotive rolling stock, self-propelled passenger rolling stock and infrastructure maintenance rolling stock.	SUP			
	2	For new event recorder installations, all sections apply.	SUP			
	3	For existing event recorder installations, only sections 2, 4.1.3 and 9 apply.	SUP			
	4	The document applies to the design, construction and maintenance of rolling stock.	SUP			
	5	Operation of rolling stock in regards to network safeworking rules and route standards is not covered.	SUP			
	6	This standard is not intended to cover ETCS juridical event recorders.	SUP			Juridical event recorders have their own standards for event recorders.
	7	Rolling stock used on light rail, cane railway and monorail networks; and road rail vehicles are not covered.	SUP			
1.3		Compliance	HED			
	1	There are two types of controls contained within RISSB Standards:	SUP			
	1(a)	mandatory (MAN) requirements and	SUP			
	1(b)	recommended (REC) requirements.	SUP			
	2	A mandatory requirement is a requirement that the standard provides as the only way of treating the hazard.	SUP			
	3	Mandatory requirements are identified within the text by the term shall.	SUP			
	4	A recommended requirement is one where the standard recognises that there are limitations to the universal application of the requirement and that there may be circumstances where the control cannot be applied or that other controls may be appropriate or satisfactory, subject to agreement with the Rolling Stock Operator, Rail Infrastructure Manager and/or Rail Safety Regulator.	SUP			
	5	Recommended clauses are mandatory unless the RIM or RSO can demonstrate a better method of controlling the risk.	SUP			
	6	Recommended requirements are to be considered when compliance to the standards is being assessed.	SUP			
	7	Recommended requirements are identified within the text by the term <i>should</i> .	SUP			
	8	Hazards addressed by this standard are included in an appendix. Refer to the RISSB website for the latest Hazard Register Guideline: www.rissb.com.au	SUP			
1.4		Referenced documents	HED			
1.4.1		Normative References	HED			
	1	The following referenced documents are indispensable for the application of this Standard:	SUP			
	1(a)	IEEE 1482.1 Standard for Rail Transit Vehicle Event Recorders	SUP			
	1(b)	UK RISSB standard GM/RT 2472 Data Recorders on Trains - Design Requirements	SUP			
	1(c)	US Code of Federal Regulations 49 CFR 229 Appendix D Railroad Locomotive Safety Standards - Criteria for Certification of Crashworthy Event Recorder Memory Module	SUP			
	1(d)	AS ISO 8601 -2007 Data elements and interchange formats – Information interchange – Representation of dates and times	SUP			
1.4.2		Informative References	HED			
	1	The following referenced documents are cited in this Standard for information only:	SUP			
	1(a)	AS 4292 Railway safety management	SUP			
	1(b)	AS 7501 Railway rolling stock - Rolling stock certification	SUP			
	1(c)	AS7533.1 Railway Rolling Stock - Driving Cabs - Part 1 Locomotive Rolling Stock, AS7533.3 Driving Cabs Passenger Rolling Stock, and AS7533.4 Railway Rolling Stock - Driving Cabs - Infrastructure Maintenance Rolling Stock.	SUP			
1.5		Definitions	HED			
	1	Analogue Signal: A nominally continuous electrical signal that varies in amplitude or frequency in response to changes in sound, light, heat, position, or pressure.	SUP			
	2	ATMS: Abbreviation for Advanced Train Management System, a proprietary train protection and control system.	SUP			
	3	AWS: Automatic Warning System. AWS is a system which warns the driver of the aspect of the next signal. It is an advisory system only.	SUP			
	4	Blended Braking: A brake system where the friction brake application is blended with another method of braking (eg dynamic braking), whether as a normal or emergency brake application.	SUP			
	5	Cane Railway Network: A railway system dedicated to hauling harvested sugar cane from farms to a raw sugar factory. Typically 610mm gauge.	SUP			
	6	Country Warning Device: A high noise warning horn or whistle.	SUP			
	7	Deadman System: Also known as an Operator Enable System or Driver Safety Control. A system which reacts by making a penalty brake application, if a continuous control input required of the Driver is interrupted or not detected.	SUP			