

Australian Standard Rail Networks

Code of Practice

Volume 4

Version 1.00
July 2009



Track, Civil and Electrical Infrastructure

Part 1: Infrastructure Management

Important Notice and Disclaimer

The Rail Industry Safety & Standards Board ("RISSB") provides a range of products including:

- Standards;
- Codes of Practice;
- Rules;
- Guidelines; and
- Handbooks

collectively called the "RISSB Products".

RISSB does not undertake a full risk assessment of the RISSB Products it develops due to the diverse operating environments operating across Australia. Rather it identifies the hazards that must be addressed on the Australian Rail Network and develops products to accommodate these.

Responsibility rests with the rail organisation, should it choose to adopt a RISSB Product, to ensure that the RISSB Product is safe for use on the network on which it is intended to be used. This would include a risk assessment.

RISSB and all persons acting for RISSB in preparing a RISSB Product disclaim any liability or responsibility to any person for any consequences arising directly or indirectly from the use by the rail industry or rail organisations of the RISSB Product in whole or in part, and whether or not in conjunction with, or as a supplement to, the guidelines which the rail industry or rail organisation currently uses.

Users of the RISSB Products should be aware that, while using the RISSB Products, they must also comply with any relevant Commonwealth, State or Territory legislation relevant to their operations.

Adherence to the RISSB Products does not replace or exclude the application of such legislative requirements. Users are responsible for making their own enquiries in relation to the application of legislation, and the framers of the RISSB Products accept no responsibility in this regard.

Adherence to the RISSB Products does not necessarily ensure compliance with any relevant national guidelines, standards and codes of practice. Users are responsible for making their own enquiries in relation to compliance with national, standards, guidelines and codes of practice.

While all reasonable care has been taken in the preparation of this RISSB Product, it is provided to rail operators without any legal liability on the part of RISSB and RISSB publishers, authors, consultants and editors each take no responsibility for loss suffered by any person resulting in any way from the use, or reliance on this RISSB Product.

Preface

This Code of Practice for the Defined Interstate Rail Network was developed by the rail industry.

The Australian Transport Council agreed to an Inter-Governmental Agreement (IGA) for Rail Uniformity in November 1999. As a result of this agreement the Australian Rail Operations Unit (AROU) was established from 1 January 2000 to work with industry to finalise and implement a Code of Practice for the Defined Interstate Rail Network. The IGA also provided for the establishment of an Industry Advisory Committee (IAC) to assist the AROU. Prior to the establishment of the AROU an Industry Reference Group working under the auspices of SCOT Rail Group produced the first draft of a set of National Codes of Practice for Railways.

The work has been sponsored by the rail industry, the Australasian Railway Association, State, Northern Territory and Commonwealth Governments.

This Code includes Volumes for each operational and engineering discipline and a Glossary defining the terminology used.

The General Requirements and Interface Management Code is a common document relevant to all railway disciplines. The other Volumes in the Code of Practice address the detailed principles, guidelines and mandatory requirements related to the individual disciplines for the range of railway activities comprising the defined interstate rail network.

The Rail Industry Safety and Standards Board is responsible for administering issues related to the update and maintenance of the Code based on advice from industry. Code Management procedures for the Code of Practice for the Defined Interstate Rail Network are available from the Rail Industry Safety and Standards Board.

The Code of Practice has been developed specifically to meet the uniformity requirements for the Defined Interstate Rail Network (DIRN). This Network excludes any yards, sidings and terminals, which may be associated with the Network by way of access, geographic location or any other reason. The practices detailed provide three (3) levels of information as follows:

- (a) Principles providing guidance and information to railway organisations on issues that should be considered.
- (b) Guidelines that provide guidance on one means of meeting some of the requirements of AS 4292.
- (c) Mandatory requirements necessary to enable the operational objectives of the 1998 report titled "Study of Rail Standards and Operational Requirements" to be reached.

The principles, guidelines and mandatory requirements have not been developed for use by other railway networks and are not relevant to special application railways such as sugarcane and heavy haul railways, which are constructed, operated and maintained in ways that meet the specific needs of those operations. In these cases special operating and technical requirements and standards, not provided for in this Code of Practice, will normally apply to accommodate the particular environments in which they operate.

The mandatory requirements for the DIRN do not require application retrospectively and are generally applicable in the case of significant upgrading and modification, new construction or in the implementation of new systems. Infrastructure and rollingstock built to standards in existence prior to the publication of this Code of Practice may be restricted in their use. Other practices deemed mandatory for the DIRN would require a period of time to provide for implementation, particularly in the case of operational and safeworking systems. The staged implementation of these requirements will be the subject of an industry based implementation plan developed in association with the Australian Rail Operations Unit.

The Code of Practice includes significant sections that are notated as "To Be Determined" or "To Be Inserted", which with amendments to existing clauses will be the subject of continuing development.

Document control

Identification

Document Title	Number	Version	Date
Australian Standard Rail Networks - Volume 4 - Code of Practice	1	1.00	1 July 2009

Distribution and change

The RISSB maintains the master for this document and publishes the current version on the RISSB website. Any changes to the content of this publication require the version number to be updated. Changes to this publication must be approved according to the procedure for developing management system documents. The RISSB must identify and communicate changes to this publication.

Copyright

The contents of this document may not be reproduced or transmitted by any means in whole or in part without written permission from RISSB. Permission is granted to current RISSB members to utilise and reproduce the content of this document for application within the context of their own rail operation.

Document History

Publication Version	Effective Date	Page(s) Affected	Reason for and Extent of Change(s)
Version 1.00	1 July 2009	-	First Release of document

Source Documents for Volume 4

During the preparation of Volume 4, Parts 1, 2 and 3, the following source documents, were used or referenced:

Australian Standards (AS)

1085	Railway permanent way materials		
1085.1	Part 1:	2000	Steel rails
1085.2	Part 2:	1993	Fishplates
1085.3	Part 3:	2000	Sleeper plates
1085.4	Part 4:	1999	Fishbolts and nuts
1085.7	Part 7:	1994	Spring washers
1085.8	Part 8:	1995	Dogspikes Amendment 1 - 1997
1085.10	Part 10:	1995	Rail anchors
1085.12	Part 12:	1999	Insulated joint assemblies
1085.13	Part 13:	1998	Spring fastening spikes for sleeper plates
1085.14	Part 14:	1997	Prestressed concrete sleepers Amendment 1 - 2000
1085.15	Part 15:	1995	Aluminothermic rail welding Amendment 1 - 1997
1085.17	Part 17:	2000	Steel sleepers
2758	Aggregates and rock for engineering purposes		
2758.7	Part 7:	1996	Railway ballast
3818	Timber—Heavy structural products		
3818.1	Part 1:	1998	General requirements
3818.2	Part 2:	1998	Railway track timbers
4292	Railway safety management		
4292.1	Part 1:	1995	General and interstate requirements
4292.2	Part 2:	1997	Track, civil and electrical infrastructure
4292.3	Part 3:	1997	Rollingstock
4292.4	Part 4:	1997	Signalling and telecommunications systems and equipment
4292.5	Part 5:	1997	Operational systems
4292.6	Part 6:	1997	Railway interface with other infrastructure
4799: 2000	Installation of underground utility services and pipelines within railway boundaries		

Table of Contents

Section 1: Structure and Application of Volume 4	2
1.1 General	2
1.2 Application	2
1.3 Supporting Documents	3
1.4 Australian Standard Gauge Rail Network Operations	4
1.5 Responsibility and Authority	6
Section 2: Track and Civil Infrastructure Management	7
2.1 Scope	7
2.2 Development Model Adopted	7
2.3 Forms Of Infrastructure Management	7
2.4 Design and Rating	9
2.5 Construction	12
2.6 Commissioning	13
2.7 Monitoring and Maintenance	14
2.8 Modification	20
2.9 Decommissioning and Disposal	20
2.10 Documentation	20
2.11 Worker Competencies	22
Section 3: Electrical Infrastructure	24
3.1 Scope	24
3.2 Elements	24
3.3 Principles	24
3.4 Management Model	24
Appendix A	25
A1 Introduction	25
A2 Description of the Model	25
A3 Discussion	27