

Australian Standard[®]

Railway safety management

**Part 4: Signalling and
telecommunications systems
and equipment**

This Australian Standard was prepared by Committee ME/79, Railway Safety. It was approved on behalf of the Council of Standards Australia on 14 February 1997 and published on 5 April 1997.

The following interests are represented on Committee ME/79:

Association of Railway Preservation Groups
Australasian Railway Association
Australian Chamber of Commerce and Industry
Australian National
Australian Railway Industry Corporation
Australian Services Union
Department of Transport and Regional Development
Department of Infrastructure, Victoria
Institution of Engineers, Australia
National Public Transport Training Board
National Rail Corporation
New South Wales Department of Transport
Public Transport Corporation, Victoria
Queensland Rail
Queensland Transport
State Rail Authority of N.S.W.
Trans Adelaide
WestRail

Review of Australian Standards. To keep abreast of progress in industry, Australian Standards are subject to periodic review and are kept up to date by the issue of amendments or new editions as necessary. It is important therefore that Standards users ensure that they are in possession of the latest edition, and any amendments thereto.

All details of all Australian Standards and related publications will be found in the Standards Australia Catalogue of Publications; this information is supplemented each month by the magazine 'The Australian Standard', which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.

Suggestions for improvements to Australian Standards, addressed to the head office of Standards Australia, are welcomed. Notification of any inaccuracy or ambiguity found in an Australian Standard should be made without delay in order that the matter may be investigated and appropriate action taken.

Australian Standard[®]

Railway safety management

**Part 4: Signalling and
telecommunications systems
and equipment**

First published as AS 4292.4—1997.

PREFACE

This Standard was prepared by the Standards Australia Committee on Railway Safety in conjunction with AS 4292.1 to provide a means of demonstrating compliance with that Standard in the relevant technical area.

This Standard is part of a series of Standards on railway safety. When complete, the series will comprise the following:

AS

- 4292.1 Part 1: General and interstate requirements
- 4292.2 Part 2: Track, civil and electrical infrastructure
- 4292.3 Part 3: Rolling stock
- 4292.4 Part 4: Signalling and telecommunications systems and equipment
- 4292.5 Part 5: Operational systems
- 4292.6 Part 6: Railway interface with other infrastructure

The term 'informative' has been used in this Standard to define the application of the appendix to which it applies. An 'informative' appendix is for information and guidance.

© Copyright — STANDARDS AUSTRALIA

Users of Standards are reminded that copyright subsists in all Standards Australia publications and software. Except where the Copyright Act allows and except where provided for below no publications or software produced by Standards Australia may be reproduced, stored in a retrieval system in any form or transmitted by any means without prior permission in writing from Standards Australia. Permission may be conditional on an appropriate royalty payment. Requests for permission and information on commercial software royalties should be directed to the head office of Standards Australia.

Standards Australia will permit up to 10 percent of the technical content pages of a Standard to be copied for use exclusively in-house by purchasers of the Standard without payment of a royalty or advice to Standards Australia.

Standards Australia will also permit the inclusion of its copyright material in computer software programs for no royalty payment provided such programs are used exclusively in-house by the creators of the programs.

Care should be taken to ensure that material used is from the current edition of the Standard and that it is updated whenever the Standard is amended or revised. The number and date of the Standard should therefore be clearly identified.

The use of material in print form or in computer software programs to be used commercially, with or without payment, or in commercial contracts is subject to the payment of a royalty. This policy may be varied by Standards Australia at any time.

CONTENTS

	<i>Page</i>
FOREWORD	4
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE	5
1.2 APPLICATION	5
1.3 REFERENCED DOCUMENTS	5
1.4 DEFINITIONS	6
1.5 FUNCTIONAL AREAS	6
1.6 ASSET LIFE CYCLE	7
1.7 ADOPTION OF EXISTING PRACTICES	7
1.8 HAZARD IDENTIFICATION AND RISK ANALYSIS	7
1.9 COMMUNICATION	9
1.10 HANDLING OF EXCEPTIONS	9
SECTION 2 INTERFACE COORDINATION	
2.1 GENERAL	10
2.2 INTERFACES BETWEEN ENGINEERING AND OPERATIONAL FUNCTIONS	10
2.3 COMPLIANCE AND AUDITING	13
SECTION 3 DESIGN	
3.1 GENERAL	14
3.2 SAFEWORKING SYSTEM SELECTION	14
3.3 SIGNALLING AND TELECOMMUNICATIONS SYSTEM REQUIREMENTS	15
3.4 VERIFICATION AND VALIDATION	16
SECTION 4 CONSTRUCTION AND IMPLEMENTATION	
4.1 DETAILED REQUIREMENTS	17
4.2 FACTORS TO BE CONSIDERED	17
4.3 VERIFICATION AND VALIDATION	17
SECTION 5 COMMISSIONING	
5.1 GENERAL	18
5.2 INSPECTION AND TEST PLAN	18
SECTION 6 MONITORING AND MAINTENANCE	
6.1 GENERAL	19
6.2 MONITORING AND MAINTENANCE REQUIREMENTS	19
6.3 PERFORMANCE MONITORING	19
SECTION 7 MODIFICATION	21
SECTION 8 DECOMMISSIONING AND DISPOSAL	21
APPENDIX A ASSET LIFE CYCLE PHASES—DESCRIPTION AND PROCESS REQUIREMENTS	22

FOREWORD

A means of complying with this Standard may be by an organization entering into a commitment to conform to a code of practice which has been deemed by an appropriate authority to comply in respect of the organization's type of operation. It is envisaged that in time, a range of codes of practice applicable to specific railway activities may be developed to address different types of railway operation such as tramways, tourist/heritage, short haul and advanced technology railways, as well as interstate and other main line operations.

Currently in preview, click buy full version

STANDARDS AUSTRALIA

Australian Standard
Railway safety management

Part 4: Signalling and telecommunications systems and equipment

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE This Standard specifies technical requirements to be considered for inclusion in engineering systems safety standards forming part of a railway safety management system prepared in accordance with AS 4292.1, in respect of the signalling and telecommunications systems and equipment. It also addresses requirements for an interface coordination plan which specifies the information which must pass across the interfaces between the various functional areas of railway organizations to enable these standards and procedures to be implemented, and to ensure compatibility between these functional areas.

1.2 APPLICATION This Standard sets requirements and provides guidelines for preparing or adopting engineering and operating systems safety standards and procedures to comply with the relevant requirements of AS 4292.1. It is recognized however, that additional or alternative matters and requirements may need to be considered for each railway application. The applicability of each element of these guidelines should be determined by the level of risk it imposes on each operation (see Clause 1.8). In applying this Standard the following matters should be taken into account:

- (a) The role of the railway.
- (b) The function in the organization of the person, corporation, contractor or supplier who is applying the Standard.
- (c) The commercial agreement between owners, operators and functional areas.
- (d) The promotion of commercial and technological innovation.
- (e) Existing safety procedures and practices.
- (f) The need to determine which life cycle phases (see Clause 1.5) are applicable to an organization.

NOTE: Attention is drawn to the Foreword which describes a means of complying with this Standard.

1.3 REFERENCED DOCUMENTS The following documents are referred to in this Standard:

- AS
4292 Railway safety management
4292.1 Part 1: General and interstate requirements
4292.2 Part 2: Track, civil and electrical infrastructure
4292.3 Part 3: Rolling stock
4292.5 Part 5: Operational systems

- AS/NZS
4360 Risk management