AS 3516.1—1988

# Australian Standard®

# SITING OF RADIOCOMMUNICATIONS FACILITIES

### Part 1—LF, MF AND HF TRANSMITTING AND HF RECEIVING FACILITIES

This Australian Standard was prepared by Committee TE/14/4, Siting of Radiocommunications Equipment. It was approved on behalf of the Council of the Standards Association of Australia on 28 October 1987 and published on 4 January 1988.

The following interests are represented on Committee TE/14/4:

Australian Broadcasting Corporation

Australian Electrical and Electronic Manufacturers Association Ltd

Confederation of Australian Industry

Consumer Electronics Suppliers Association

Department of Arts, Sport, the Environment, Tourism and Territories

Department of Defence

Department of Industry, Technology and Commerce

Department of Transport & Communications (Commonwealth)

Federation of Australian Commercial Television Stations

Federation of Australian Radio Broadcasters

Institution of Radio and Electronics Engineers Australia

The Wireless Institute of Australia

This Standard was issued in draft form for comment as DR 86157.

**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.

Full 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which subscribing members receive, and which gives details of new publications, new editions and amendments, and of withdrawn Standards.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.

AS 3516.1-1988

## Australian Standard®

# SITING OF RADIOCOMMUNICATIONS FACILITIES

### Part 1—LF, MF AND HF TRANSMITTING AND HF RECEIVING FACILITIES

First published as AS 3516.1-1988.

PUBLISHED BY STANDARDS AUSTRALIA (STANDARDS ASSOCIATION OF AUSTRALIA) 1 THE CRESCENT, HOMEBUSH, NSW 2140

ISBN 0 7262 4794 4

#### PREFACE

This Standard was prepared by the Association's Committee TE/14, Radio Communication, through the subcommittee on siting of radiocommunication facilities.

The purpose of this Standard is to prepare a document based on the Interdepartmental Code of Practice for the Installation of Power, Telephone and Remote Control Cables near Ground Radio Stations\*. It attempts to embrace the wide range of factors considered to influence the siting of radiocommunications facilities. It takes account of all forms of interference to such facilities from domestic or industrial sources, interaction with other radiocommunication sources, electrical generating equipment, electrical and telephone distribution systems and electrical traction systems. The effect of interference caused by radiocommunications facilities on broadcast reception in the vicinity has also received consideration, as has the general effect of such facilities on the environment.

Similarly the Standard is intended to provide information to State and Local Government Authorities, organizations and members of the public on the effects that existing or planned developments could be expected to have on the operation of such facilities. The Standard is not however, intended as a substitute for consultation between relevant authorities and concerned parties on the impact of the facilities on the community. The Standard therefore, should not be applied without reference to the parties concerned.

The Standard is not a text book but some information of a technical nature is developed in appendices to provide background information for concerned parties who are not expert in the field of radiocommunications. Then in Appendix C information on interference standards published as at 1987, is collated and the relationship between peak and quasi-peak measurements explored on an empirical basis. This information leads to a series of graphs which develop separation distances from sources of interference, which ideally should be adopted for the optimum performance of the radiocommunications facilities. This becomes the basis for the discussions between the planned performance and its realization in a specific community,

The Standard is not intended to be imposed on a community but to be used as the basis for discussion by all interested parties in the expectation of achieving the best possible solution.

#### © 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.

<sup>\*</sup> Authorized by the Australian Government Inter-departmental Telecommunications Advisory Committee (TAC) 4 February 1977.

#### CONTENTS

		Page
SECTION 1. SCOPE AND GENERAL		
1.1	SCOPE AND APPLICATION	4
1.2	REFERENCED DOCUMENTS	4
1.3	DEFINITIONS	4
SECTIO	N 2. BASIC SYSTEM PROPAGATION NEEDS	
2.1	GENERAL PROPAGATION CHARACTERISTICS	6
2.2	ANTENNA CHARACTERISTICS	6
2.3	TERRAIN REOUIREMENTS	6
SECTIO	N 3. ECONOMICS OF CHOICE	
3.1	CHOICE OF SITE	8
3.2	SITE CLEARANCE	8
33	ACCESS ROAD	8
3.4	POWFR	8
3.5	REARERS	8
3.5		8
2.0		0
2.0	CONSTRUCTIONAL ASPECTS	0
5.8	CONSTRUCTIONAL ASPECTS	8
3.9	MAINTENANCE ASPECTS AND MEAN TIME TO REPAIR (MITR) REQUIREMENTS	8
3 10	ENVIRONMENTAL ACCEPTABILITY	8
3.10		8
5.11		0
SECTION 4. IMPACT OF EXTERNAL AND ON-SITE RADIO INTERFERENCE		
4.1	GENERAL	9
4.2	LF, MF AND HF TRANSMITTING FACILITIES	9
4.3	HF RECEIVING FACILITIES	9
SECTIO	N 5. IMPACT OF WANTED RADIATION	
5.1	GENERAL	16
5.2	HUMAN HEALTH	16
5.3	FLAMMABLE MATERIAL, FUELS AND EXPLOSIVE STORES	16
5.4	DOMESTIC, INDUSTRIAL AND SCIENTIFIC EQUIPMENT AND SYSTEMS	16
5.5	OTHER RADIOCOMMUNICATIONS SYSTEMS	17
APPENDICES		
А	PROPAGATION CHARACTERISTICS	18
В	REFLECTION ZONE	20
C	SEPARATION DISTANCES BETWEEN SOURCES OF MAN-MADE RADIO NOISE AND THE BOUNDARY OF HF RECEIVING AND DF	
5		22
D	LISI OF ENVIRONMENTAL AUTHORITIES	42

#### 3



This is a free preview. Purchase the entire publication at the link below:

**Product Page** 

S Looking for additional Standards? Visit Intertek Inform Infostore

> Learn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation