TR IEC 61000.2.6:2012 IEC/TR 61000-2-6, Ed.1.0 (1995)

Technical Report

Electromagnetic compatibility (EMC)

Part 2.6: Environment— Assessment of the emission levels in the power supply of industrial plants as regards lowfrequency conducted disturbances





TR IEC 61000.2.6:2012

This Joint Australian/New Zealand Technical Report was prepared by Joint Technical Committee EL-034, Power Quality. It was approved on behalf of the Council of Standards Australia on 8 March 2012 and on behalf of the Council of Standards New Zealand on 12 March 2012.

This Technical Report was published on 26 March 2012.

The following are represented on Committee EL-034:

Australian Chamber of Commerce and Industry Australian Industry Group Australian Information Industry Association Bureau of Steel Manufacturers of Australia **Consumer Electronics Suppliers Association** Consumers Federation of Australia **Electrical Regulatory Authorities Council** Electricity Engineers Association, New Zealand Energy Networks Association Engineers Australia Lighting Council of Australia Ministry of Economic Development, New Zealand National Measurement Institute New Zealand Coordinating Committee on Power & Telecommunication Systems New Zealand Electric Fence Energiser Manufacturers Standards WG **Telstra** Corporation University of Canterbury, New Zealand University of Wollongong

Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Web Shop at www.saiglobal.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover. **Technical Report**

Electromagnetic compatibility (EMC)

Part 2.6: Environment— Assessment of the emission levels in the power supply of industrial plants as regards lowfrequency conducted disturbances

First published as TR IEC 61000.2.6:2012.

COPYRIGHT

© Standards Australia Limited/Standards New Zealand

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Australia) or the Copyright Act 1994 (New Zealand).

Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, Private Bag 2439, Wellington 6140.

2

PREFACE

This Technical Report was prepared by the Joint Standards Australia/Standards New Zealand Committee EL-034, Power Quality.

The objective of this Technical Report is to recommend the procedures to assess the disturbance levels (i.e. harmonics and interharmonics, unbalances, voltage changes, voltage dips) produced by the emission of the devices, equipment and systems installed in non-public networks in industrial environment as far as the low-frequency conducted disturbances in the power supply are concerned.

This Technical Report is identical with, and has been reproduced from IEC/TR 61000-2-6, Ed.1.0 (1995), *Electromagnetic compatibility (EMC)*—Part 2: *Environment*—Section 6: Assessment of the emission levels in the power supply of industrial plants as regards low-frequency conducted disturbances. The IEC processes related to development and approval of a Technical Report are subject to a more moderate level of transparency and consensus than the processes related to developing and approving a normative Standard.

As this Technical Report is reproduced from an International Technical Report, the following applies:

- (a) Its number appears on the cover and title page while the International Technical Report number appears only on the cover.
- (b) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		Australian/New Zealand Standard	
IEC 60146 (all parts)	Semiconductor converters	AS 60146 (all parts)	Semiconductor converters
61000	Electromagnetic compatibility (EMC)	AS/NZS 61000	Electromagnetic compatibility (EMC)
61000-3-3	Part 3: Limits—Section 3: Limitation of voltage fluctuations and flicker in low-voltage supply systems for equipment with rated current ≤ 16 A	61000.3.3	Part 3.3: Limits—Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems, for equipment with rated current \leq 16 A per phase and not subject to conditional connection (IEC 61000-3-3, Ed. 1.2(2005) MOD)
61000-3-5	Part 3: Limits—Section 5: Limitation of voltage fluctuations and flicker in low-voltage power supply systems for equipment with rated current greater than 16 A	61000.3.5	

NOTE: In the International Technical Report, the normative reference to IEV 50(161):1990, *International Electrotechnical Vocabulary (IEV)*, *Chapter 161: Electromagnetic compatibility* should read as IEC 60050-161, Ed.1.0 (1990), *International Electrotechnical Vocabulary, Chapter 161: Electromagnetic compatibility*.

3

CONTENTS

1	Scope	7
2	Normative references	5
3	General	6
4	Co-ordination of the emission limits with the compatibility levels	7
5	Definitions	8
6	Survey of conducted emission of industrial equipment	8
7	Harmonics	8
8	Interharmonics	14
9	Three-phase unbalance	17
10	Voltage changes, flicker and voltage dips	19
ANNI	EXES	
А	Harmonic emission	31
В	Network impedances for calculation of harmonic propagation and evaluation of harmonic voltage components	46
c	Interharmonic linecurrent of indirect convertors	54
D	Three phase unbalance	58

59

E Bibliographic references



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