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Responsible committee: PEL/88 Wind turbines

Interested committees:

Title: BS EN IEC 61400-40 Wind energy generation systems

Part 40: Electromagnetic Compatibility (EMC) - Requirements and test methods

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- iii) requires additional national guidance or information

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Introduction

This draft standard is based on national and international discussions. Your comments on this draft are invited and will assist in the preparation of the consequent standard.

For international standards, comments will be reviewed by the relevant UK national committee before sending the consensus UK vote and comments to the international committee, which will then decide appropriate action. If the international standard is approved, it is usual for the text to be published as a British Standard.

For national standards, comments will be reviewed by the relevant UK national committee and the resulting standards published as a British Standard.

UK Vote

Please indicate whether you consider the UK should submit a negative (with supporting technical reasons) or positive vote on this draft. Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.

Submission of Comments

- **Annotated drafts are not acceptable and will be rejected.**
- All comments should be submitted online at <https://standardsdevelopment.bsigroup.com/>. You will need to register in order to comment.

Template for comments and secretariat observations

Date: xx/xx/20xx	Document: ISO/DIS xxxx
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1	2	(3)	4	5	(6)	7
MB	Clause No./ Subclause No./Annex (e.g. 3.1)	Paragraph/Figure/ Table/Note	Type of comment	Commend (justification for change) by the MB	Proposed change by the MB	Secretariat observations on each comment submitted
	3.1	Definition 1	ed	Definition is ambiguous and needs clarifying.	Amend to read '...so that the mains connector to which no connection...'	
	6.4	Paragraph 2	te	The use of the UV photometer as an alternative cannot be supported as serious problems have been encountered in its use in the UK.	Delete reference to UV photometer.	

PROJECT NUMBER:

IEC 61400-40 ED1

DATE OF CIRCULATION:

2024-01-19

CLOSING DATE FOR COMMENTS:

2024-04-12

SUPERSEDES DOCUMENTS:

88/976/NP, 88/996/RVN

IEC TC 88: WIND ENERGY GENERATION SYSTEMS

SECRETARIAT:

Denmark

SECRETARY:

Mrs Christine Weibøl Bertelsen

OF INTEREST TO THE FOLLOWING COMMITTEES:

CIS/H

PROPOSED HORIZONTAL STANDARD:

☐

Other TC/SCs are requested to indicate their interest, if any, in this CD to the secretary.

FUNCTIONS CONCERNED:

☒ EMC☐ ENVIRONMENT☐ QUALITY ASSURANCE☐ SAFETY

This document is still under study and subject to change. It should not be used for reference purposes.

Recipients of this document are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

Recipients of this document are invited to submit, with their comments, notification of any local regulations or technical reasons that may exist and should be considered should this proposal proceed, recognizing that failure to address such requirements could result in the need for new or existing "In Some Countries" clauses. (See [AC/22/2007](#) or [NEW GUIDANCE DOC](#)).

TITLE:

Wind energy generation systems – Part 40: Electromagnetic Compatibility (EMC) – Requirements and test methods

NOTE FROM TC/SC OFFICERS:

INTERNATIONAL ELECTROTECHNICAL COMMISSION

**WIND ENERGY GENERATION SYSTEMS –
Part 40: Electromagnetic compatibility (EMC) – Requirements and test method**

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as “IEC Publication(s)”). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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International Standard IEC 61400-40 has been prepared by IEC technical committee 88: Wind energy generation systems.

The text of this International Standard is based on the following documents:

Enquiry draft	Report on voting
XX/XX/FDIS	XX/XX/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the stability date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

The National Committees are requested to note that for this document the stability date is **20XX**.

THIS TEXT IS INCLUDED FOR THE INFORMATION OF THE NATIONAL COMMITTEES AND WILL BE DELETED AT THE PUBLICATION STAGE.

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1 INTRODUCTION

- 2 The purpose of this part of IEC 61400 is to provide the EMC requirements and test methods
3 that are applicable to all the equipment within its scope.
4 The current document applies to measurements on individual wind turbines and not multiple
5 turbines or wind power plants.

1 Scope

This part of IEC 61400 applies to all type of wind turbine plants.

This standard defines the requirements and test methods for the verification of the wind turbine performance against emissions and their immunity against conducted and radiated phenomena.

The requirements and test methods are defined for the wind turbine and all the sub systems.

Compliance with this standard is given if the single wind turbine complies with all clauses of the main body of this standard.

2 This standard is applicable to both wind turbine plants to be installed in offshore and onshore locations.

Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

CISPR 11: 2015/AMD1:2016, Industrial, scientific and medical equipment - Radio-frequency disturbance characteristics - Limits and methods of measurement.

IEC 61000-4-2:2008, Electromagnetic compatibility (EMC) - Part 4-2: Testing and measurement techniques - Electrostatic discharge immunity test.

IEC 61000-4-3:2020, Electromagnetic compatibility (EMC) - Part 4-3: Testing and measurement techniques - Radiated, radio-frequency, electromagnetic field immunity test.

IEC 61000-4-4:2012RLV, Electromagnetic compatibility (EMC) – Part 4-4: Testing and measurement techniques – Electrical fast transient/burst immunity test.

IEC 61000-4-5:2014+AMD1:2017CSV, Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test.

IEC 61000-4-6:2023, Electromagnetic compatibility (EMC) - Part 4-6: Testing and measurement techniques - Immunity to conducted disturbances, induced by radio-frequency fields.

IEC 61000-4-8:2009 RLV, Electromagnetic compatibility (EMC) – Part 4-8: Testing and measurement techniques – Power frequency magnetic field immunity test.

IEC 61000-4-11:2020-COR 2022, Electromagnetic compatibility (EMC) - Part 4-11: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests.

IEC61000-4-34:2005+AMD1:2009CSV, Electromagnetic compatibility (EMC) - Part 4-34: Testing and measurement techniques - Voltage dips, short interruptions and voltage variations immunity tests for equipment with mains current more than 16 A per phase.

CISPR 16-2-3: 2016, Specification for radio disturbance and immunity measuring apparatus and methods - Part 2-3: Methods of measurement of disturbances and immunity - Radiated disturbance measurements

IEC 61400-1: 2019, Wind turbines - Part 1: Design requirements

IEC 61400-2: 2013, Wind turbines - Part 2: Small wind turbines.

IEC 61400-24 ed.2, Wind turbines - Part 24: Lightning protection.

48 CISPR TR 16-2-5: 2008, Specification for radio disturbance and immunity measuring
49 apparatus and methods - Part 2-5: In situ measurements for disturbing emissions produced by
50 physically large equipment

51 CISPR 16-4-2: 2011+amd:2014, Specification for radio disturbance and immunity measuring
52 apparatus and methods - Part 4-2: Uncertainties, statistics and limit modelling - Measurement
53 instrumentation uncertainty

54 IEC 61400-21-1:2019, Wind energy generation systems - Part 21-1: Measurement and
55 assessment of electrical characteristics – Wind turbines

56 **3 Terms and definitions**

57 For the purposes of this document, the following terms and definitions apply.

58 ISO and IEC maintain terminological databases for use in standardization at the following
59 addresses:

- 60 • IEC Electropedia: available at <http://www.electropedia.org/>
- 61 • ISO Online browsing platform: available at <http://www.iso.org/obp>

62 For the purposes of this document, the terms and definitions are given in IEC 61400-1, IEC
63 61400-2 and CISPR 11.

64 **4 Symbols and units**

65 See IEC 61400-1, IEC 61400-2, CISPR11 and the other referenced standards.

66 **5 Abbreviations**

67 See IEC 61400-1, IEC 61400-2, CISPR11 and the other referenced standards.

68 **6 Operating conditions during testing.**

69 Operating conditions specific for this standard are included in the relevant clauses.