



DPC: 23 / 30481481 DC

BSI Group Headquarters

389 Chiswick High Road London W4 4AL

Tel: +44 (0)20 8996 9000

Fax: +44 (0)20 8996 7400

www.bsigroup.com

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Responsible committee: PEL/88 Wind turbines

Interested committees:

Title: BS EN IEC 61400-1/ Amendment 1 - Wind energy generation systems Part 1: Design requirements

Please notify the secretary if you are aware of any keywords that might assist in classifying or identifying the standard or if the content of this standard

- i) has any issues related to 3rd party IPR, patent or copyright
- ii) affects other national standard(s)
- iii) requires additional national guidance or information

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THIS DRAFT IS NOT CURRENT BEYOND 27 December 2023**

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Responsible Committee Secretary: Ms Nicola Young (BSI)

Direct tel:

E-mail: nicola.young@bsigroup.com

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 Please indicate if you are aware of any reason why this draft standard should not be published as a British Standard.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.	



88/982/CDV

COMMITTEE DRAFT FOR VOTE (CDV)

PROJECT NUMBER:

IEC 61400-1/AMD1 ED4

DATE OF CIRCULATION:

2023-11-03

CLOSING DATE FOR VOTING:

2024-01-26

SUPERSEDES DOCUMENTS:

88/961/RR

IEC TC 88 : WIND ENERGY GENERATION SYSTEMS

SECRETARIAT:

Denmark

SECRETARY:

Mrs Christine Weibøl Bertelsen

OF INTEREST TO THE FOLLOWING COMMITTEES:

PROPOSED HORIZONTAL STANDARD:



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

FUNCTIONS CONCERNED:

☐ EMC☐ ENVIRONMENT☐ QUALITY ASSURANCE☐ SAFETY☒ SUBMITTED FOR CENELEC PARALLEL VOTING☐ NOT SUBMITTED FOR CENELEC PARALLEL VOTING**Attention IEC-CENELEC parallel voting**

The attention of IEC National Committees, members of CENELEC, is drawn to the fact that this Committee Draft for Vote (CDV) is submitted for parallel voting.

The CENELEC members are invited to vote through the CENELEC online voting system.

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 relevant "In Some Countries" clauses to be included should this proposal proceed. Recipients are reminded that the CDV stage is the final stage for submitting ISC clauses. (See [AC/22/2007](#) or [NEW GUIDANCE DOC](#)).

TITLE:

Amendment 1 – Wind energy generation systems – Part 1: Design requirements

PROPOSED STABILITY DATE: 2025

NOTE FROM TC/SC OFFICERS:

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

WIND TURBINES –

Part 1: Design Requirements

AMENDMENT 1

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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- 9) Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

Amendment 1 to IEC 61400-1:2019 has been prepared by IEC technical committee 88: Wind energy generation systems.

The text of this Amendment is based on the following documents:

Draft	Report on voting
XX/XX/XXXX	XX/XX/XXX

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Amendment is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at www.iec.ch/members_experts/refdocs. The main document types developed by IEC are described in greater detail at www.iec.ch/standardsdev/publications/.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

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

1 Normative references**2 Terms and definitions**

For the purposes of this document, the terms and definitions given in IEC 61400-1:2019 and the following apply.

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

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

Add

damage equivalent load

Constant amplitude load derived from the load spectrum and a given S-N curve exponent that results in an equivalent fatigue damage

reference loads

The loads that had been utilised for detailed structural verification of the wind turbine components are called reference loads.

serviceability

ability of a structure or structural element to perform adequately for normal use under all expected actions

serviceability limit state

state which corresponds to conditions beyond which specified service requirements for a structure or structural element are no longer met

S1 - SLS characteristic load

serviceability limit state load level equal to the characteristic value of the loads from ultimate limit states classified as N (Normal)

S2 - SLS 10⁻⁴ frequent load case

serviceability limit state load level for frequent actions, which are exceeded for 10⁻⁴ of the lifetime,

S3 - SLS 10⁻² frequent load case

serviceability limit state load level for the equivalent to frequent actions, which are exceeded for 10⁻² of the lifetime.

3 Symbols and abbreviated terms**4.2 Abbreviated terms**

Add

DEL Damage equivalent load, S_{eq} , determined from the approach that it leads to the same damage for a given reference number of load cycles, n_{eq} , as the real load spectrum under the assumption that the damage can be determined on basis of the load cycles from a linear S-N curve with a given slope, m . Let the discrete load spectrum be specified by the number of cycles n_i for the load S_i , $i = 1, 2, \dots, n_S$. Then the equivalent load can be calculated from the equation