PD CLC/TS 61400-26-1:2017

BSI Standards Publication

Wind turbines

Part 26-1: Time-based availability for wind turbine generating systems (IEC/TS 61400-26-1:2011)

bsi.

National foreword

This Published Document is the UK implementation of CLC/TS 61400-26-1:2017. It is identical to IEC TS 61400-26-1:2011. It supersedes DD IEC/TS 61400-26-1:2011, which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee PEL/88, Wind turbines.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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31 October 2017	This corrigendum renumbers DD IEC/TS 61400-26-1:2011 as PD CLC/TS 61400-26-1:2017

TECHNICAL SPECIFICATION

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English Version

Wind turbines - Part 26-1: Time-based availability for wind turbine generating systems (IEC/TS 61400-26-1:2011)

Éoliennes - Partie 26-1: Disponibilité temporelle pour les systèmes de production d'énergie éolienne (IEC/TS 61400-26-1:2011)

Windenergieanlagen - Teil 26-1: Zeitbasierte Verfügbarkeit von Windenergieanlagen (IEC/TS 61400-26-1:2011)

This Technical Specification was approved by CENELEC on 2017-07-17.

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European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

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European foreword

This document (CLC/TS 61400-26-1:2017) consists of the text of IEC/TS 61400-26-1:2011 prepared by IEC/TC 88 "Wind energy generation systems".

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

Endorsement notice

The text of the International Standard IEC/TS 61400-26-1:2011 was approved by CENELEC as a Technical Specification without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 61400-25-2:2006	NOTE	Harmonized as EN 61400-25-2:2007 (not modified).
IEC 61400-25-3:2006	NOTE	Harmonized as EN 61400-25-3:2007 (not modified).
IEC 61400-25-4:2008	NOTE	Harmonized as EN 61400-25-4:2008 (not modified).

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 When an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

Publication	Year	Title	EN/HD	Year
IEC 60050-415	1999	International Electrotechnical Vocabulary - Part 415: Wind turbine generator systems	-	-
IEC 61400-1	-	Wind turbines - Part 1: Design requirements	EN 61400-1	-

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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FOREWORD

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- The subject is still under technical development or where, for any other reason, there is the future but no immediate possibility of an agreement on an International Standard.

Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC 61400-26-1, which is a technical specification, has been prepared by IEC technical committee 88: Wind turbines.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
88/387/DTS	88/415/RVC

Full information on the voting for the approval of this technical specification 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.

A list of all parts of the IEC 61400 series, under the general title *Wind turbines,* can be found on the IEC website.

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

- transformed into an International standard,
- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

A bilingual edition of this document may be issued at a later date.

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

INTRODUCTION

The intention of this technical specification is to define a common basis for exchange of information on performance indicators between owners, utilities, lenders, operators, manufacturers, consultants, regulatory bodies, certification bodies, insurance companies and other stakeholders in the wind power generation business. This is achieved by providing an information model specifying how time designations shall be split into information categories. The information model forms the basis for allocation of time for reporting availability and reliability indicators.

The technical specification defines generic terms of wind turbine systems and environmental constraints in describing system and component availability, lifetime expectancy, repairs and criteria for determining overhaul intervals. The specification defines terminology and generic terms for reporting wind power based generating unit availability measurement. A generating unit includes all equipment up to the termination point defined in the distribution code (grid code) agreed between the generation party and the distribution / transmission party. Availability measurements are concerned with fractions of time a unit is capable of providing service, taking environmental aspects into account. Environmental aspects will be wind and other weather conditions, as well as grid and substation conditions. The specification furthermore defines terminology and terms for reporting performance indicators based on power production or capacity. Mandatory information categories defined in the technical specification are written in capital letters; optional information categories defined in the technical specification are written in bold letters.

The project scope is accomplished by separating the technical specification into two parts:

- IEC/TS 61400-26-1 specifies terms for time based availability of a wind turbine generating system;
- IEC/TS 61400-26-2 specifies terms for production based availability of a wind turbine generating system.

WIND TURBINES –

Part 26-1: Time-based availability for wind turbine generating systems

1 Scope

This part of IEC 61400 defines generic information categories to which fractions of time can be assigned for a wind turbine generating system (WTGS) considering internal and external conditions based on fraction of time and specifying the following:

- generic information categories of a WTGS considering availability and other performance indicators;
- information category priority in order to discriminate between concurrent categories;
- entry and exit point for each information category in order to allocate designation of time
- informative annexes including:
  - examples of optional information categories,
  - examples of algorithms for reporting availability and performance indicators,
  - examples of application scenarios.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60050-415:1999*, International Electrotechnical Vocabulary – Part 415: Wind turbine generator systems* Available from: http://www.electropedia.org/

IEC 61400-1, *Wind turbines – Design requirements*

3 Terms, definitions and abbreviations

For the purposes of the present document, the following terms, definitions and abbreviations apply, as well as the relevant terms and definitions contained in IEC 60050-415.

3.1 Terms and definitions

3.1.1
availability
fraction of a given operating period in which a WTGS is performing its intended services within the design specification

3.1.2
design specifications
collection of precise and explicit information about requirements for a product design

It provides in-depth details about the functional and non-functional design requirements including assumptions, constraints, performance, dimensions, weights, reliability and standards. For example, specifications and design considerations given in IEC 61400-1 define the process for producing design specifications for WTGS.