

ICS 27.180
CCS F 11



**NATIONAL OCCUPATIONAL HEALTH STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GBZ 178-2017

**Wind energy generation systems - Reliability
(English Translation)**

Issued on: April 30, 2026

Implemented on: April 30, 2026

Issued by: State Administration for Market Regulation

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Foreword

This document is a standard or guiding technical document.

This document was drafted in accordance with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part 1: Structure and Drafting Rules of Standardization Documents".

This document is equivalent to IEC TS61400-26-4:2024 "Wind power generation systems - Part 26-4. Reliability of wind power generation systems".

The following minimal editorial changes have been made to this document.

---To align with existing standards, the standard's name has been changed to "Reliability of Wind Power Generation Systems";

---In the "Terms and Definitions" section, "GB/T 2900.99-2016" replaces "IEC 60050-192:2015", see sections 3.1.1 to 3.1.4.

3.1.6~3.1.14;

---3.1.4 The English translation of "average downtime" is changed to "meandowntime";

---Table A.1,

In TTF, "TTF cumulative counter maintains count without interruption. Counter is currently.1992h" should be changed to "TTF cumulative counter".

Continue counting without interruption. The counter is currently at 2040h.

---In Table A.3, for event "1.b Count value during this period (starting from the last entry into UT)", "Total. 52h" in DT is changed to "Total. 54h";

---To avoid ambiguity, the date "Date 3" for the event "1.b Wind turbine service organization completes planned improvements, wind turbine resumes normal operation" in Tables A.2 and A.3 will be changed to "Date X 3".

Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents.

This document was proposed by the China Machinery Industry Federation.

This document is under the jurisdiction of the National Technical Committee on Standardization of Wind Power (SAC/TC50).

1 Scope

This document outlines the terminology and information categories used for identifying and reporting reliability metrics. This document applies to critical components of wind turbine generators.

A wind farm consists of individual wind turbine generators, a group of wind turbine generators, a wind farm, and a wind farm cluster. A wind farm comprises all wind power generation facilities before the grid connection point.

A collection of wind turbine units, power generation services, and supporting facilities for wind farms.

This document provides guidance on reliability methodologies, along with the informative appendices used.

This document expands the information model in IEC 61400-26-1 and points out that reliability and availability are interrelated.

This document does not specify specific reliability requirements, constraints, or objectives, but rather provides standard methods for data classification and sorting, and in informative contexts...

The appendix explains the application of the model and indicators.

This document does not specify methods for acquiring or using information models. Furthermore, this document does not specify performance-based reliability metrics or other unspecified methods.

The method for calculating the defined reliability index.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included.

For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies to this document.

IEC 60050-192 International Electrotechnical Glossary - Part 192: Reliability Note. GB/T 2900.99-2016 Reliability of Electrical Engineering Terminology (IEC 60050-192:2015, IDT)
IEC 61400-26-1 Wind power generation systems - Part 26-1. Availability of wind power generation systems Note. GB/T 46764-2025 Availability of Wind Power Generation Systems (IEC 61400-26-1:2019, IDT) Mathematical expressions for the terms reliability, availability, maintainability and maintenance support in IEC 61703.

3.1 Terms and Definitions

The terms and definitions defined in IEC 60050-192 and IEC 61400-26-1, as well as the following terms and definitions, apply to this document.

3.1.1

failure

Loss of the ability to perform the requirements.

Note 1: EN13306 defines failure as. the loss of a product's ability to perform its required functions.

Note 2: After failure occurs, the object malfunctions, which may be a complete or partial failure.

Note 3: Failure is an event, which is different from a fault, which is a state.

[Source. GB/T 2900.99-2016, 192-03-01, with modifications]