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

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**Wind energy generation systems - Wind measurement of
overview**

风能发电系统 风能资源测量概述

(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is equivalent to IEC 61400-50:2022 "Wind energy generation systems Part 50: Overview of wind measurement".

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

--- To coordinate with the existing standards, the name of the standard is changed to "Overview of Wind Energy Resource Measurement in Wind Power Generation Systems".

1 Scope

The IEC 61400 series of documents describes the technical requirements for wind turbines to the power grid. The IEC 61400-50 series of documents includes a This sub-set specifies the requirements for equipment and methods used for wind measurement.

Wind measurements are required inputs in various test and analysis use cases within the IEC 61400 series of documents (e.g. power characteristics, resource Although other documents define use cases for wind measurement, the IEC 61400-50 series of documents specifies the use cases for wind measurement that are independent of the use case.

The aim is to ensure that wind measurements and uncertainty assessments in these measurements remain relevant across the wind power industry.

The uncertainty in wind measurements can be quantified and kept within acceptable limits.

This document provides a basic introduction to the options available for wind measurement, which are covered in detail in other documents in the IEC 61400-50 series. introduce.

2 Normative references

This document has no normative references.

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 Complex terrain

The test site is surrounded by landforms that may cause airflow distortion, or areas or obstacles with significant changes.

3.2 Cut-in windspeed

The minimum wind speed at which a wind turbine starts generating electricity.

3.3 Cut-out wind speed

The wind speed at which a wind turbine is disconnected from the grid due to excessive wind speed.

3.4 Dataset

A data set collected over a continuous period of time.

3.5 Flow distortion

Changes in the airflow caused by obstacles, terrain changes or other wind turbines can result in changes in the measurement location and wind turbine Differences in wind speed by location.

3.6 Hub height

The height from the ground to the center of the swept surface of the wind turbine rotor.

Note: The hub height of a vertical axis wind turbine is defined as the height from the centroid of the rotor swept surface to the ground.