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

GB/T 19963.2-2024

**Technical specification for connecting wind power plant to
power system - Part 2: Offshore wind power**

风电场接入电力系统技术规定 第2部分：海上风电

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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 Part 2 of GB/T 19963 Technical Regulations for Wind Farm Connection to Power System. GB/T 19963 has been published as follows: Lower part.

1. Onshore wind power;

2. Offshore wind power. This document partially replaces GB/T 19963-2011 "Technical Regulations for Wind Farm Access to Power System" and is consistent with GB/T 19963-2011. In addition to structural adjustments and editorial changes, the main technical changes are as follows:

--- Changed the scope of application of this document (see Chapter 1, Chapter 1 of the 2011 edition);

--- Added the terms "offshore wind farm", "offshore wind farm grid connection point" and "offshore wind farm collection point", and deleted the terms "wind farm" and "wind power" "Grid connection point" and other terms (see Chapter 3, Chapter 3 of the 2011 edition);

--- Deleted the content of "wind farm transmission lines" (see Chapter 4 of the 2011

edition);

--- Added requirements for primary frequency regulation and inertia response of wind farms (see 5.2);

--- Changed the basic requirements for wind farm power forecasting and the requirements for reporting forecast curves, and added reporting of power forecasting operation conditions and predictive performance requirements (see Chapter 6, Chapter 6 of the 2011 edition);

--- Changed the requirements for wind farm reactive power supply, reactive capacity configuration and voltage control (see Chapter 7, Chapter 6 and Chapter 7);

--- Added requirements for dynamic reactive support for low voltage ride-through, high voltage ride-through and continuous ride-through (see Chapter 8);

--- Added requirements for analysis and prevention of broadband oscillations in wind farms (see Chapter 9);

--- Added power quality requirements for wind farm collection points (see 10.2);

--- Changed the requirements for wind farm simulation models, and added content on model evaluation and parameter changes (see Chapter 11, 2011 edition). 12);

1 Scope

GB/T 19963.2-2024 is the offshore part of the Chinese grid connection specification for wind power. China has built more offshore wind capacity than anyone else, and offshore plant connects differently from onshore: it comes ashore through long submarine cables, sometimes through HVDC, its collection network has a very different reactive behaviour, and the plant itself is large enough that its response during a system fault matters to the stability of the whole grid. The standard sets the general requirements and then the connection requirements in the order the grid code addresses them: the active power control and its ramp rates, the power forecasting the plant must provide, the reactive power and voltage control, the fault ride-through behaviour for both voltage dips and swells and the reactive current support required during a fault, the frequency response and the inertia or fast frequency support, the power quality, the protection and the requirements on the measurement, communication and dispatch interface. It takes effect on 1 April 2025.

This document specifies the overall requirements for offshore wind farm access to the power system, active power, power forecast, reactive voltage, fault ride-through, operation. The adaptability, power quality, simulation models and parameters, technical requirements of secondary systems, and test and evaluation contents are discussed. This document applies to newly built or modified (expanded) offshore power transmission lines connected to the power system through industrial frequency AC transmission lines or flexible DC transmission systems. Access, commissioning and operation of wind farms.

2 Normative references

The contents of the following documents constitute essential clauses of this document through normative references in this document. For referenced documents without a date, only the version corresponding to that date applies to this document; for referenced documents without a date, the latest version (including all amendments) applies to This document.

GB/T 12326 Power quality voltage fluctuation and flicker

GB/T 14285 Technical specification for relay protection and safety automatic devices

GB/T 14549 Power quality - Harmonics in public power grids

GB/T 15543 Power quality three-phase voltage unbalance

GB/T 19862 General requirements for power quality monitoring equipment

GB/T 19963.1 Technical regulations for connecting wind farms to power systems Part

3 Terms and definitions

The terms and definitions defined in GB/T 19963.1 and NB/T 31047.2 and the following apply to this document.