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PEOPLE'S REPUBLIC OF CHINA**

GB/T 46784-2025

**Wind energy generation systems - Technical requirements for
the environmental monitoring systems of offshore wind
turbines**

风能发电系统 海上风力发电机组环境监测系统技术要求

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. 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). This document was drafted by: Yunda Energy Technology Group Co., Ltd., Guangdong Branch of Huaneng New Energy Co., Ltd., and Shanghai Energy. Source Technology Development Co., Ltd., Chongqing University, China Three Gorges Corporation, Goldwind Science & Technology Co., Ltd., China Electric Power Research Institute Research Institute Co., Ltd., Mingyang Smart Energy Group Co., Ltd., Shanghai Power Equipment Complete Set Design and Research Institute Co., Ltd., Beijing Jin Wind Power Equipment Co., Ltd., China Huaneng Group Clean Energy Technology Research Institute Co., Ltd., China Resources New Energy (Lianjiang) Co., Ltd. Shanghai Electric Power Industry Co., Ltd., Guangxi Haifeng Clean Energy Co., Ltd., Hunan Xinglan Wind Power Co., Ltd., CRRC Shandong Wind Power Co., Ltd. Shanghai Electric Wind Power Group Co., Ltd., CRRC Zhuzhou

Electric Locomotive Research Institute Co., Ltd. Wind Power Division, and CSIC Marine Equipment Wind Power Co., Ltd. Company, Jiangsu Goldwind Technology Co., Ltd., Beijing Certification Center Co., Ltd., China Quality Certification Center Co., Ltd., China Three Gorges New Energy (Group) Co., Ltd., CGN Wind Power Co., Ltd. The main drafters of this document are. He Xianzhao, Chen Jiangang, Gao Bin, He Qianqian, Zhang Hao, Shi Feng, Zhou Weida, Wang Liheng, Chen Chuan, Zhong Benwang, and Chen Qian. Mu Jinshan, Deng Yi, Gan Xuchao, Qiu Xu, Zhou Tao, Zhang Zhiwei, Guo Wang, Liu Xin, Zhou Jingfei, Xu Ke, Xiao Wang, Mei Le, Wang Lei, Zhang Kai, Hao Peng, Li Shihao Chen Shaomin, Zhang Yu, Niu Jing, Lu Zhike, Wang Tong, Ji Wenbo, Zhang Xing, Zhang Xin, Qiu Yurong. Wind power generation system Environmental monitoring technical requirements for offshore wind turbine generators

1 Scope

GB/T 46784-2025 is the Chinese national standard covering the instruments that watch the sea around an offshore turbine - the wind, waves, current and tide, the scour at the foundation and the corrosion, and the transmission of all of it from a structure nobody visits for months. First edition, with the desert turbine standard GB/T 46785-2025 published the same day. It was issued on 2 December 2025 and has been in force since 2 December 2025, as a first edition. The document is under the responsibility of the China Machinery Industry Federation. This page is published from the official record of the 2025 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the general requirements for environmental monitoring of offshore wind turbine generators, including temperature, humidity, wind speed and direction, air pressure, lightning, and harmful substances. Monitoring content and technical requirements for gases, salt spray, corrosion, ocean waves, ocean currents, seawater temperature and salinity. This document applies to the monitoring of the operating environment of offshore wind turbine generators (including supporting structures).

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. This document.

GB/T 18451.1 Design Requirements for Wind Turbine Generator Sets

GB/T 18451.2 Power Characteristic Test of Wind Turbine Generator Sets

GB/T 33630 Corrosion Protection Standard for Offshore Wind Turbine Generators NB/T 31029 Specification for Measurement of Wind Energy Resources and Marine Hydrological Observation in Offshore Wind Farms

3 Terms and Definitions

The following terms and definitions apply to this document.

3.1 harmful gases When the concentration exceeds a certain threshold, it poses a danger to people or equipment, damages public health, pollutes the natural environment, or may cause an explosion. gas.

3.2 Salt fog An aggregate of small water droplets containing a large amount of sea salt and suspended in the atmosphere near the Earth's surface.

3.3 Oceanwave Waves in the ocean caused by wind.

Note. This includes wind waves and the swells that they evolve into.

3.4 oceancurrentoceancurrent The macroscopic flow of seawater is characterized by flow velocity and flow direction.

3.5 salinity A scale for the salinity of seawater.