

ICS 27.180
CCS F 11



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

GB/T 31519-2025

Replacing GB/T 31519-2015

**Wind energy generation systems - Wind turbine generator
systems under typhoon conditions**

风能发电系统 台风型风力发电机组

Issued on: December 31, 2025

Implemented on: July 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

1.Scope	1
2 Normative References	1
3.Terms and Definitions	1
4.Symbols and Abbreviations	2
4.1 Symbols and Units	2
4.2 Abbreviations	3
5.1 Overview	3
5.2 Safety Level of Typhoon-Type Units.....	3
5.3 Typhoon Wind Conditions.....	4
5.4 Operating Condition Design and Load Calculation	6
6.1 Basic Requirements	8
6.2 Structural Requirements	9
6.3 Corrosion Protection Requirements	9
6.4 Lightning Protection	9
6.5 Control and Protection System Requirements	9
6.6 Backup power requirement	10
7.Typhoon Environmental Assessment of Wind Farms.....	10
7.1 Risk assessment area determination	10
7.2 Data Collection and Analysis	10
7.3 Typhoon Impact Assessment.....	10
24 References	25

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. This document replaces GB/T 31519-2015 "Typhoon-type Wind Turbine Generator Sets". Compared with GB/T 31519-2015, the main differences are in structural adjustments. Aside from editorial changes, the main technical changes are as follows:

---The scope has been changed to include both maritime and land-based crews (see Chapter 1, Chapter 1 of the.2015 edition);

- Some abbreviations have been added (see 4.2);
- The definition of unit safety level has been changed (see 5.2, Chapter 5 of the.2015 edition);
- Added wind profiles during typhoons (see 5.3.6);
- Increased air density (see 5.3.7);
- The operating condition design has been revised, and an offshore unit operating condition has been added (see 5.4, Chapter 6 of the.2015 edition);
- The technical requirements have been changed (see Chapter 6, Chapter 6 of the.2015 edition);
- Typhoon environmental assessment of the installation site has been changed (see Chapter 7, Chapter 7 of the.2015 edition);
- Installation, operation, and maintenance have been changed (see Chapter 8, Chapter 8 of the.2015 edition). 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., and China Huaneng Group Clean Energy Technology Research Institute Co., Ltd. Goldwind Science & Technology Co., Ltd., Shanghai Power Equipment Complete Set Design & Research Institute Co., Ltd., Guangdong Wind Power Co., Ltd., China Three Gorges New Energy (Group) Co., Ltd., Huaneng Hainan Power Generation Co., Ltd. Clean Energy Branch, and Zhejiang Baimahu Laboratory have Limited Liability Company, Envision Energy Co., Ltd., Mingyang Smart Energy Group Co., Ltd., Shanghai Electric Wind Power Group Co., Ltd., Shanghai Electric Power Industrial Co., Ltd. China General Nuclear Power Co., Ltd., China Shipbuilding Industry Corporation Wind Power Co., Ltd., Hunan Xinglan Wind Power Co., Ltd., CRRC Shandong Wind Power Co., Ltd. The company, CRRC Zhuzhou Electric Locomotive Research Institute Co., Ltd., Sinovel Wind Power Technology (Group) Co., Ltd., and Beijing Certification Center Co., Ltd. The company, China Quality Certification Center Co., Ltd., Xi'an Thermal Power Research Institute Co., Ltd., Zhejiang Provincial Climate Center, Beijing Ruike Tongchuang Technology Co., Ltd. Limited Liability Company. The main drafters of this document are. Luo Yongshui, Cheng Chenguang, Lu Zhike, Jiang Yunyan, Li Tao, Deng Yi, Pan Hangping, Lü Rui, Li Jiafeng, Wang Tong, and Shen Xinhe. Wang Ruiyuan, Hou Peng, Liu Qingqing, Wu Tao, Tian Zhenya, Mei Le, Zhang Zhiwei, Wu Gang, Zou Liang, Xu Ke, Ge Chunli, Jiang Hongwu, Wang Haiyang, Xu Huali Wang Wei, Zhang Yu, Wang Ying, Xu Jin, Feng Tao, Lu Chao, Zhang Chi. The release history of this document and the document it replaces is as follows:
- First published in.2015 as GB/T 31519-2015;

---This is the first revision. Wind power generation system typhoon type wind turbine generator set

1 Scope

GB/T 31519-2025 is the Chinese national standard covering the turbine built for the Chinese coast - the extreme wind and the sudden direction change of a typhoon eye, the yaw and pitch behaviour with no grid to power them, the structural design for gusts far above the standard classes and the survival strategy when the machine is left alone. It replaces GB/T 31519-2015. It was issued on 31 December 2025 and has been in force since 1 July 2026, replacing GB/T 31519-2015. 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 design and technical requirements for typhoon-type wind turbine generators (hereinafter referred to as "generators"), and describes typhoon models and This document defines the operating conditions under typhoon conditions. It specifies the mechanical, electrical, control, and protection systems of the unit under typhoon conditions. Requirements for operation and maintenance, etc. This document applies to grid-connected horizontal axis wind turbine generators in typhoon-prone areas.

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 2900.53-2001 Electrical Engineering Terminology - Wind Turbine Generator Sets

GB/T 4208 Degrees of protection provided by enclosures (IP code)

GB/T 4797.5-2017 Classification of Environmental Conditions - Natural Environmental Conditions - Precipitation and Wind

GB/T 18451.1-2022 Design Requirements for Wind Turbine Generator Sets

GB/T 19072-2022 Wind Turbine Generator Tower

GB/T 19292.1 Corrosion of metals and alloys - Atmospheric corrosivity - Part

3 Terms and Definitions

The terms and definitions defined in GB/T 2900.53-2001 and GB/T 18451.1-2022, as well as the following terms and definitions, apply to this document.

3.1 Typhoon tropical cyclones An atmospheric vortex that forms rapidly and moves forward over tropical or subtropical ocean surfaces.

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