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NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC OF CHINA

GB/T 32077-2025

Replacing GB/T 32077-2015

Wind energy generation systems - Pitch system of wind turbines

风能发电系统 风力发电机组变桨距系统

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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 replaces GB/T 32077-2015 "Wind turbine pitch control system".

In addition to structural adjustments and editorial changes, the main technical changes are as follows.

a) Deleted "three-blade wind wheel" from the scope (see Chapter 1 of the 2015 edition);

b) Added the terms "multi-drive pitch system", "safety position" and "pitch system following error" (see Chapter 3);

c) The terms "pitch angle operating range", "independent pitch control", "unified pitch control", "normal feathering" and "emergency feathering" have been deleted.

"Hydraulic rotary joint", "Conductive slip ring", "Redundancy technology" (see Chapter 3 of the 2015 edition);

d) The general working conditions have been changed (see Chapter 4, Chapter 4 of the 2015 edition);

e) Added the requirements for "speed capability", "acceleration capability" and "braking capability" (see 5.1.1);

f) Added "backup power self-check function" (see 5.2.4);

g) Added "grid fault ride-through function" (see 5.2.5);

h) Added "monitoring and maintenance functions" (see 5.2.6);

i) Added "Stop function" (see 5.2.7);

j) Added "power-on safety function" (see 5.2.8);

k) The noise standard of hydraulic system has been changed (see 5.3.3.6, 5.4.3.6 of the 2015 edition);

l) The cleanliness level of hydraulic oil has been changed (see 5.3.3.7, 4.1.3 of the 2015 edition);

m) Added "Lightning protection requirements" (see 5.3.5);

n) Changed the requirements for "backup power source" (see 5.4.1, 5.7 of the 2015 edition);

o) Deleted the requirements of "battery voltage is too low" and "battery temperature is too low" (6.2.3.8 and 6.2.3.9 of the 2015 edition);

p) Added "reserve power source self-check test" (see 6.2.4);

q) Added "grid fault ride-through test" (see 6.2.5);

r) Added "Stop function test" (see 6.2.7);

s) Added "power-on safety function test" (see 6.2.8);

t) Added "step response test", "pitch system positioning error test", "pitch system following error test", "speed capability test" Test", "acceleration capability test", "brake performance test" (see 6.3);

u) The contents of the electromagnetic compatibility test have been changed (see 6.3.1, 6.3.6 of the 2015 edition);

v) Changed the schematic diagram of the electric variable pitch loading test platform and the schematic diagram of the hydraulic variable pitch loading test platform (see 6.3.3.3, 2015 6.3.4.3 of the 2015 edition);

w) Added "main component test" (see 6.4);

x) The inspection items have been changed (see Table 6, Table 6 of the 2015 edition);

y) Added "Installation and Maintenance" (see Chapter 9).

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the 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 for Standardization of Wind Power Generation (SAC/TC50).

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The previous versions of this document and the documents it replaces are as follows.

- First published in 2015 as GB/T 32077-2015;

- This is the first revision.

Wind power generation system Wind turbine variable pitch system

1 Scope

This document specifies the working conditions, technical requirements, test conditions and performance of the variable pitch system of a grid-connected wind turbine generator set (hereinafter referred to as the variable pitch system).

Methods, inspection rules, deliverable requirements, and installation and maintenance.

This document is applicable to the variable pitch system of grid-connected horizontal axis wind turbines. The variable pitch drive mode is hydraulic drive or electric drive. drive.

2 Normative references

GB/T 191

GB/T 1029

GB/T 1032

GB/T 1311

GB/T 2422

GB/T 2423.1-2008

GB/T 2423.2-2008

GB/T 2423.3-2016

GB/T 2423.4-2008

GB/T 2900.1

GB/T 2900.53

GB/T 3222.2

GB/T 3480

GB/T 3482-2008