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**CERTIFICATION AND ACCREDITATION INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

RB/T 012-2019

**Guideline of design assessment for wind turbine. Key structural
components
(English Translation)**

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Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

This standard is proposed and managed by the National Certification and Accreditation Administration.

This standard was drafted. China Quality Certification Center, CRRC Zhuzhou Electric Locomotive Research Institute Co., Ltd. Wind Power Division, Guodian United Power Technology Co., Ltd., Shandong CRRC Wind Power Co., Ltd., Nanjing High-speed Gear Manufacturing Co., Ltd., Chongqing Heavy Gear Wind Power Gear Box Co., Ltd.

the company.

Introduction

The wind turbine certification standard GB/Z 25458 introduces the general rules and procedures for wind turbine combination certification Evaluation modules under the three different types of certification of power generator set type certification, component certification and project certification Content. As one of the evaluation modules for unit type certification --- design certification, the module diagram of the design evaluation certification process is shown in Figure 1.

Figure 1. Module diagram of design evaluation certification process

For the mechanical components and key structural parts of wind turbines, the standard states that the certification body should comply with GB/Z 25458, GB/T 18451.1 and GB/T 31517 for design evaluation, and especially pointed out that the evaluation of the gearbox is based on the standard GB/T 19073. But for key structural parts, Because there is no specific design standard, how to conduct design evaluation, the above standards lack specific guidance.

This standard takes into account the relevant requirements of GB/Z 25458, GB/T 18451.1 and GB/T 31517, and Based on the evaluation method of key structural parts, the design evaluation process, methods and specific requirements of each evaluation link for key structural parts are specified.

Make the design and evaluation of key structural parts rule-based. This helps to unify the design assessment requirements and Method, and thus improve the quality level of critical structural design assessment. In addition, this standard can also be used as a the basis for communication when conducting critical structural design assessments.

Key structural components of wind turbine design and evaluation guide

1 Scope

This standard specifies the procedures, methods and contents for the design and evaluation of key structural components of wind turbines.

This standard is applicable to the design and evaluation of key structural components of wind turbines by certification bodies.

It can also be used for reference when designing certification.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this document.

For undated references, the latest version (including all amendments) applies to this

document.

GB/T 18451.1 Design requirements for wind turbines GB/Z 25458 Certification rules and procedures for wind turbine combination GB/T 29543 Low-temperature wind turbine GB/T 31517 Design requirements for offshore wind turbines GB/T 31519 typhoon wind turbine GB/T 19073 Design requirements for gearboxes of wind turbines IIW-1823-07-exXIII-2151r4-07/XV-1254r4-07 fatigue design of welded joints and components forfatiguedesignofweldedjointsandcomponents)

3 Terms and definitions

The terms and definitions defined in GB/Z 25458 and the following apply to this document. For ease of use, GB/Z 25458 is repeatedly listed below Terms and definitions.

Applicant

The entity applying for certification.

[GB/Z 25458-2012, definition 3.2] 3.2 Design certification A procedure by which a certification body issues a written guarantee that the design of a certain type of wind turbine meets specified requirements.

[GB/Z 25458-2012, definition 3.16] 3.3 Assessor Personnel in the certification body who are capable of designing and evaluating key structural components of wind turbines.

Keystructuralcomponent the main mechanical structural parts that bear and transfer loads are played in wind turbines.