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PEOPLE'S REPUBLIC OF CHINA**

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**Wind turbine generator systems measurement of mechanical
loads**

(English Translation)

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Foreword

This instructional technical document has been prepared for this purpose.

--- Promote the standardization of wind turbine and wind turbine international standardization work;

--- Improve the test capability and level of wind turbine mechanical load, promote the improvement of wind turbine product quality, improve product Market Competitiveness.

The revised technical documents adopted IEC TS61400-13:2001 "wind turbine generator 13th part of the mechanical load measurement" (English version).

This instructional document is redrafted in accordance with IEC TS 61400-13:2001. Poor editing with IEC TS61400-13:2001 Different.

- 1) 1.1,1.2,1.3,1.4 in Chapter 1 of the original text should be changed to the range of 1, 2 normative references, 3 terms and definitions Meaning, 4 symbols, units and abbreviations;
- 2) Change chapter 2 of the original text to .5 test safety; change chapter 3 to .6 measuring load; and so on.

For ease of use, the following technical amendments have been made to the guidance document.

- a) Replace "This Part of IEC TS 61414" with this Guidance Document;
- b) Use the decimal "." instead of the comma "," as the decimal point;
- c) deleted the IEC foreword and introduction;
- d) Added the preface to this guidance document;

Appendix A, Appendix B, Appendix C, Appendix D of this guidance document are informative appendices.

This guideline is for reference only.

This guidance document is proposed by China Machinery Industry Federation.

This guidance document is subject to the National Wind Machinery Standardization Technical Committee (SAC/TC50).

The guidance of the drafting of technical documents. Air China Huiteng Wind Power Equipment Co., Ltd., China Helicopter Design Institute, the national wind power Machinery Standardization Technical Committee Secretariat, Goldwind Technology Co., Ltd. and others.

1 Scope

Wind turbine load measurement section, mainly for horizontal axis wind turbine (wind wheel sweep area > 40m²). Here the method described can also be applied to other wind turbines (eg wind turbines, vertical axis wind turbines).

The purpose of this guidance document is to provide methods and related techniques for wind turbine load measurement. This guidance document can be Used as a guide for verification of rules or for direct determination of structural loads. This guidance document can serve as a gauge of measurement file.

2 Normative references

The following documents contain provisions which, through reference in this Guidance Document, become the provisions of this Guidance Note document. All dated Reference documents, all subsequent amendments (not including errata content), or revisions do not apply to this guidance document, however, drums Recipients of the agreement based on this guidance document are encouraged to study whether the latest versions of these documents are applicable. All undated references the latest version of this document applies to this guidance document.

GB/T 2900.53-2001 Electrotechnical terminology Wind turbine (IEC 60050-415:1999, IDT)

GB 18451.1-2001 Wind turbine safety requirements (IEC 61400-1:1999, IDT) GB/T 18451.2-2003 wind turbine power characteristics test (IEC 61400-12:1998, IDT) ISO .1995 Guidance on the expression of measurement uncertainty ISO 2394:1998 General principles of structural reliability

3 Terms and definitions

GB/T 2900.53 established and the following terms and definitions apply to the guidance of technical documents.

Blade blade

The rotor rotates to produce aerodynamic components.

Blade root Blade and hub connected to the part.

Calibration load Force or moment applied during calibration.

Capture matrix Time-domain matrix measured in terms of average wind speed and turbulence intensity.

Chord chord

The length of the reference straight line formed by trailing edge to trailing edge of blade airfoil profile as conventionally defined.

Chord line

According to the convention definition of the blade airfoil profile leading edge to the trailing edge of the reference line.