

# TECHNICAL SPECIFICATION

# IEC TS 61400-13

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## Wind turbine generator systems –

### Part 13: Measurement of mechanical loads

*Aérogénérateurs –*

*Partie 13: Mesure des charges mécaniques*

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**WIND TURBINE GENERATOR SYSTEMS –**

**Part 13: Measurement of mechanical loads**

**FOREWORD**

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Technical specifications are subject to review within three years of publication to decide whether they can be transformed into International Standards.

IEC 61400-13, which is a technical specification, has been prepared by IEC technical committee 88: Wind turbine systems.

The text of this technical specification is based on the following documents:

Enquiry draft	Report on voting
88/120/CDV	88/132/RVC

Full information on the voting for the approval of this technical specification can be found in the report on voting indicated in the above table.

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This publication has been drafted in accordance with the ISO/IEC Directives, Part 3.

The committee has decided that the contents of this publication will remain unchanged until 2004. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

A bilingual version of this technical specification may be issued at a later date.

## INTRODUCTION

In the process of structural design of a wind turbine, thorough understanding about, and accurate quantification of, the loading is of utmost importance.

In the design stage, loads can be predicted with aeroelastic models and codes. However, such models have their shortcomings and uncertainties, and they always need to be validated by measurement. Furthermore, measurements can be used for the direct determination of structural loads in specific conditions.

Mechanical load measurements can be used both as the basis for design and as the basis for certification. Design aspects for wind turbines are covered by IEC 61400-1 whilst certification procedures are described in IEC WT 01\*. This technical specification is aimed at the test engineer who will design and implement the test programme to meet the specific design or certification needs. The specification provides specific guidance on load measurements on key structural components and load paths. Data analysis procedures are also outlined. The specification describes how to collect various types of time-series or statistical load information. Two types of situation are considered – steady-state operation and transient operation. The prescribed measurement load cases mirror the design load cases within IEC 61400-1, the wind turbine safety standard.

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\* IEC WT 01:2001, IEC System for Conformity Testing and Certification of Wind Turbines – Rules and procedures

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