

2. EDITION

**EXPERT GROUP STUDY
ON
RECOMMENDED PRACTICES
FOR WIND TURBINE TESTING
AND EVALUATION**

**4. ACOUSTICS
MEASUREMENT OF NOISE
EMISSION FROM
WIND TURBINES**

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*Submitted to the Executive Committee
of the International Energy Agency Programme
for
Research and Development
on Wind Energy Conversion Systems*

**RECOMMENDED PRACTICES
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**4. ACOUSTICS. MEASUREMENT OF NOISE
EMISSION FROM WIND TURBINES**

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Edited by

Sten Ljunggren

Ingemansson Acoustics

Box 43215, S-100 72 STOCKHOLM, Sweden

and

Anders Gustafsson

FFA, The Aeronautical Research Institute of Sweden

Box 11021, S-161 11 BROMMA, Sweden

Foreword

The evaluation of wind turbines must encompass all aspects of a Wind Energy Conversion System (WECS) ranging from: energy production, quality of power, reliability, durability and safety, through to cost effectiveness or economics, noise characteristics, impact on the environment and electromagnetic interference. The development of internationally agreed evaluation procedures for each of these areas is needed now to aid in the development of the industry while strengthening confidence and preventing chaos in the market.

It is the purpose of the proposed recommendations for wind turbine testing to address the development of internationally agreed test procedures which deal with each of the above noted aspects for characterizing wind turbines. The IEA expert committee will pursue this effort by periodically holding meetings of experts, to define and refine consensus evaluation procedures in each of the areas:

1. Power Performance
2. Cost of Energy from WECS
3. Fatigue Evaluation
4. Acoustics
5. Electromagnetic Interference
6. Structural Safety
7. Quality of Power
8. Glossary of Terms

This paper addresses the fourth item – Acoustics – and updates the previous publication produced in 1984. The recommendations will be regularly reviewed in the light of the latest knowledge, and areas requiring further investigation will be identified.