



Note on Engineering Details

No: DWR-MHs-extern-001

Title: Full scale dynamic blade test acc. to IEC WT01

Ref.: EN 45020, 12.2 and 15.5
IEC WT01:2001 Clause 12.3.4

Contact: Dr. Michael Hauschildt, email: michael.hauschildt@gl-group.com,
phone: +49 40 31106 7051

Key Words: rotor blade, dynamic, test, full scale, IEC WT01

In the IEC WT01:2001 there is clause 12.3.4 Blade Tests, and in it, the sentence “In general, fatigue tests as well as static tests are required.”

The content of this sentence was misunderstood. There was the opinion that the beginning of the sentence “In general,...” means a “sometimes” or a “perhaps”. Normally, in the English language “in general” has the universal meaning of “as a rule” or “always, unless under special circumstances to be defined later”. In addition the IEC working group was asked to clarify the meaning of “in general”. The answer was quite clear that “in general” means “always” respectively “always, unless a slightly modified blade has already been tested”.

Citation of the answer of the IEC working group:

“When the committee drafted the document they recognized that slightly modified blades might not require the fatigue test of the entire blade again. Hence the “In general...” part of this text refers only to those situations when slight design modifications are proposed, not for newly designed blades.”

Surely the “slightly modified” is again open to interpretation, but it is out of question that acc. to the IEC WT01 a static and a dynamic blade test is always necessary for new blade types, and omitting of the test(s) has to be carefully justified.

Therefore, in case that GL Wind issues a certification report according to the IEC WT01, a dynamic and a static blade test for the rotor blade will have to be performed.

For further clarification of the term certification:

Certification means a statement, that a technical artefact is designed according to a given standard (see EN 45020, 12.2 and 15.5). A positive statement (certificate of conformity) means that the rules and requirements given in this standard are fulfilled for a particular design. It does not mean, that the person who certifies does personally agree with the contents of the standard in all respects.

F:\DATA\WIND\WISSENIERNA\ERNA-EXTERN\DWRIDWR-MHS-EXTERN-001_FULL SCALE DYNAMIC BLADE TEST ACC TO IEC WT01.DOC

Gerichtsstand und Erfüllungsort ist Hamburg. Es gelten die Allgemeinen Geschäftsbedingungen der Germanischen Lloyd WindEnergie GmbH in ihrer jeweils neuesten Fassung. Es gilt deutsches Recht.

Place of performance and jurisdiction is Hamburg. The latest edition of the General Terms and Conditions of Germanischer Lloyd WindEnergie GmbH is applicable. German law applies.

If the certifier knows that some of the rules and requirements of the standard are illogical or even wrong, he should not certify according to this standard. There are only two choices: Checking for fulfilment of all requirements of the standard or no certification to this standard. It is not possible to change clear rules in a standard according to personal view, even if the rules are contested in professional circles.

Hamburg, 11.10.2005

Christian Nath
Managing Director

Dr. Torsten Faber
Head of Department

Dr. Michael Hauschildt
Author