

No. 66/241/95-WE (PG)
Government of India
Ministry of Non-Conventional Energy Sources

Block No. 14, CGO Complex,
Lodhi Road,
New Delhi – 110 003.
Dated: 27th February, 1997

Subject: Revised Guidelines for Wind Power Projects – Clarifications – reg.

The Ministry of Non-Conventional Energy Sources had issued guidelines for wind power projects in July, 95 which were subsequently revised vide Circular letter of even no. dated 13th June, 1996. Certain clarifications have been sought about the Quality Assurance Requirements and process, viz., Type Approvals and Quality System Certification for wind electric generators (WEGs), mentioned in the guidelines. The following clarifications are being provided in this connection:

(a). WEG models to be installed and their manufacturing facilities should have been subjected to third-party testing and quality assurance evaluation, and subsequent certification by recognized organizations.

(b). WEG model type evaluation and certification is aimed at ensuring that the WEG model is designed and documented in conformity with standards and other technical requirements, and can be manufactured, installed and operated in accordance with the design assumptions. It also includes evaluation of the safety of the design and of the technical quality. The type evaluation and certification should include the following procedures:

DESIGN EVALUATION

- Load verification measurements and examination of loads.
- Examination of structural components.
- Examination of machines and electrical components.

EXAMINATION OF MANUALS

- 1 Examination of quality standard.
- 2 Component test (blades etc.)

TYPE TESTING

- 1 power performance test including power curve.
- 2 safety / function test.

(c). WEG model type certification from the following agencies will be accepted:

- 1 Riso National Laboratories, Denmark.
- 2 Det Norske Veritas (DNV).
- 3 Germanischer Lloyd.
- 4 CIWI, The Netherlands.
- 5 Lloyds Register.

(d). The testing and evaluation for certification activities may be carried out at test stations acceptable to the certification agencies mentioned above. These test stations could include:

- i. Riso National Laboratories, Denmark;
- ii. ECN, Petten, The Netherlands;
- iii. DEWI, Wilhelmshaven, Germany;
- iv. NEL, Glasgow, U.K.;
- v. WINDTEST, Kaiser-Wilhelm-Koog, Germany and

vi. National Wind Turbine Test Stations set up in other countries.

(e). Certification of manufacturing and installation should address surveillance of manufacturing and installation, including transport and erection, as well as witnessing of commissioning. Documentation standards and requirements of these activities should also be certified.

(f). Manufacturing and installation surveillance and certification should be carried out by any agency authorised to issue ISO 9000 certification. This certification should be acquired by all Indian WEG manufacturers by 30.09.97, if they are to continue to be on the list of manufacturers reviewed and issued by the Ministry from time to time.

Sd/
(B.M.L. GARG)
Director