

## NATIONAL STANDARDIZATION IN EUROPEAN FRAMEWORK – TECHNICAL SUPPORT FOR DEVELOPING WIND POWER GENERATION SYSTEMS

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The standardization is recognized today as being the essential discipline for all economical agents. Twenty years ago the standardization was designated just for a few specialists. Today the companies have taken the standardization as a technical and commercial element and they are being conscient that they must play an active role in this field and they must be ready to accept the standardization that is made without their agreement. Three directions for standards development

### ***Economical integration of Europe***

The quick steps towards to economical integration and to the Commission CE decision, to give the standards an open value regarding the free movement of services and goods inside the EU led to the key role that the normative tool plays. The raising competition which they determine will lead to a greater development of the exchanges inside the Unique Market. These exchanges must be according to certain rules. The commission limited itself by setting up the objectives – essential requirements – leaving to the economical agents the possibility to specify the means of achieving those purposes.

### ***Requirement for quality***

In the '50, the requirement for quality has gained an increasing importance and is shown more and more as a determinant factor for quality. If today is easy to compare prices, it's much more difficult to compare levels of development. The existence of a quality reference system, unanimous recognized, represents a precious tool for clarifying problems. This is the exact role of the standards.

### ***Technical and technological evolution***

Another factor for the development of the standardization is the appearance of new techniques and technologies. All the techniques which involve information, the work and transmitting of the info

involve setting up a network. Regarding other techniques based upon networks, the informatical development depends on the acceptance of the users which are regarding common rules which facilitate interoperability. In a continuous developing economy, these techniques play an important role, fact shown by the expansion of the Electronical Data Interchange (EDI).

CENELEC's mission is to prepare voluntary electrotechnical standards that help develop the Single European Market/European Economic Area for electrical and electronic goods and services removing barriers to trade, creating new markets and cutting compliance costs.

For doing this, CENELEC is strongly committed to:

- Satisfy the needs of the European industry and other stakeholders in the market place in the areas of standardisation and conformity assessment in the fields of electricity, electronics and associated technologies.

- Lead the improvement of all aspects of product quality, product safety, service quality and service safety in the fields of electricity, electronics and associated technologies, including protection of the environment, accessibility and innovation, and so to contribute to the welfare of society.

- Support IEC, the International Electrotechnical Commission, in achieving its mission: "To be globally recognised as the provider of standards and conformity assessment and related services needed to facilitate international trade in the fields of electricity, electronics and associated technologies.

In addition to the regular standardisation work achieved by CENELEC since its foundation, a European Council Resolution of 7th May 1985 gave a new dimension to CENELEC's mission by recognising it as the Standardisation Body able to provide harmonised standards for the electrotechnical field under the New Approach. The 30 current CENELEC members are national organizations entrusted with electrotechnical standardization, recognized both at National and European level as being able to represent all standardization interests in their country. Only one organization per country may be member of CENELEC.

Romania is considered to have the highest wind energy potential in the South-East region. Its wind resources are well-documented, and there are a broad range of existing applications from small autonomous units for rural areas to large off-shore potential. There is 3 MW of current installed capacity, and the government has a target of 200 MW by 2010.

The technical support for developing of wind energy application, in the same time for small units and grid connected wind systems is provided by ASRO and Romanian Wind Turbine Technical Committee.

The ASRO TCs are mirror committees of the CEN, CENELEC, ETSI, ISO and IEC. Now there are 231 national technical committees. One or several European and/or International technical committees correspond to each of the national technical committees. For wind energy the national technical committee is TC 147 which corresponds to TC IEC 88 -WIND TURBINE.

The national programme of standardization 2007 which includes the important standards for wind energy is shown in the following:

<i>IEC Standards</i>	<i>European Standards</i>	<i>Romanian Standards</i>
IEC 61400-1 (2005-08) Wind Turbine – Part 1:Design requirements	EN 61400-1: 2005	SR EN 61400-1:2006 Turbine eoliene. Partea 1: Conditii de proiectare
IEC 61400-2 (2005) Wind turbine generator systems - Part 2: 1:Design requirements for small wind turbines	EN 61400-2: 2005	SR EN 61400-2:2006 Turbine eoliene. Conditii de proiectare ale turbinelor eoliene mici
IEC 61400-11 (2002-12) Acoustic noise measurement techniques	EN 61400-11 1998	SR EN 61400-11:2001 Turbine eoliene. Partea 11: Tehnici de masurare a zgomotului
IEC 61400-12-1 (2005) Wind turbine generator systems - Part 12: Wind turbine power performance testing	EN 61400-12-1:2006	SR EN 61400-12-1:2006 Turbine eoliene. Partea 12: Tehnici de masurare a performantelor de putere
IEC/TS 61400-13 (2001-06) Wind turbine generator systems - Part 13: Measurement of mechanical loads		
IEC/TS 61400-14 (2005-03) Wind turbines - Part 14: Declaration of apparent sound power level and tonality values		
IEC 61400-21 (2001-12) Wind turbine generator systems - Part 21: Measurement and assessment of power quality characteristics of grid connected wind turbines	EN 61400-21:2001	SR EN 61400-21: 2003 Turbine eoliene. Partea 21: Masurarea si evaluarea caracteristicilor de calitate ale puterii turbinelor eoliene conectate la o retea electrica

IEC/TS 61400-23 (2001-04) Wind turbine generator systems - Part 23: Full-scale structural testing of rotor blades		SR IEC/TS 61400-23:2006 Turbine eoliene. Partea 23: Încercări structurale ale palelor
IEC/TR 61400-24 (2002-07) Wind turbine generator systems - Part 24: Lightning protection		SR IEC/TR 61400-24:2006 Turbine eoliene. Partea 24: Protecția împotriva trăsnetului
IEC 61400-25-1 (2006-12) Communications for monitoring and control of wind power plants - Overall description of principles and models	EN 61400-25-1:2007	
IEC 61400-25-2 (2006-12) Communications for monitoring and control of wind power plants - Information models	EN 61400-25-2:2007	
IEC 61400-25-3 (2006-12) Communications for monitoring and control of wind power plants - Information exchange models	EN 61400-25-3:2007	
IEC 61400-25-5 (2006-12) Communications for monitoring and control of wind power plants - Conformance testing	EN 61400-25-5:2007	
IEC WT 01 (2001-04) IEC System for Conformity Testing and Certification of Wind Turbines - Rules and procedures		
	EN 50308:2001 Wind turbines - Protective measures - Requirements for design, operation and maintenance	SR EN 50308:2004 Turbine eoliene. Măsuri protectoare. Prescripții pentru proiectare, exploatare și întreținere