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DIRECTORATE-GENERAL XVII
ENERGY
Directorate Industries and market II :
Non fossil Energy
Unit Electricity

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M 244

MANDATE TO CEN AND CENELEC

FOR THE ELABORATION AND ADOPTION OF STANDARDS FOR TEST METHODS AND FOR THE MEASUREMENT, CALCULATION AND DESIGNATION OF EFFICIENCY OF GENERAL PURPOSE LOW VOLTAGE THREE PHASE INDUCTION ELECTRIC MOTORS

I. Justification

The present mandate is within the actions undertaken under the SAVE¹ and PACE² programmes for the promotion of energy efficiency in the Union; both the programmes foresee initiatives to improve the energy efficiency of electrical equipment. Electric motor systems are responsible for large electricity consumption in industry and commercial sectors and it is one of the priority areas of action of the PACE programme. A comprehensive study carried out for the Commission³ indicates that substantial energy savings can be achieved with the use of more energy efficient electric motors. In order to develop Union actions to enhance energy efficiency of electric motors it is necessary:

- To define test methods and standards for the measurement and calculation of efficiency of general purpose low voltage three phase induction electric motors.
- To establish standards for the designation of efficiency of general purpose low voltage three phase induction electric motors fed by a sinusoidal network.

International standards provide a basis for obtaining this information, but new standard(s) are required to ensure that all electric motors covered by this mandate are treated on a

¹ OJ N° L 307 of 8.11.1991, p. 34 - Specific Actions for Vigorous Energy Efficiency, Council Decision of 29.10.1991 (91/565/EEC)

² OJ N° L 157 of 9.6.1989, p.32, Council Decision of 5.6.1989 (89/364/EEC) - the acronym is from the name in French: Programme d'action communautaire visant à améliorer l'efficacité de l'utilisation de l'électricité.

³ Study for the Commission of the European Communities on actions to promote energy efficient electric motors in Europe, carried out by University of Coimbra (Po), (Final Report October 1996).

comparable basis. This will require that existing standards are revised so as to ensure that they provide test methods and standards for the measurement and calculation of efficiency, which are representative, reproducible, and which allows methods of checking whether sample electric motors conform with declared values.

Since the indication of the nominal efficiency at rated load alone is not sufficient for a realistic assessment of energy efficiency, the new standards should also designate part load conditions for measurement and calculation.

II. Description of mandated work

1. The Commission hereby requests CEN/CENELEC to prepare new standards based on existing European and/or international standards for electric motors, so laying down the methods of measuring, calculating and designating their efficiency. This standardisation work shall take into account international and European standards in this field.

2 Characteristics to be dealt with in the standards

The standards should define how the principal characteristics shall be measured including:

- Definition of method(s) of test, measurement and calculation of efficiency.
- Definition of method(s) of designation of efficiency.

For all the characteristics thus defined, tolerances permitted to declared values shall be fixed.

3 Electric Motors to be covered

The mandate covers general purpose three phase induction motors up to 690 V in the power range:

1 KW to 100 KW

III. Execution of request

1. The European Standards (EN) taking into account the principal characteristics referred to above, will be adopted by 30 September 1998.

2. Three linguistic versions (DE, EN, FR) of the each standard will be available at adoption, together with the correct titles in the other Community languages.

3. Acceptance by CEN/CENELEC of this mandate will initiate the standstill period referred to in Article 7 of the Council Directive 83/189/EEC of 28 March 1983⁴, last amended by Directive 94/10/EC⁵.

⁴ OJ n° L 109 of 26.4.1983

⁵ OJ n° L 100 of 19.4.1994

4. CEN and CENELEC will ensure a close collaboration between them in order to maintain a coherent set of European standards.

5. CEN/CENELEC may choose to adopt the European standards on the basis of the International bodies' standardization activities, via the parallel vote procedure. However, if CEN/CENELEC notes that the target date, referred to above, will not be met, they will undertake to do the necessary in order to prepare European standards, after consulting with IEC and ISO, at their own level.