

## OIML TC 12 - INSTRUMENTS FOR MEASURING ELECTRICAL QUANTITIES

### Revision of OIML R 46

PTB, 2000.10.26

HANS BACHMAIR, PTB (TC 12 Secretariat)

The OIML TC 12 Working Group on the revision of R 46 *Active electrical energy meters for direct connection of class 2* held its first meeting at the PTB in Braunschweig, Germany on 26 October 2000. Eleven delegates from eight OIML Member States were present.

The main topics were:

- Present status of standardization activities within the IEC;
- Present status of the European Measurement Instruments Directive (MID);
- Scope of the TC 12 Working Group; and
- OIML Recommendations on electricity meters.

The Secretary of TC 12 welcomed the participants on behalf of the PTB and CIML Vice President Prof. Manfred Kochsiek, and gave a short summary of the activities of TC 12 up to now.

### Present status of standardization activities within the IEC

An overview of the existing IEC standards for electricity meters and the corresponding CENELEC standards was given; at present, these standards are the subject of a general revision. In future, there will be a basic standard describing general requirements for electricity meters and additional specific standards for the various different types of electricity meters. Furthermore, a comparison between IEC 521 and the former (now withdrawn) OIML R 46 was made. Contrary to R 46, the IEC standard contains neither requirements that are essential for legal metrology,

nor guidelines for a test report format. For type approval tests, the majority of authorities responsible for pattern approval rely on the requirements given in the corresponding IEC standards, whereas for initial verification and re-verification most countries lay down their own requirements.

### Present status of the European Measurement Instruments Directive (MID)

A new draft of the MID was published on 15 September 2000, together with the annexes MI xxx for the different types of measuring instruments which fall under the scope of this Directive. Annex MI 003 for electricity meters has remained unchanged. The full text of the MID is available on the Internet\*.

WELMEC working group WG 8 developed and circulated a questionnaire, in particular for Appendix MI 003, in which members of the working group are asked for further comments and suggestions for improvements of the MID. The questionnaire is also available on the Internet\*\* (for complete access a password is needed).

At present, the MID refers neither to CENELEC standards or OIML Recommendations, nor has the European Commission placed an official order to these Organizations to draft the corresponding documents.

### Scope of the TC 12 Working Group and OIML Recommendations on electricity meters

The scope of the Working Group and the content of a possible new OIML Recommendation took up a large part of the discussions. The WG agreed to include induction as well as electronic meters, but felt that the main focus should be on meters for active power. Test methods - full tests and/or statistical sampling - for the verification of such meters were also discussed.

Different formats and contents of the new document were considered. The WG was in favor of issuing only one Recommendation which would sum up the legal requirements for all the meters and supplementary chapters for the different types of meters. However, the test report format should be published as a separate document. Only requirements that go beyond the scope of existing IEC standards should be addressed.

To obtain an overview of the current situation a questionnaire was proposed, which inquires about the legal regulations already effective in the various countries, as well as the content and format of the new

Recommendation. A similar questionnaire distributed to European countries was evaluated by the PTB.

Amongst other topics, participants felt that the following points should be included in the document:

- testing levels;
- full tests and sample tests;
- verification and re-verification;
- time of validity of verification;
- software requirements and remote control; and
- documents required for type approval.

The delegation from Sweden showed interest in developing the questionnaire and in taking on the chairmanship of the Working Group. The final decision must however be postponed until this has been discussed with the Swedish authorities, but the secretary of TC 12 was informed that Sweden will chair the Working Group for the revision of R 46. ■

\* [http://europa.eu.int/eur-lex/en/com/pdf/2000/com2000\\_0566en01.pdf](http://europa.eu.int/eur-lex/en/com/pdf/2000/com2000_0566en01.pdf)

\*\* <http://www.industrie.gouv.fr/metro/wg8/subgroups/mi03.htm>

## OIML TC 11 - INSTRUMENTS FOR MEASURING TEMPERATURE AND ASSOCIATED QUANTITIES

### Revision of OIML R 75

PTB, 2001.01.16–17

DIETER STUCK, PTB (TC 11 Secretariat)

Delegates from eight P-members (Austria, Denmark, Germany, Norway, Poland, Russia, Sweden and The United States), one O-member (Finland) and a delegate from France participated in this meeting. Representatives from The Netherlands, The United Kingdom and Switzerland were not able attend.

The document to be discussed was the newly drawn up 2<sup>nd</sup> Committee Draft of the revision of OIML R 75 *Heat meters*, in which the great majority of comments received from The Netherlands, Poland, The United Kingdom and Japan have been integrated.

One result is that the second draft of R 75 has been split up into three separate documents:

- OIML R 75-1 General requirements
- OIML R 75-2 Pattern approval and initial verification tests
- OIML R 75-3 Test report format (to be developed later)

It was of utmost importance to keep the contents of the existing European standard EN 1434 and of the revision of R 75 as closely related as possible, including the numbering of clauses and subclauses in each part of the text. This aim has largely been achieved, with the exception of those clauses and subclauses of R 75-2 that concern the initial verification tests: this results from the consolidation of parts 4 and 5 of EN 1434 into only one draft of R 75-2.

In subclause 6.5 of the newly drafted R 75-1, the text proposed by the Netherlands (and supported by Japan) has been incorporated in its entirety.

In Annex A, new formulas may be found for calculating the heat coefficients for water; these are drawn from Industrial Standard IAPWS-IF 97 *Thermodynamic properties of water and steam and supplementary equations for other properties* (1988, Springer Verlag). For the first time, use is made in these formulas (for water and steam) of the International Temperature Scale of 1990 (ITS - 90).

The references to IEC publications have been checked and renumbered with reference to the latest versions.

Subclause 6.18 of EN 1434-4 was not adopted into R 75-2 because “electromagnetic emission” is not a metrological characteristic.

Decisions were also made:

- to insert into the respective clauses/subclauses in the text some supplements to low-voltage operated instruments;
- to clarify the definition of the mpe of a complete instrument;
- to change the procedure of the durability test;
- to add some requirements for temperature sensors operated with pockets; and
- to make several editorial changes, which were accepted.

At the end of the meeting the improved text was unanimously adopted as discussed. However, the P-members present did not constitute the majority of P-members registered in TC 11. Therefore, the secretariat will amend the texts of R 75-1 and R 75-2 to take account of the changes discussed in the meeting and distribute it for postal vote in the near future to all members of TC 11. ■