



Note to CIML Members and OIML Corresponding Members

Subject: European standardization activities for smart meters

Dear Colleagues,

The European Commission has drafted a mandate to the European Standardization Organizations (ESOs) for the development of European standards on an open architecture for utility meters involving communication protocols enabling interoperability.

At the initiative of ESMIG, the recently formed European Smart Metering Industry Group, CENELEC has taken the initiative to establish a cooperation between the ESOs (CEN, CENELEC and ETSI) and stakeholder organizations (including the OIML) of standardization activities relating to smart metering.

This BIML Circular is intended to inform the OIML community about this coordination initiative and to suggest how the OIML may be involved in these standardization activities.

The EU Commission's mandate

CEN, CENELEC and ETSI are requested to develop:

1. A European standard comprising a software and hardware open architecture for utility meters that supports secure bidirectional communication through standardized interfaces and data exchange formats and allows advanced information and management and control systems for consumers and service suppliers;
2. European standards containing harmonized solutions for additional functionalities within an interoperable framework.

The draft mandate¹ calls for a work program to be presented to the European Commission within 3 months after acceptance of the mandate (by the ESOs). The standard for communication is to be presented within 9 months and the other standards within 30 months of the acceptance of the mandate.

1 *European Commission, DG-Enterprise, "Standards and Technical Regulations" 98/34 Consultative Committee, document 83/2008 EN of 18 December 2008*

The mandate:

- specifies that the deliverables shall indicate where they cover the requirements of the MID (Directive 2004/22/EC, notably Annex I points 7.6, 8.1-8.5 and 10.5²);
- asks that special attention be paid to transparency in the process of developing these standards;
- instructs the ESOs to take 'the utmost account' of any relevant developments in international standardization;
- instructs the ESOs, as appropriate, to invite representative stakeholder organizations as well as WELMEC and the Open Meter Project to take part in the work.

Coordination of standardization activities

At the initiative of ESMIG, the European Smart Metering Industry Group, CENELEC organized an initial coordination meeting on smart metering on 21 January 2009 in Brussels. The meeting was attended by representatives from several TCs of the ESOs, industry, the regulators, the European Commission and the OIML.

In the meeting information was given about the European Commission mandate and representatives from the relevant Technical Committees of CEN, CENELEC and ETSI gave information on present standardization activities.

Finally, a proposal was put on the table to establish an ad-hoc coordination group in which the main stakeholders (including the OIML) are represented. This group would not be concerned with the substance of the standards, but only with the work program ("who does what").

OIML involvement

Several OIML TCs/SCs are concerned with the issue of smart metering:

- TC 5/SC 2 *Software* (secretariat: Germany and BIML)
 - D 31: *General requirements for software controlled measuring instruments*
- TC 8/SC 5 *Water meters* (secretariat: United Kingdom)
 - R 49: *Water meters*
- TC 8/SC 7 *Gas metering* (secretariat: The Netherlands)
 - R 6: *General provisions for gas volume meters*
 - R 31: *Diaphragm gas meters*
 - R 137-1: *Gas meters. Part 1: Requirements*
- TC 11 *Instruments for measuring temperature and associated quantities* (secretariat: Germany)
 - R 75: *Heat meters*
- TC 12 *Instruments for measuring electrical quantities* (secretariat: Australia)
 - R 46: *Active electrical energy meters for direct connection of class 2*

2 See annex 1 for the text of these clauses.

Where appropriate, these TCs/SCs should investigate the adequacy of the OIML publications under their respective responsibility and which amendments would be required (if any) to make these publications applicable to smart meters.

Prior to that, however, it is necessary to identify the “additional functionalities” that make utility meters become smart meters and which of those additional functionalities should be in the scope of legal metrology.

The OIML Seminar on smart meters, which the BIML is organizing in Brijuni, Croatia (2–5 June 2009) provides an excellent opportunity for the OIML to formulate its position as regards smart meters in legal metrology (notably which additional functionalities should be under legal control) and to make proposals for work to be undertaken by relevant OIML TCs/SCs in this field, taking into account the ongoing activities in Europe and elsewhere.

The OIML TC/SC Secretariats mentioned above should be represented at the Seminar and be ready to discuss common issues in drafting requirements for smart meters under legal control. This 'discussion' may be continued after the Seminar and be facilitated by the BIML providing internet tools.

The BIML will continue to represent the OIML in the European standardization coordination meetings.

ANNEX 1: *Relevant clauses from Annex I of EU Directive 2004/22/EC (the MID)*

7.6. A measuring instrument shall be designed so as to allow the control of the measuring tasks after the instrument has been placed on the market and put into use. If necessary, special equipment or software for this control shall be part of the instrument. The test procedure shall be described in the operation manual.

When a measuring instrument has associated software which provides other functions besides the measuring function, the software that is critical for the metrological characteristics shall be identifiable and shall not be inadmissibly influenced by the associated software.

8.1. The metrological characteristics of a measuring instrument shall not be influenced in any inadmissible way by the connection to it of another device, by any feature of the connected device itself or by any remote device that communicates with the measuring instrument.

8.2. A hardware component that is critical for metrological characteristics shall be designed so that it can be secured. Security measures foreseen shall provide for evidence of an intervention.

8.3. Software that is critical for metrological characteristics shall be identified as such and shall be secured. Software identification shall be easily provided by the measuring instrument. Evidence of an intervention shall be available for a reasonable period of time.

8.4. Measurement data, software that is critical for measurement characteristics and metrologically important parameters stored or transmitted shall be adequately protected against accidental or intentional corruption.

8.5. For utility measuring instruments the display of the total quantity supplied or the displays from which the total quantity supplied can be derived, whole or partial reference to which is the basis for payment, shall not be able to be reset during use.

10.5. Whether or not a measuring instrument intended for utility measurement purposes can be remotely read it shall in any case be fitted with a metrologically controlled display accessible without tools to the consumer. The reading of this display is the measurement result that serves as the basis for the price to pay.

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