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EDITOR-IN-CHIEF: Jean-François Magaña
EDITOR: Chris Pulham

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GRANDE IMPRIMERIE DE TROYES
25, RUE LAMORICIÈRE
10300 SAINTE SAVINE

OIML SECRETARIAT

BUREAU INTERNATIONAL DE MÉTROLOGIE LÉGALE (BIML)

11 RUE TURGOT – 75009 PARIS – FRANCE

TEL: 33 (0)1 4878 1282
FAX: 33 (0)1 4282 1727
INTERNET: www.oiml.org or www.oiml.int
www.metrologyinfo.org

BIML TECHNICAL AGENTS

DIRECTOR
Jean-François Magaña (jfm@oiml.org)

ASSISTANT DIRECTORS
Ian Dunmill (id@oiml.org)
Willem Kool (wk@oiml.org)

EDITOR/WEBMASTER
Chris Pulham (cp@oiml.org)

ENGINEERS
Régine Gaucher (rg@oiml.org)
Jean-Christophe Esmiol (jce@oiml.org)
Samuel Just (sj@oiml.org)

ADMINISTRATOR
Philippe Leclercq (phl@oiml.org)

OFFICE MANAGER
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Editorial

RÉGINE GAUCHER
BIML

A successful first OIML TC/SC Secretariat Training Session

Participants were unanimous: the first OIML TC/SC Secretariat Training Session, organized by the BIML in Douai (Northern France) on 8–11 April 2008, was a resounding success. The training took place at the *Ecole des Mines de Douai* (the Higher School of Engineering), which offered appropriate meeting room facilities and accommodation at a very reasonable cost.

During its March 2006 meeting, the Presidential Council had requested the Bureau to consider organizing training seminars for the Secretariats of OIML Technical Committees and Subcommittees in order to improve the efficiency and regularity of OIML technical work.

A proposal for an intensive four-day seminar was drawn up by the BIML and submitted to the Council in March 2007; this was accepted and the Council agreed that such seminars should be organized periodically (for instance every three years) in order to remind Secretariats of the operating rules for the technical work, to keep them abreast of any changes in these rules, and to train newly appointed experts either as Secretariats or as conveners of working groups set up within OIML TCs or SCs.

Speakers and trainers were mostly from the BIML, but also included experts with substantial experience in OIML technical work; the majority have notably been involved in drawing up OIML Publications for many years, which was clearly a great asset.

The Seminar was also an ideal occasion to invite representatives of Organizations in Liaison with the OIML (BIPM, ILAC, ISO, and the IEC) to present their work and to make OIML TC/SC Secretariats aware of current publications which could be referred to in OIML Publications. Cooperation is a key issue in our technical work and the BIML extends its warmest thanks to the representatives of these Organizations for taking the time to be with us in Douai.

In addition to a reminder of the goals of the OIML and of the current TC/SC operating rules, another purpose of the Training Session was to involve participants in a series of practical exercises in order for them to become accustomed to using templates, and to provide them with the opportunity to learn how to use and manage the interactive workgroup facilities on the OIML web site.

We also took the opportunity to start developing a draft OIML Recommendation Format which was used by the participants during the training and which was considered very helpful in providing the beginnings of a standardized format. Even if this draft does not yet have official status, Secretariats are invited to use it in their work from now on, and to send any comments to the BIML.

The Seminar also gave participants the opportunity to discover a small, friendly and typical town in the North of France located on the River Scarpe. Participants will certainly remember their climb up five flights of stairs to the top of the famous belfry, a watchtower built in the early 15th century, and the charming bell concert given by the thirteen year old bell-ringing scholar on 9 April.

In view of the distinct success of this first Session, it is planned to hold a second Session in 2009 to train those Secretariats that were unable to participate in the first one, and then to hold advanced (follow-up) events every three years. A full account of the week in Douai is given in this Bulletin – Enjoy!

UNCERTAINTY

Some simple considerations about the Test-Uncertainty Ratio (TUR) in legal metrology

GIUSEPPE ARDIMENTO

Former Head of the Ufficio Metrico – Camera di Commercio Industria Artigianato e Agricoltura di Napoli (Local Metrology Authority of Naples – Italy)

EMILIO CLEMENTE

Head of the Ufficio Metrico - Camera di Commercio Industria Artigianato e Agricoltura di Genova (Local Metrology Authority of Genua – Italy)

Introduction

Over almost twenty working years in the Italian Metrology Service, the authors have witnessed a generalized lack of awareness about the relationship between maximum permissible error (mpe) and uncertainty of the verification processes (the so-called Test-Uncertainty Ratio, TUR).

This was also due, in the authors' opinion, to the fact that in the old metrological approach, every instrument was the object of particular legal provisions, which were made by the technical central metrology service that, in providing the local inspectors with the operating procedures, also listed, among other things, the "precision" requirements which the field standards had to fulfil as well as the verification conditions and procedures that had to assure the overall uncertainty requirements for the verification to be carried out in an adequate manner.

With the introduction of the New Approach Directive on Measuring Instruments [1], the metrological requirements became, as practitioners used to say, *performance requirements*, independent of the particular instrument technology on which the measurement principle is based.

In this new scenario, the need for a simplified and standardized approach to uncertainty evaluation in the legal verification processes becomes more and more necessary, in order to have, for the use of field inspectors, often not familiar with the uncertainty estimation procedures [2], a simple tool to overcome difficulties related to the uncertainty evaluation theory and so to evaluate the TUR which must usually not be greater than 1/3 of the mpe.

The uncertainty evaluation simplified model (UESM)

In order to establish a simplified model for the uncertainty evaluation in the verification process in legal metrology, the following definitions are given:

I: INDICATION of the instrument under verification with a known value as its input (measurement standard).

V: the KNOWN (TRUE) VALUE of the standard used to perform the verification process; V must be traceable in some defined way to the national or international standard which is appropriate for the quantity measured by the instrument under verification.

$E = I - V$: ABSOLUTE ERROR. In order to have the instrument fully characterized over the complete measuring range, the absolute error must be expressed as a function of the known input over the whole measuring range.

$e = \frac{I - V}{V}$: RELATIVE ERROR. Often expressed in percentage terms to correlate the performance features to precision classes established by standards or normative documents (see, for example, OIML R 117 [8]).

$u(E)$: STANDARD UNCERTAINTY of the measurement error in the verification process.

$U(E)$: EXPANDED UNCERTAINTY of the measurement error in the verification process. It is obtained by multiplying by two (2) the standard uncertainty $u(E)$. It conventionally covers the interval in which 95 % of the error would fall in case of repeated verification measurements. The expression "conventionally" holds true because in most cases the coverage is assured by factors ranging from 1.8 (Type B uncertainty evaluation - see [3]) to values greater but near to 2 (Type A uncertainty evaluation for small measurement samples).

$u(e)$, $U(e)$: For the relative error they have the same meaning, *mutatis mutandis*, as for the two last definitions.

From the definition above, an uncertainty evaluation model can be written as follows and the standard uncertainty can be obtained by applying the variance propagation law [2]:

$$E = I - V$$
$$u^2(E) = u^2(I) + u^2(V) \quad (1)$$

where:

$u(I)$ is the standard uncertainty due to the instrument indication. Usually this term can be split into two uncorrelated parts:

$$u^2(I) = u_d^2(I) + u_{rep}^2(I) \quad (2)$$

with:

$u_d(I)$: Uncertainty due to the instrument's finite resolution. Assuming a rectangular distribution centred on the mean value (midpoint between two consecutive indications) having a "half division" amplitude. Indicating with "*d*" the division, this term can be written as:

$$u_d(I) = \frac{d}{2\sqrt{3}} \quad (3)$$

$u_{rep}(I)$: Uncertainty due to the repeatability features of the instrument during its use. This term generally depends on several environmental causes (influence quantities) and thus it does not uniquely depend on the stand-alone instrument. This is why it is not usually considered when evaluating the verification process uncertainty: the repeatability features of the instruments are evaluated on site, in the environmental conditions as installed in the place of use by means of proper test procedures, according to the relevant standard or normative document.

$U(V)$: is the standard uncertainty of the artefact representing the known value (physical standard) at the input of the instrument under verification. The standards are generally provided with certificates where a statement on the expanded uncertainty at a 95 % confidence level U_{95} is given. Thus we have:

$$u(V) = \frac{U(V)}{k} \quad (4)$$

where k is the coverage factor which assures that the measurement result falls within a certain coverage interval (95 % for k = 2).

Sometimes the need to express the error in relative terms arises due to the fact that the instrument type is regulated by means of error limits expressed as a percentage. From the expression of the relative error, the standard uncertainty can be derived as follows:

$$e = \frac{I - V}{V} = \frac{I}{V} - 1$$
$$u^2(e) = \frac{u^2(I)}{I^2} + \frac{u^2(V)}{V^2} \quad (5)$$

The meaning and considerations for the quantities above are the same as for the absolute error *E*.

Two worked-out examples

In order to illustrate the UESM, two worked-out examples concerning the most common instruments that a Legal Metrology Service has to verify in performing its duties are provided.

The former illustrates the evaluation of the verification process uncertainty in a weighbridge field test; in this example use will be made of the absolute error. The latter illustrates the evaluation of the verification process uncertainty in the test of a road fuel dispenser; in both examples use will be made of the relative error.

1. Weighbridge verification uncertainty

Let us assume that a weighbridge has to be verified by the Local Metrology Authority which has jurisdiction over it.

Let its main metrological characteristics be:

- Maximum load capacity (Max): 60 000 kg
- Accuracy class (according to [4]): III
- Verification/display weight interval (*e*/*d*): e = d = 20 kg

Since the repeatability test is prescribed as mandatory in the relevant standard [4], in order to ascertain that the installation in the place of use fits the requirements set out by the legal provisions and the technical standards, in the uncertainty due to the instrument indication (see equation 2), only the finite display resolution has to be considered.

Due to the fact that in a verification process the "rounding error" has to be eliminated by magnifying the resolution to 1/10 d, the expression for the indication standard uncertainty is:

$$u(I) = u_d(I) = \frac{0.1 \cdot d}{2\sqrt{3}} = \frac{0.1 \times 20}{2\sqrt{3}} = 0.577 \text{ kg} \quad (6)$$

The "true value" uncertainty term can be evaluated as:

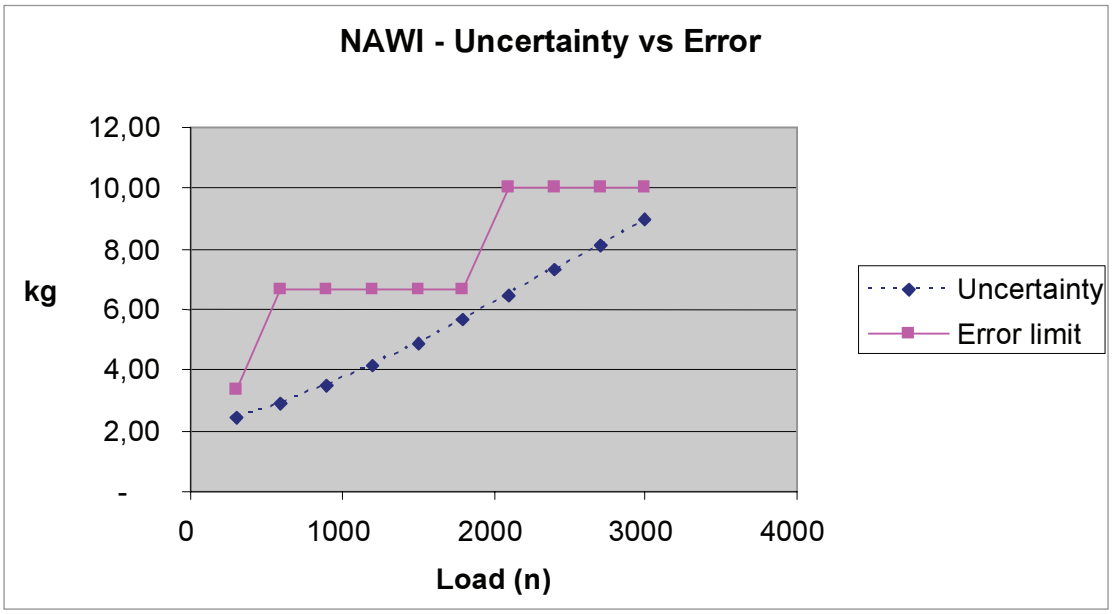

Figure 1 Non-automatic weighing instruments - Verification uncertainty vs. mass standard error limit

$$u(V) = \frac{mpe_V}{\sqrt{3}} \qquad (7)$$

where mpe_V is the maximum permissible error of the mass standards used in the verification process; the standard uncertainty is evaluated by assuming a rectangular probability density distribution extending right over the maximum permissible error range [5]. The Italian Metrology Authorities usually require for the mpe_V [6] that the following condition holds:

$$mpe_v = 1.25 \times 10^{-4}\, M$$

where M is the mass standard nominal value. This constraint ensures fulfilment of the standard clause for a single mass standard to have an error which, at the maximum extent, equals 1/3 of the permissible error for the weighing instrument at the prescribed test loads.

Expressing the whole test load as the sum of mass standards and translating the latter into a total division number "n" corresponding to the test load, the standard uncertainty can be written as:

$$u(V) = \frac{mpe_V}{\sqrt{3}} = \frac{1.25 \times 10^{-4} n \bullet e}{\sqrt{3}} = 1.44 \times 10^{-3} n \qquad (8)$$

The assumption that the total mass standard error equals the quantity "$n \times e$" stems from the hypothesis that the single mass standard uncertainty is fully correlated.

From equations 6 and 8 the expanded uncertainty can be written as a function of the interval number n corresponding to the test load:

$$U(n) = 2\sqrt{(0.577)^2 + (1.44 \times 10^{-3} n)^2}$$

The expanded uncertainty is plotted versus the interval number (see Figure 1).

From the plot it can be seen that the Test/Uncertainty Ratio condition is fulfilled.

2. Road fuel dispenser verification uncertainty

Let us assume that a fuel dispenser has to be verified. Let its main metrological characteristic be:

Maximum flowrate (Q_{max}):	50 L/min
Minimum flowrate (Q_{min}):	5 L/min
Minimum delivery (or Minimum Measured Quantity MMQ):	2 L
Display interval (d):	0.01 L

As in the weighbridge case, repeatability tests are carried out on site, in order to check that the instrument is properly installed (efficiency of the air/gas extractor and strainer/filter assembly).

The main uncertainty causes in the verification process are:

- resolution of the display indication;
- temperature gradients between the measuring instrument and the standard measure;
- standard measure uncertainty;
- standard measure sight glass resolution.

The error in the verification process is:

$$E = I - V \tag{9}$$

Since it is necessary to compare instrument indication and the value indicated by the standard measure (measure sight glass reading) at the same temperature, the temperature of the standard measure is chosen as the reference temperature, thus the error becomes:

$$E = I(t_v) - V \tag{10}$$

To convert the instrument indication to the standard measure temperature, the mass conservation principle can be written:

$$\rho(t_I) \cdot I(t_I) = \rho(t_V) \cdot I(t_V) \tag{11}$$

where t_I, t_V are the temperatures at the instrument and the standard measure; with obvious notation, the densities are also indicated with the letter "ρ".

From equation 11, we have:

$$I(t_V) = I(t_I)\frac{\rho(t_I)}{\rho(t_V)} = I(t_I)F(t_I;t_V) \tag{12}$$

with $F(t_I;t_V)$ being the so-called Volume Correction Factor (VCF).

Thus the equation becomes:

$$E = I(t_I)\frac{\rho(t_I)}{\rho(t_V)} - V \tag{12'}$$

In order to obtain a simpler expression for the VCF, the fuel density can be written as:

$$\begin{aligned} \rho(t_I) &= \rho(t_o) + \left.\frac{d\rho}{dt}\right|_{t=t_0} \times (t_I - t_0) \\ \rho(t_V) &= \rho(t_o) + \left.\frac{d\rho}{dt}\right|_{t=t_0} \times (t_V - t_0) \end{aligned} \tag{13}$$

with t_0 being an arbitrary reference temperature. From equation 12, we have:

$$I(t_V) = I(t_I)\frac{1 + \frac{1}{\rho(t_0)}\frac{d\rho}{dt}(t_I - t_o)}{1 + \frac{1}{\rho(t_0)}\frac{d\rho}{dt}(t_V - t_o)} \tag{14}$$

It can be seen that:

$$\left.\frac{1}{\rho(t_0)}\frac{d\rho}{dt}\right|_{t=t_0} = -\alpha$$

where α is the volume expansion coefficient for the fuel.

From the expression of density at a temperature t, it can be written:

$$\rho = \frac{M}{V(t)} = \frac{M}{V(t_0)\left[1 + \alpha(t - t_0)\right]}$$

where t_o is an arbitrary reference temperature. Thus we have:

$$\left.\frac{1}{\rho(t_0)}\frac{d\rho}{dt}\right|_{t=t_0} = -\frac{V(t_0)}{M}\left.\frac{M \times \alpha}{V(t_0)\left[1 + \alpha(t - t_0)\right]^2}\right|_{t=t_0} = -\alpha$$

Thus equation 14 becomes:

$$I(t_V) = I(t_I)\frac{1 - \alpha(t_I - t_0)}{1 - \alpha(t_V - t_0)} = I(t_I)\left[1 + \alpha(t_V - t_I)\right]$$

For the above equality, equation 12' becomes:

$$E = I(t_I)\left[1 + \alpha(t_V - t_I)\right] - V \tag{15}$$

Considering equation 15, the relative error can be written as:

$$e = \frac{E}{V} = \frac{I(t_I) - V}{V} + \alpha(t_V - t_I)$$

since we recognize the $I(t_I)$ usually nearly equals V.

By writing $I(t_I)$ as I, the relative error can be written as:

$$e = \frac{I - V}{V} + \alpha(t_V - t_I) \tag{16}$$

By attributing the main causes of uncertainty to the several terms of equation 16, it can be written:

$$e = \frac{E}{V} = \frac{I}{V}\left[1 + \alpha(t_V - t_I)\right] - \frac{V + \delta V}{V} = \frac{I}{V}\left[1 + \alpha \times \delta t\right] - 1 - \frac{\delta V}{V} \tag{17}$$

where:

- δt is the temperature difference that occurs during the test between the standard measure and the meter;
- δV is the reading error due to the finite resolution of the standard measure resolution on the sight-glass.

In evaluating the overall uncertainty the measure volume standard $u(V)$ obviously needs to be considered. Considering that the mpe for that standard measures equals in relative terms 5×10^{-4} of the nominal capacity value [7] and assuming that the field inspector usually does not correct the measure reading, the standard uncertainty can be written as:

$$u(V) = \frac{5 \times 10^{-4} V}{\sqrt{3}} \qquad (18)$$

During the test, due to its fast execution, one usually never finds a temperature difference greater than ± 1°C; the standard measure resolution is usually 1/4 of the graduated sight-glass interval because the field inspector, in case of a meniscus placed midway between two consecutive marks, reads the fuel amount contained in the measure as being a volume corresponding to the lower graduation plus 1/2 interval division.

Another uncertainty term is due to the difference between the operating standard measure temperature and the standard measure calibration temperature, usually set to 15 °C; since the operating temperature is not very different from the calibration temperature (operating temperature varies in normal conditions in a range from 10 °C to 20 °C), this uncertainty term can be neglected.

From equation 17 the following uncertainty evaluation can be carried out:

$$u^2(e) = \left(\frac{1}{V^2} u^2(I) + \alpha^2 u^2(\delta t) + \frac{1}{V^2} u^2(\delta V) + \frac{1}{V^2} u^2(V) \right)$$

Since the indication I nearly equals the volume V delivered in a test run, the above equality can be written as:

$$u^2(e) = \left(\frac{1}{I^2} u^2(I) + \alpha^2 u^2(\delta t) + \frac{1}{V^2} u^2(\delta V) + \frac{1}{V^2} u^2(V) \right) \qquad (19)$$

According to equation 19 and considering the verification process, the uncertainty budget in Table 1

Input quantity X_i	*Input quantity maximum extent*	*Distribution*	*Standard uncertainty*	*Sensitivity coefficient*	$u_{Xi}(x_i)$
I: Instrument resolution	±1/2 d_I = ±1/2 × 0.01 L	rectangular	$\frac{d_I}{2\sqrt{3}}$	$1/V$	$\frac{0.01}{2V\sqrt{3}}$
δt: temperature gradient	± 1 °C	rectangular	$\frac{1}{\sqrt{3}}$	α = 0.0012 °C^{-1}	0.000693
V: standard measure error	$\pm \text{mpe} = \pm 5 \times 10^{-4} V$	rectangular	$\frac{5 \times 10^{-4}}{\sqrt{3}} V$	1/V	0.000289
δV: standard measure resolution	$\pm \frac{1}{4} d_V = \pm \frac{1}{4} 5 \times 10^{-4} V$	rectangular	$\frac{5 \times 10^{-4}}{4\sqrt{3}} V$	$1/V$	7.22×10^{-5}

Table 1 Uncertainty budget

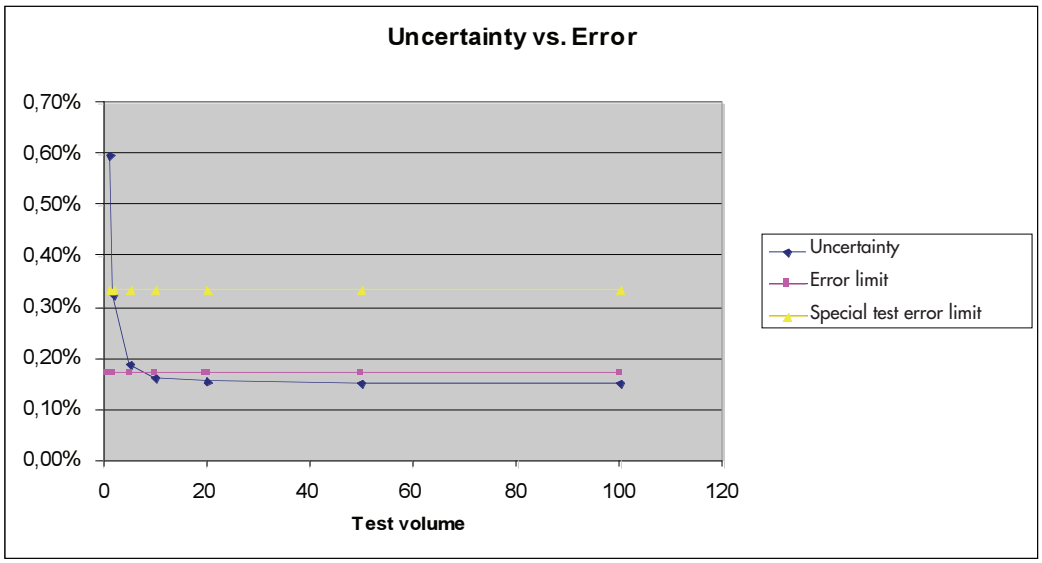

Figure 2 Road fuel dispensers - Verification uncertainty vs. test volume

can be written. From it, the following uncertainty expression thought as a function of the test volume V can be written as:

$$U(e) = 2\sqrt{\left(\frac{0.01^2}{(2V\sqrt{3})^2} + 0.000693^2 + 0.000289^2 + 0.0000722^2\right)} \quad (20)$$

From equation 20, we can see that the verification uncertainty depends on the test volume according to the plot shown in Figure 2.

In this case too, as for the former NAWI case, it can be seen that the TUR condition holds by utilizing a standard test measure ranging from 2 L to 20 L in nominal value. For special tests (slow and medium flow rate tests with standard measures of 2 L and 5 L), the TUR condition obviously holds because of the greater error limit set out by the relevant normative document (1 %/3 = 0.33 %) [8]. ■

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[5] OIML R 111: *Weights of classes E_1, E_2, F_1, F_2, M_1, M_{1-2}, M_2, M_{2-3} and M_3* (2004)

[6] OIML R 47: *Standard weights for the verification of high capacity weighing instruments* (1979)

[7] OIML R 120: *Standard capacity measures for testing measuring systems for liquids other than water* (1996)

[8] OIML R 117-1*: Dynamic measuring systems for liquids other than water. Part 1: Metrological and technical requirements* (2007)

Giuseppe Ardimento

Former Head of the Ufficio Metrico – Camera di Commercio Industria Artigianato e Agricoltura di Napoli (Local Metrology Authority of Naples – Italy)

Emilio Clemente

Head of the Ufficio Metrico - Camera di Commercio Industria Artigianato e Agricoltura di Genova (Local Metrology Authority of Genua – Italy)

WEIGHTS

Suggestions to improve iron weights of OIML R 47 and R 52

N.K. SINGHANIA,
Shanker Wire Products Industries,
Deoghar (Jharkhand), India

Abstract

The author has been engaged exclusively in the design and development of cast iron weights since 1961, and has been following the relevant OIML International Recommendations since 1973. He has noted what he considers to be certain shortfalls in OIML R 47 *Standard weights for testing of high capacity weighing machines* and R 52 *Hexagonal weights - Metrological and technical requirements*. In the author's opinion, while in some cases sufficient design details of weights are not provided in the Recommendation, in other cases the existing design technically exposes the weights to the possibility of alteration of their calibration accuracy without this being properly visible. This can lead to a lack of confidence amongst users.

In this paper the author endeavors to highlight some of these perceived shortfalls, along with his suggestions to improve them with the aim of serving the best interests of society by shifting the adjustment cavity to the top surface instead of the bottom surface, providing a lifting provision for heavy cylindrical weights to facilitate their handling and transportation from one place to another, and also by working out the dimensional parameters of various weights.

1 Introduction

Weights play a vital role in society. The metric weighing and measuring system was adopted by many countries to overcome two main problems, notably i) to adopt a uniform weighing and measuring system throughout the world to better develop mutual understanding, and ii) to protect the interests of both producers and consumers.

As an example, before the adoption of the metric system in India, about 150 different systems of weights were used across the various regions of the country. Even when the same nomenclature was used, the actual weight varied. For instance, more than 100 kinds of maunds[1] were in use, ranging from a 280 tolas[2] weight to a 8320 tolas weight, compared to the standard maund of 3200 tolas. In certain regions and in certain kinds of transactions, the unit of weight, a seer or a maund, varied one from the other. When a trader purchased a commodity from a producer he used one value of weight, and when he resold the same commodity to the consumer, he employed a different value. In both transactions the trader benefited, whereas producers and consumers should be protected since they are the backbone of a nation's economic development.

Although most countries in the world have adopted the Metric System, the interests of producers and consumers are still not necessarily protected.

The OIML has recommended the use of hexagonal weights from 100 g to 50 kg (R 52) for normal use in trade and commerce and from 100 kg to 5000 kg standard weights for testing high capacity weighing machines (R 47).

A brief description of the author's opinion of some possible shortfalls in these weights and suggestions for incorporating certain modifications to develop them in the best interests of society are given below.

2 OIML R 52 *Hexagonal weights - Metrological and technical requirements*

R 52 provides the adjusting cavity at the bottom of the weight, and the control mark as required by law is placed on the lead cast in the adjusting cavity. The accuracy of these weights is equivalent to class M_3. People are concerned mostly with these weights in their day to day life. As the control mark is placed at the bottom of the weights, it is not visible to the consumer and does therefore not create confidence for the user concerning its accuracy.

In view of the above, a model diagram and legend have been drawn with a loading hole located at the centre of the upper surface of the hexagonal commercial weights of 50 g to 2 kg as shown in Figure 1. This provides:

[1] The "maund" is a traditional unit of weight in India and throughout South Asia. During the period of British rule in India it was standardized at about 82.286 pounds or 37.3242 kilograms. The maund is divided into 40 seers.

[2] The "tola" is a weight of British India. The standard tola is equal to 180 grains (1 grain = 64.779 milligram).

- complete visibility of the control mark without any effort while in use;
- comfortable gripping, and also the weights can properly nest on one-another;
- design of the adjusting cavity on the top surface of the weights such that the question of accumulation of dust/foreign particles does not arise;
- marking of the denomination on the top surface of the weights for easy recognition of their nominal value of mass, whereas the manufacturer's trade mark has been engraved on the bottom surface to minimize the chances of scraping/turning of the bottom surface, which can be done by unscrupulous traders.

If necessary, drawings can also be developed for weights in denominations of 5 kg to 50 kg along similar lines with the adjusting cavity at the top.

By changing the adjusting cavity from the bottom to the top of the weights, we can create confidence concerning the accuracy of the weights amongst the users.

3 OIML R 47 *Standard weights for testing of high capacity weighing machines*

OIML R 47 *Standard weights for testing of high capacity weighing machines* covers rectangular and cylindrical shaped weights in the denominations 100 kg, 200 kg, 500 kg, 1000 kg, 2000 kg, and 5000 kg.

R 47 provides dimensional measurements for 500 kg and 1000 kg rectangular shaped and for 500 kg cylindrical shaped weights only. The dimensional measurements of other weights are not provided. We have calculated the dimensional measurement for other weights from 100 kg to 1000 kg which are shown in Figures 2 and 3.

The cylindrical weights of R 47 do not have any lifting provision. We have diverted the adjusting cavity of the weights from the top of the weights to the bottom, for adjustment. Another small cavity for the control mark at the top and the lifting handle at the top of the weights has been provided as per Figure 4.

4 Further suggestions

We have also developed I-shaped weights in denominations of 100 kg to 1000 kg. The shape and dimensional measurements are given in Figure 5. These weights are very convenient for lifting by crane or forklift.

5 Conclusions

Changing the adjusting cavity of hexagonal weights (normal commercial weights) from the bottom to the top will create confidence in the accuracy of the weights amongst users.

The dimensional details provided in Figures 2 and 3 will provide uniformity in shape for weights produced by different manufacturers.

The provision of a handle in the cylindrical weights (Figure 4) will make them suitable for lifting by crane, which is essential for such high denominational weights.

The I-shaped standard weights are very convenient to handle by crane or forklift, and these weights are now gaining a high degree of popularity in the overseas markets. ■

6 References

[1] Metric Change in India by Dr. Lal C. Verman & Sri Jainath Kaul

[2] OIML R 52 *Hexagonal weights - Metrological and technical requirements*, OIML, 2004

[3] OIML R 47 *Standard weights for testing of high capacity weighing machines*, OIML, 1979

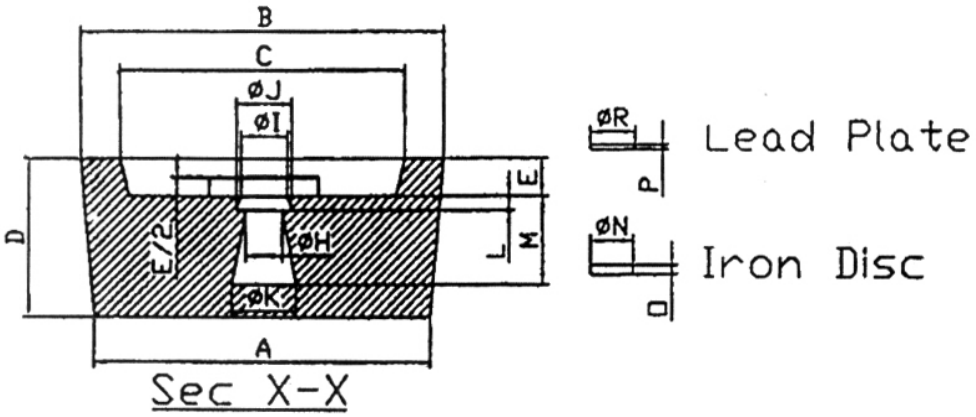
[4] OIML R 111 *Weights of classes* E_1, E_2, F_1, F_2, M_1, M_{1-2}, M_2, M_{2-3} *and* M_3, OIML, 2004

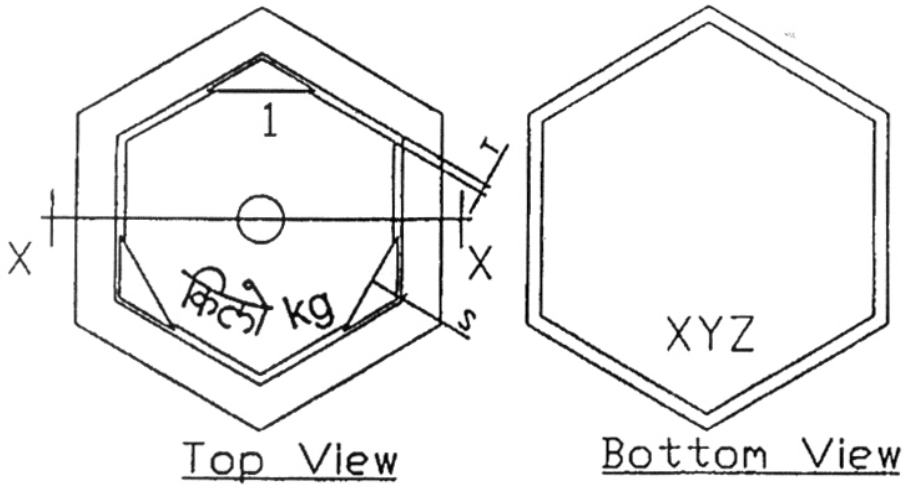
[5] Standards of W and M (General) Rules 1987

To contact the author: swpi@rediffmail.com

Figure - 1

Model Diagram and Legend with Loading Hole located at the Centre of Upper Face of Commercial Weights





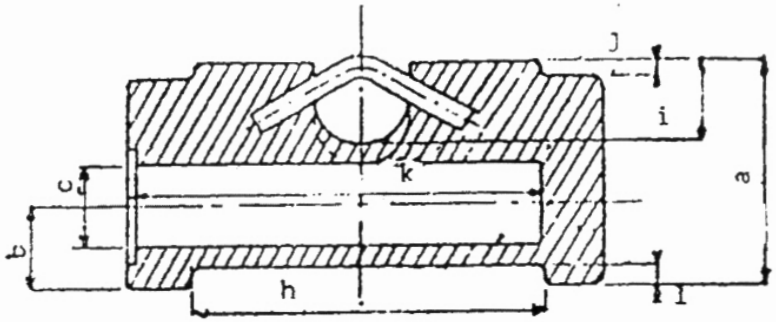
	A	B	C	D	E	H	I	J	K	L	M	N	O	P	R	S	T
2kg	94	101	78	41	10	8	10	12	15	3	22	9.5	2	1	10	9	2
1kg	73	79	62	34	8	8	10	12	14	3	19	9.5	2	1	10	8	2
500g	57	62	47	27	6	8	10	12	13	3	16	9.5	2	1	10	6	2
200g	42	48	38	21	6	8	10	12	12	3	13	9.5	2	1	10	4	1
100g	33	38	31	17	5	8	10	12	11	3	10	9.5	2	1	10	3	1
50g	27	31	24	12	3	8	10	12	10	3	7	9.5	2	1	10	3	1

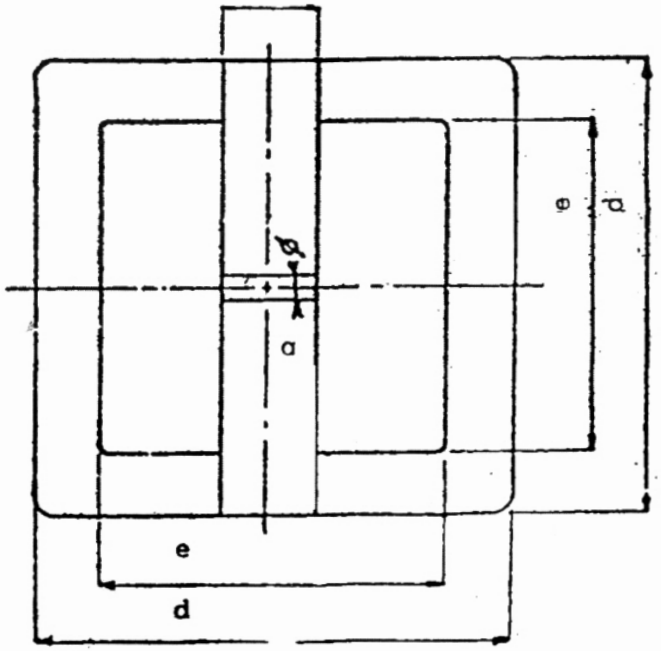
ALL DIMENSIONS IN MILLIMETERS

Note: Assumed density = 7100 kg/m^3

Figure - 2

RECTANGULAR STANDARD WEIGHTS
(Dimensions in mm)
Suitable for stacking & lifting





	1000kg	500kg	200kg	100kg
a	504	273	218	210
b	120	100	60	60
c	140	100	44	30
d	560	560	400	295
e	400	400	280	210
f	110	110	100	100
g	30	30	25	25
h	410	410	300	220
i	100	100	100	100
j	20	20	15	15
k	480	480	350	260
l	25	25	20	20

Note: Assumed density = 7100 kg/m^3

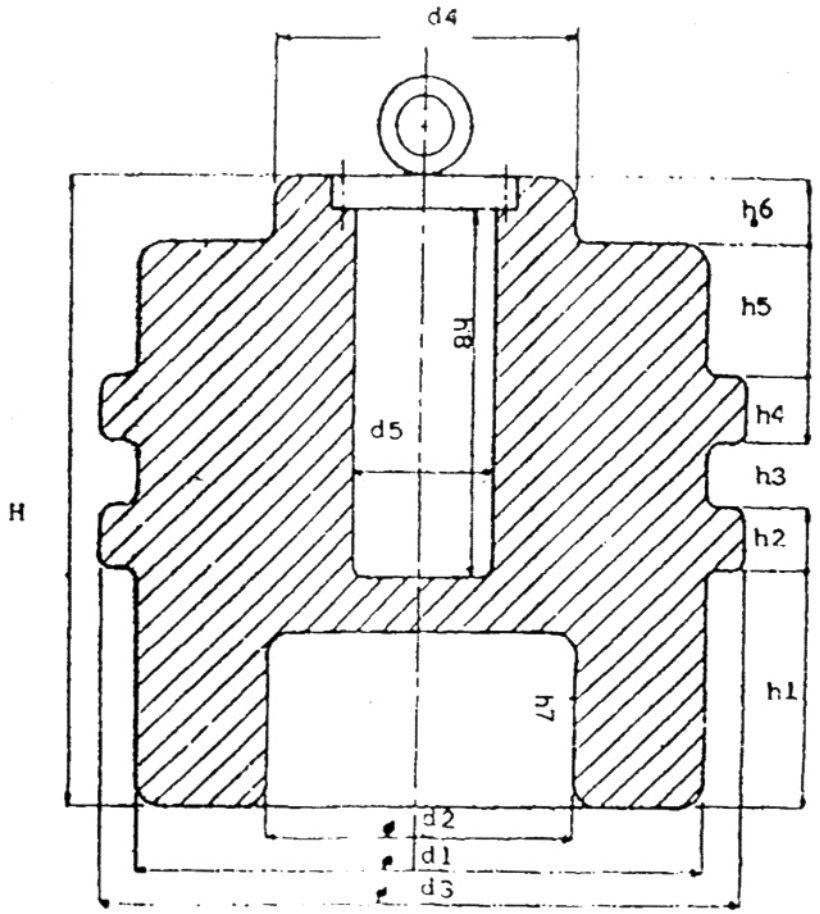
	1000kg	500kg	200kg	100kg
d1	575	450	330	265
d2	315	251	185	170
d3	650	510	375	315
d4	310	249	180	165
d5	145	115	85	75
h1	240	190	140	100
h2	65	50	35	30
h3	65	50	35	30
h4	65	50	35	30
h5	130	105	80	65
h6	65	50	35	30
h7	190	95	50	50
h8	355	312	230	180
H	630	495	360	285

Note: Assumed density = 7100 kg/m^3

Figure - 3

Cylindrical Standard Weight

Suitable for Stacking & Rolling



r = 10
R = 20

DIMENSION IN MILLIMETRES

	1000kg	500kg	200kg	100kg
d1	575	460	340	265
d2	315	251	185	170
d3	650	520	385	310
d4	310	249	180	165
d5	145	115	85	75
d6	165	135	105	95
h1	240	190	145	130
h2	65	50	35	30
h3	65	50	35	30
h4	65	50	35	30
h5	130	105	80	65
h6	65	50	35	30
h7	100	100	75	75
h8	200	170	130	130
h9	490	390	280	250
H	630	495	365	315
w1	120	120	100	100
w2	70	70	50	50

Note: Assumed density = 7100 kg/m^3

Figure - 4

CYLINDRICAL STANDARD WEIGHT
SUITABLE FOR STAKING ROLLING AND LIFTING

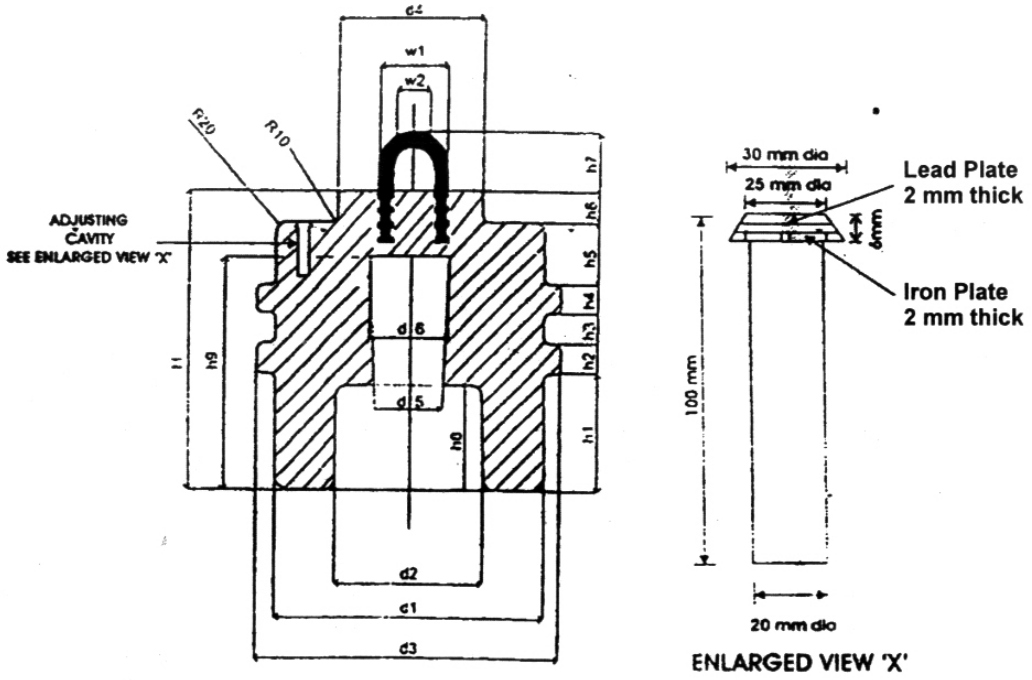


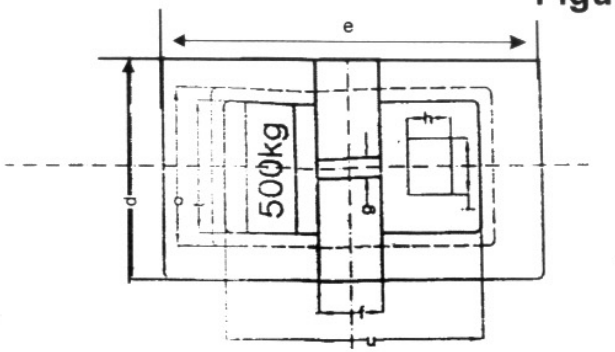
Figure - 5

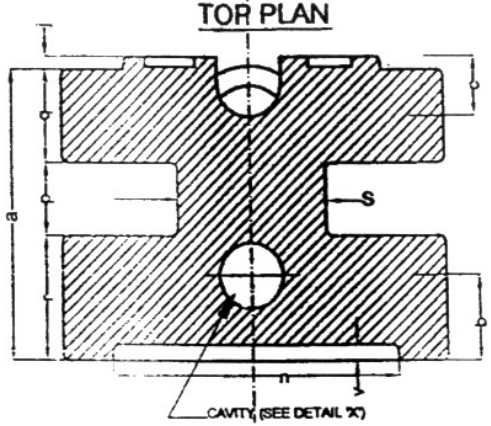
I-SHAPED STANDARD WEIGHTS
SUITABLE FOR STACKING AND LIFTING
BY CRANE OR FORK LIFT

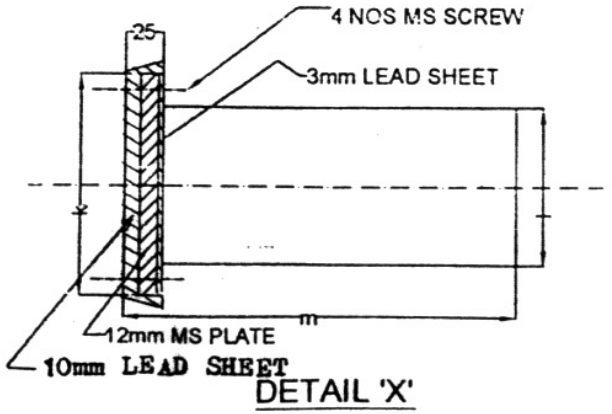
ALL DIMENSIONS IN MILLIMETRES

	1000kg	500kg	200kg	100kg
a	600	460	350	300
b	150	130	90	90
c	90	90	90	90
d	440	340	270	220
e	650	590	450	360
f	100	100	100	100
g	30	30	25	25
h	65	65	65	65
i	85	85	85	85
j	20	20	20	20
k	160	140	110	100
l	120	100	70	60
m	350	250	200	180
n	440	440	340	290
o	290	240	190	160
p	115	110	110	110
q	200	140	90	70
r	265	190	130	100
s	290	230	150	120
t	250	200	150	120
u	400	400	300	250
v	25	25	25	25

Note: Assumed density = 7100 kg/m^3







METROLOGY IN CUBA

The impacts of metrology

Y. Reyes Ponce
L. Alvarez Vasallo
A.R. Hernández Leonard

National Metrology Research Institute,
Republic of Cuba

"Metrología 2008": 7th International Symposium, Havana, 27-29 May 2008

Abstract

The impact of metrology is evidenced, in general, by examples of its contribution to the knowledge and control of diverse aspects of life and, in particular, by specific daily examples of cases where the results contribute to the reduction of expenses and costs in various economic sectors and to the sustainability of the qualify of life.

Introduction

Science, from the Latin *scientia*, from *scire*, "to know", is a term used in its broadest sense in reference to systematized knowledge in any field and the search for objectively verifiable knowledge in pure as much as in applied science.

The results of science produce very concrete benefits, called impacts, which are made known through usually quantifiable indicators of different types: scientific, technological, economic, social or environmental.

Metrology, "the Science of the Measurement", is present in almost every activity of life, hence its direct impact, when it takes place in a reliable, comparable and safe way, on a country's economic, political and social development, so much so that the said development is often measured on the basis of the degree of development in metrology.

In today's global world, which also affects metrology, the barriers to trade created by developed countries have evolved in a negative way for developing countries, since now they are imposed to a large extent on the basis of technical requirements and a consistent Measurement Management System, and these requirements must be met to achieve international competitiveness. In this case, metrology becomes essential to such countries, as it is pivotal to supporting economic improvement with a view to increasing their performance, international prestige, and living standards.

Development

The Programs and Projects System of the Ministry of Science, Technology and the Environment of the Republic of Cuba [1] includes a characterization of the main impact indicators identified in the country, which contributes to their conceptual clarification. Some of these are mentioned below.

Main impact indicators

Scientific

- Awards and distinctions;
- Publications;
- Recognition by the scientific community.

Technological

- Increased yield;
- Positive organizational changes;
- Use of national raw materials;
- Better quality of products and services;
- Proposal of patents or other forms of industrial property.

Economic

- More exports;
- Fewer imports;
- Lower production costs;
- More efficient products and services;
- Better quality of products and services.

Social

- Improved social indicators (education, health, unemployment rate, organization, food provision, culture, sports, others);
- Improved political agendas and better definition, development, implementation and assessment of policies;
- Improved socializing cycle at various educational levels, as well as in the family, social organizations, communities, workplaces and the media.

Environmental

- Lower soil degradation indexes;
- Sustainable management of ecosystems;
- Less pollution;
- Water reuse;
- Lower emissions;
- More effective weather forecasts.

In this context, measurement allows the behavior and characteristics of phenomena, events, activities and processes to be specified by providing valid scientific evidence to know and control this process and quantify its impact.

Impact of metrology on our lives

It is easy to identify the evidence of metrology's impact on our lives. A single, comprehensive example will suffice to understand the role of measurements in many applications to achieve a better quality of life and for decision-making in the development of projects, including environmental ones.

In 2007, the BIPM dedicated World Metrology Day (May 20) to the topic "Measurements in our Environment", [2] to prove that this science has formed itself into a mainstay of Quality Management Systems and exports and innovation processes worldwide.

The BIPM's message (see opposite) clearly states that the environment is key to our well-being. Its changes affect us all and are cause for concern, as it is increasingly believed that today's human activity has adverse effects on it. Therefore, measuring environmental quality is more important than ever, as it helps us watch over its changes and determine its future effects on living organisms and generate reliable data. Below are some clear examples of how to identify metrology's impact on our life.

Water

Water is essential to life on Earth and the condition of its oceans, rivers, glaciers, lakes and other water supply sources. It is essential to make regular measurements in our water sources for the purposes of monitoring:

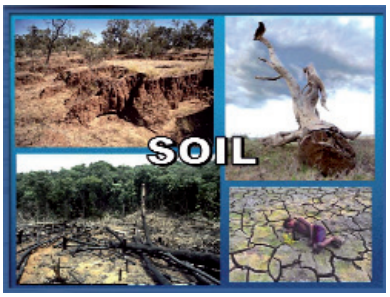
- levels of temperature, pH, salinity and heavy metal content;
- levels of nitrates and phosphates as a result of agricultural and industrial activity.

Air

Our atmosphere is pivotal to our climate, as it produces the air we breathe, protects the planet from harmful solar radiation and helps control our surrounding temperature. It is vital that we regularly measure air quality to monitor the greenhouse effect in order to:

- reduce dangerous contaminant emissions from cars and industries;
- monitor the evolution of the atmosphere's ability to protect us from solar radiation.

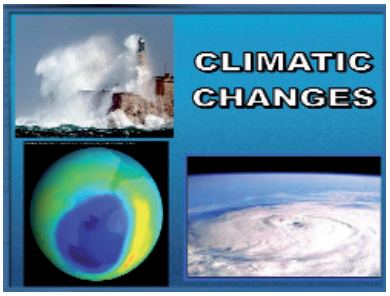
Soil



The soil is essential for food production and life on Earth. A healthy soil gives us more and better foods and provides for biological diversity. We must test our soils on a regular basis in order to:

- evaluate their texture, moisture, pH and nutritional levels needed to achieve an optimal crop yield;
- monitor contaminants originating in pesticides, fertilizers and industrial waste.

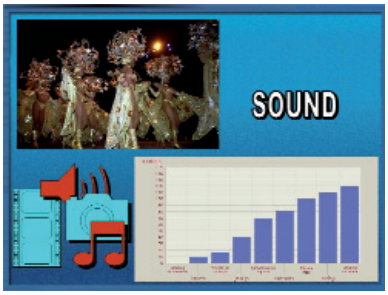
Climatic change



The climate is the atmosphere's average status at a given time of the year. It is increasingly accepted that some human activities might affect Earth's climate and be partially responsible for such phenomena as the thawing of the polar ice caps and the increasing storm activity. It is important that we constantly monitor our climate in order to:

- track long-term changes in the weather, ocean temperatures, and the rate of ice melting at the Poles;
- provide accurate data which governments can use to set and to monitor the short-term and long-term effects of their environmental policies.

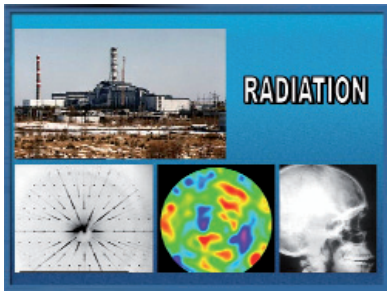
Sound



Sound is part of daily life but certain sounds, depending on their intensity and duration, can be harmful to the environment and our health. We must regularly monitor noise pollution to:

- keep it at safe levels; and
- record acoustic waves to detect likely earthquakes and tsunamis.

Radiation



As a natural characteristic of some elements, radioactivity is intentionally produced in nuclear reactors. Certain radiations have medical applications. We must regularly monitor radiation levels to:

- watch over man-induced contamination;
- guarantee the safety and effectiveness of medical devices.

The message finishes with a call to the National Institutes of Metrology around the world to work with a view to making reliable, comparable and safe measurements, so that governments, organizations and entities of any kind have the necessary information to protect health everywhere.

The accuracy of measurements is ensured by their traceability to internationally recognized measurement standards, including Certified Reference Materials, which builds confidence in the results of measurements and any action taken as a result.

A clear example of the importance of measurements and their usefulness to identify the climate's impacts on life is reported by the Intergovernmental Panel on Climate Change (IPCC) in 2007 [3], where it says the following:

- Air and sea temperatures have increased in the range from 1.1 °C to 6.4 °C;
- Sea level has risen from 18 cm to 59 cm;
- Sea temperature has increased up to a depth of at least 3 000 m;
- Measurements reveal that between 1970 and 2004 the GGEs have increased by 70 %.

All this will result in adverse effects on:

- Crops;
- Human settlements;
- Biological diversity, mainly on coastal ecosystems;
- Human health, because of the resurgence of some diseases;
- Floods, among others.

Full knowledge of all these issues allows governments to take the necessary actions to mitigate these effects as much as possible.

Impact of metrology on Cuba's daily life

At national level there are countless examples to prove metrology's impact. These are just a few:

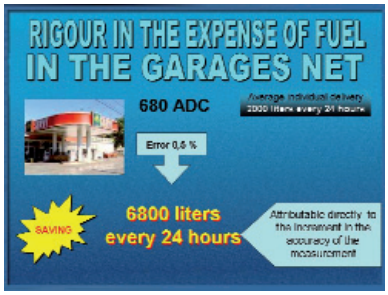
Demonstration of our competitiveness as a National Institute of Metrology

This result has associated scientific, technological and economic impacts.

In late 2007, the National Metrology Research Center (INIMET), the Isotopes Center (CENTIS), the National Institute of Investigations in Metrology (INIMET), the Center of Isotopes (CENTIS) and the Center for Radiation Protection and Hygiene (CPHR) underwent a peer evaluation by international experts from COOMET in order to prove our competitiveness, as the NIM of the Republic of Cuba, in their respective fields. INIMET's performance was evaluated for the process of calibration/verification of measuring instruments in several physical quantities, on the basis of the fulfillment of technical requirements laid down in the Cuban standard NC-ISO/IEC 17025:2006 [4], with the institution operating to a Quality Management System according to NC-ISO 9001:2001 [5].

The performance of the laboratories was evaluated according to the scope of each type of measurement, their calibration and measurement capabilities with their associated uncertainties, the traceability of their standards, and the evidence of their performance according to the records of the Quality Management System.

The impact of this result on these Institutions becomes evident through the increasing confidence in their work, as befits their status as NIMs of the Republic of Cuba, in their respective fields of work. Concerning the economy, it means sustainable confidence in the services offered and a guarantee of traceability for the quantities and measurements included in their scope.



A rigorous fuel service in our network of filling stations

In Cuba, most filling stations have the latest generation of automatic fuel-pumping equipment. Until then, the error of fuel delivery was not greater than 1 %, in line with the current standard. This value has been reviewed, since new equipment has an error of up to 0.5 %. Metrology helped us resolve this problem to avoid fuel losses due to excess delivery. The review allowed us to align the error to the metrological and functional characteristics of the new equipment and guarantee both the accuracy of measurements and a proper fuel delivery rate for the benefit of consumer protection and the reduction of waste. For example, there are around 680 ADC in Havana alone, each with an average daily delivery rate of 2 000 L. Considering an error of 0.5 %, 6 800 L of fuel could be saved every day as a direct result of the increased accuracy of the measurement.

Dependability of the measuring instrument for the weighing of goods

The weighing of export and import goods in our ports is usually done using Type III weighbridges of 60 T, with a range of 10 to 40 T for the gross weight of the goods plus the vehicle. For this category and working range, the permissible difference with respect to the nominal weight is in the order of 40 kg in each weighing run, in line with the relevant standard for these instruments.

A small 10 000 T ship using an articulated vehicle with a 20 T capacity to load and unload merchandise would require at least 500 trips, with a likely weight difference of 20 T starting from the considered capacity.

If we combine these elements into a concrete example, a product worth $600 per ton on a ship with a 10 000 T capacity and a fit-for-use weighing instrument would bring about a difference of $12 000 for each shipment delivered or received.

This example proves metrology's economic impact on both export and import trade, and there could be greater losses if the weighing instruments are not duly verified by a competent body, as well as on resource management.

We finish with the presentation of the poster issued by the BIPM in 2008 [6] to commemorate World Metrology Day, where we can see how metrology affects sports, of special importance for the Olympic Games in Beijing, China, this year.

Acknowledgment

The authors extend their thanks to Dr. C. José I. Franco and Lic. Augusto Maury Toledo, Heads of the Volume and Mass Laboratories, respectively, for their contribution to our paper. ■

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[5] NC-ISO 9001, *Quality Management Systems – Requirements*, 2001

[6] BIPM: *Metrology. Measurements in sports*. Poster for World Metrology Day, http://www.bipm.org, 2008

OIML Certificate System:
Certificates registered 2008.02–2008.07
Up to date information (including B 3): www.oiml.org

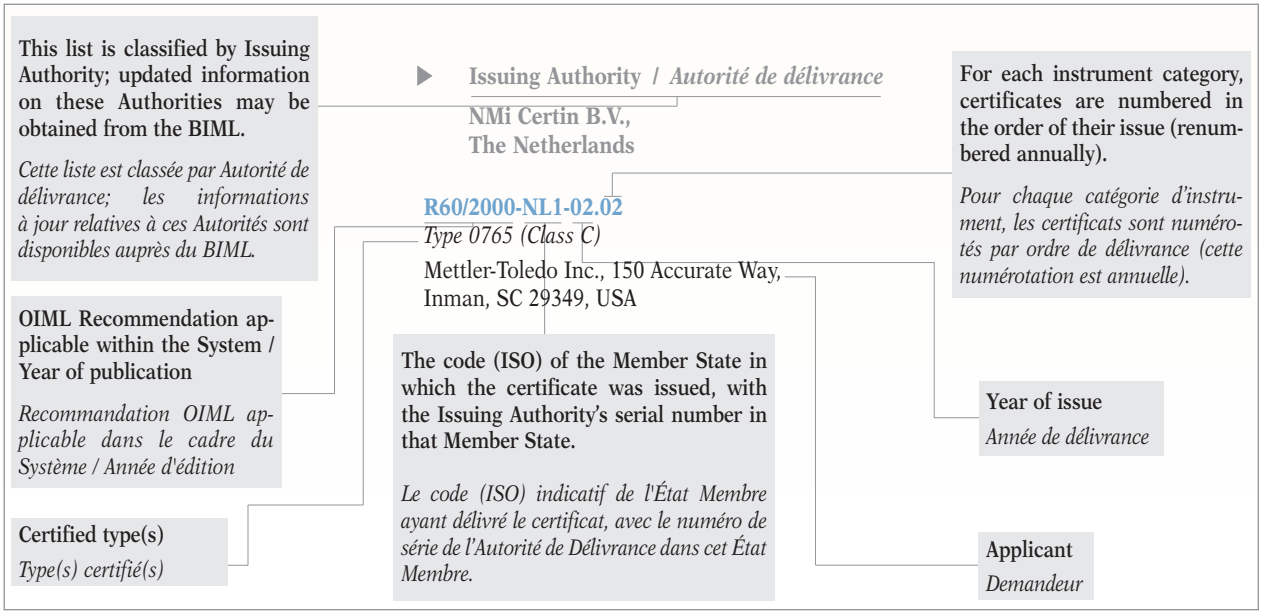
The *OIML Certificate System for Measuring Instruments* was introduced in 1991 to facilitate administrative procedures and lower costs associated with the international trade of measuring instruments subject to legal requirements.

The System provides the possibility for a manufacturer to obtain an OIML Certificate and a test report indicating that a given instrument type complies with the requirements of relevant OIML International Recommendations.

Certificates are delivered by OIML Member States that have established one or several Issuing Authorities responsible for processing applications by manufacturers wishing to have their instrument types certified.

The rules and conditions for the application, issuing and use of OIML Certificates are included in the 2003 edition of OIML B 3 *OIML Certificate System for Measuring Instruments*.

OIML Certificates are accepted by national metrology services on a voluntary basis, and as the climate for mutual confidence and recognition of test results develops between OIML Members, the OIML Certificate System serves to simplify the type approval process for manufacturers and metrology authorities by eliminating costly duplication of application and test procedures. ■



Système de Certificats OIML:
Certificats enregistrés 2008.02–2008.07
Informations à jour (y compris le B 3): www.oiml.org

Le *Système de Certificats OIML pour les Instruments de Mesure* a été introduit en 1991 afin de faciliter les procédures administratives et d'abaisser les coûts liés au commerce international des instruments de mesure soumis aux exigences légales.

Le Système permet à un constructeur d'obtenir un certificat OIML et un rapport d'essai indiquant qu'un type d'instrument satisfait aux exigences des Recommandations OIML applicables.

Les certificats sont délivrés par les États Membres de l'OIML, qui ont établi une ou plusieurs autorités de délivrance responsables du traitement des demandes présentées par des constructeurs souhaitant voir certifier leurs types d'instruments.

Les règles et conditions pour la demande, la délivrance et l'utilisation de Certificats OIML sont définies dans l'édition 2003 de la Publication B 3 *Système de Certificats OIML pour les Instruments de Mesure.*

Les services nationaux de métrologie légale peuvent accepter les certificats sur une base volontaire; avec le développement entre Membres OIML d'un climat de confiance mutuelle et de reconnaissance des résultats d'essais, le Système simplifie les processus d'approbation de type pour les constructeurs et les autorités métrologiques par l'élimination des répétitions coûteuses dans les procédures de demande et d'essai. ■

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Water meters intended for the metering of cold potable water
Compteurs d'eau destinés au mesurage de l'eau potable froide

R 49 (2006)

▶ **Issuing Authority / *Autorité de délivrance***
Office Fédéral de Métrologie METAS, Switzerland

R049/2006-CH1-2007.01
Family of electromagnetic flow meters intended for the metering of cold water - Type: AMFLO MAG Pro
AQUAMETRO AG, Ringstrasse 75, CH-4106 Therwil, Switzerland

R049/2006-CH1-2007.02
Family of electromagnetic flow meters intended for the metering of cold water - Type: ISOMAG
Hemina SpA, Via Frassenara 21/a, I-35044 Montagnana (Pd), Italy

R049/2006-CH1-2007.03
Family of electromagnetic flow meters intended for the metering of cold water - Type: ISOMAG
Isoil Industria SpA, Via F.lli Gracchi 27, I-20092 Cinisello Balsamo (MI), Italy

R049/2006-CH1-2007.04
Concentric multi-jet impeller meter intended for the metering of cold and hot water (T30/T90) - Type: Messkapsel Vario S and Messkapsel Data
E. WEHRLE GmbH, Obertalstrasse 8, D-78120 Furtwangen, Germany

R049/2006-CH1-2007.05
Concentric multi-jet impeller meter intended for the metering of cold and hot water (T30/T90) - Type: Messkapsel Vario S2" and Messkapsel Data 2" MTK-OZX IE, MTW-OZX IE
E. WEHRLE GmbH, Obertalstrasse 8, D-78120 Furtwangen, Germany

R049/2006-CH1-2008.01
Multi-jet Wet-rotor meter intended for the metering of cold and warm water (T30/T50) - Type MNK-HWV SC, MNK-SWV SC, MNK-FWV SC, MNK-HWN SC, MNK-SWN SC, MNK-FWN SC, MSK-HWV SC, MSK-SWV SC, MSK-FWV SC, MSK-HWN SC, MSK-SWN SC, MSK-FWN SC
E. WEHRLE GmbH, Obertalstrasse 8, D-78120 Furtwangen, Germany

R049/2006-CH1-2008.02
Multi-jet dry-rotor meter intended for the metering of cold and hot water (T30/T50/T70/T90) - Type MTK-HWV, MTK-SWV, MTK-FWV, MTK-HWX, MTK-SWX, MTK-FWX, MTK-HWK, MTK-SWK, MTK-FWK, MTW-HWV, MTW-SWV, MTW-FWV, MTW-HWX, MTW-SWX, MTW-FWX, MTW-HWK, MTW-SWK, MTW-FWK
E. WEHRLE GmbH, Obertalstrasse 8, D-78120 Furtwangen, Germany

▶ **Issuing Authority / *Autorité de délivrance***
Laboratoire National de Métrologie et d'Essais, Certification Instruments de Mesure, France

R049/2006-FR2-2008.01
Water meter Type M-MKE
Hydrometer GmbH, Industriestrasse 13, D-91522 Ansbach, Germany

▶ **Issuing Authority / *Autorité de délivrance***
National Weights and Measures Laboratory (NWML), United Kingdom

R049/2006-GB1-2007.01
Family of cold-water meters utilising a common, volumetric measuring element, with a nominal capacity of 36 revs/litre and having a rated permanent flowrate Q_3 of 2.5 m^3/h.
Elster Metering Ltd., Pondwicks Road, Luton, Bedfordshire LU1 3LJ, United Kingdom

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Automatic catchweighing instruments
Instruments de pesage trieurs-étiqueteurs à fonctionnement automatique

R 51 (2006)

▶ **Issuing Authority / *Autorité de délivrance***
National Weights and Measures Laboratory (NWML), United Kingdom

R051/2006-GB1-2008.01
CW3 Checkweigher
Loma Systems Group and ITW Group, Southwood, Farnborough, Hampshire GU14 0NY, United Kingdom

Issuing Authority / *Autorité de délivrance*

Physikalisch-Technische Bundesanstalt (PTB), Germany

R051/2006-DE1-2008.01
Automatic catchweighing instrument - Type: PAW 2000
Leich und Mehl und Co. GmbH, Porschestrasse 7, D-71394 Kernen in Remstal, Germany

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Metrological regulation for load cells (applicable to analog and/or digital load cells)
Réglementation métrologique des cellules de pesée (applicable aux cellules de pesée à affichage analogique et/ou numérique)

R 60 (2000)

Issuing Authority / *Autorité de délivrance*

National Weights and Measures Laboratory (NWML), United Kingdom

R060/2000-GB1-2007.05 Rev. 1
Steel compression (beam) strain gauge load cell
I.P.A. Pvt. Ltd., 472/B2, 12th Cross, IV Phase, Peenya Industrial Area, 560 058 Bangalore, India

R060/2000-GB1-2008.01
Stainless steel tension shear beam strain gauge load cell
Gicam S.N.C Di Carrara Danilo & Co., L.go C. Battisti, 9, Piazza XI Febbraio, 2, I-22015 Gravedona (CO), Italy

R060/2000-GB1-2008.02
Tool steel double ended beam strain gauge load cell
Gicam S.N.C Di Carrara Danilo & Co., L.go C. Battisti, 9, Piazza XI Febbraio, 2, I-22015 Gravedona (CO), Italy

R060/2000-GB1-2008.03
Tool steel bendig beam train gauge load cell
Gicam S.N.C Di Carrara Danilo & Co., L.go C. Battisti, 9, Piazza XI Febbraio, 2, I-22015 Gravedona (CO), Italy

R060/2000-GB1-2008.04
Tool steel shear beam strain gauge load cell
Gicam S.N.C Di Carrara Danilo & Co., L.go C. Battisti, 9, Piazza XI Febbraio, 2, I-22015 Gravedona (CO), Italy

Issuing Authority / *Autorité de délivrance*

NMi Certin B.V., The Netherlands

R060/2000-NL1-2006.12 Rev. 1
A Digital bending beam load cell - Type: FIT/5...
Hottinger Baldwin Messtechnik GmbH, Im Tiefen See 45, D-64293 Darmstadt, Germany

R060/2000-NL1-2008.01
A shear beam load cell - Type: SK30X... and SK30A...
Scaime S.A.S, Le Bois de Juvigny, B.P. 501, F-74105 Annemasse Cedex, France

R060/2000-NL1-2008.03
A shear beam load cell - Type FTK
Laumas Elettronica S.r.l., Via Primo Maggio n.6, I-43030 Basilicanova Parma, Italy

R060/2000-NL1-2008.06
A shear beam load cell - Type: BC6 and BC6A
Lahti Precision Oy, Ahjokatu 4 A, FIN-15800 Lahti, Finland

Issuing Authority / *Autorité de délivrance*

Physikalisch-Technische Bundesanstalt (PTB), Germany

R060/2000-DE1-2008.02
Strain gauge shear beam load cell - Type: TS 14
Gicam S.N.C Di Carrara Danilo & Co, L.go C. Battisti, 9, Piazza XI Febbraio, 2, I-22015 Gravedona (CO), Italy

R060/2000-DE1-2008.03
Single-Point load cell - Type: TA-6
Gicam S.N.C Di Carrara Danilo & Co, L.go C. Battisti, 9, Piazza XI Febbraio, 2, I-22015 Gravedona (CO), Italy

Issuing Authority / *Autorité de délivrance*

OIML Chinese Secretariat, State General Administration for Quality Supervision and Inspection and Quarantine (AQSIQ), China

R060/2000-CN1-2007.01
Load Cell - LC-E (NH)
Qingdao Tongle Electronic Technology Co. Ltd., Tonghe Office Industrial Zone, Pingdu City, 266706 Shandong Prov., P.R. China

R060/2000-CN1-2007.02
Load Cell - CZL601 NH

Dongguan South China Sea Electronic Company Ltd., Dashen Industrial Estate, Mayong Town, Dongguan City, 523136 Guangdong, P.R. China

R060/2000-CN1-2007.03
Load Cell CZL803 NH

Dongguan South China Sea Electronic Company Ltd., Dashen Industrial Estate, Mayong Town, Dongguan City, 523136 Guangdong, P.R. China

R060/2000-CN1-2007.04
Load Cell - MB35D1, MB35C3

Hottinger Baldwin Measurement (Suzhou) Co. Ltd., 106 Hengshan Road, 215009 Suzhou, P.R. China

R060/2000-CN1-2007.05
Load Cell - S40

Hottinger Baldwin Measurement (Suzhou) Co. Ltd., 106 Hengshan Road, 215009 Suzhou, P.R. China

R060/2000-CN1-2007.06
Load Cell - YZC-1B

Guang Zhou Electrical Measuring Instruments factory, No. 1 South Lijiao Da Dao, Guangzhou, P.R. China

R060/2000-CN1-2008.01
Load Cell - LC-A (NH)

Qingdao Tongle Electronic Technology Co. Ltd., Tonghe Office Industrial Zone, Pingdu City, 266706 Shandong Prov., P.R. China

R060/2000-CN1-2008.02
Load Cell - LC-B (NH)

Qingdao Tongle Electronic Technology Co. Ltd., Tonghe Office Industrial Zone, Pingdu City, 266706 Shandong Prov., P.R. China

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Nonautomatic weighing instruments
Instruments de pesage à fonctionnement non automatique

R 76-1 (1992), R 76-2 (1993)

▶ **Issuing Authority / *Autorité de délivrance***

Korean Agency for Technology and Standards, (KATS), Republic of Korea

R076/1992-KR1-2007.01
INBODY 520

BIOSPACE Co. Ltd., F, 518-10, Dogok 2-dong, Gangnam-gu, 135-854 Seoul, Korea (R.)

▶ **Issuing Authority / *Autorité de délivrance***

National Measurement Institute (NMI), Australia

R076/1992-AU1-2002.01 Rev. 3
Datalogic Scanning Model Magelian 8502, 9502 and 8504 Weighing Instruments

Datalogic Scanning, Inc., 959 Terry Street, Eugene, Oregon 97402, Eugene, United States

▶ **Issuing Authority / *Autorité de délivrance***

International Metrology Cooperation Office, National Metrology Institute of Japan (NMIJ) National Institute of Advanced Industrial Science and Technology (AIST), Japan

R076/1992-JP1-2008.01
Type SJ-.../ SJ-12K

A&D Company Ltd., 3-23-14 Higashi-Ikebukuro, Toshima-Ku, 170-0013 Tokyo, Japan

▶ **Issuing Authority / *Autorité de délivrance***

National Weights and Measures Laboratory (NWML), United Kingdom

R076/1992-GB1-2007.08 Rev. 3
IM Series, Models IM 100, IM 202, IM 300, IM 400 and IM 500 non-automatic weighing instruments

Avery Berkel Ltd., Foundry Lane, Smethwick, Warley, West Midlands B67 9DF, United Kingdom

R076/1992-GB1-2008.01
Torrey TLS-20 and TLS-40
Fabricantes De Basculas Torrey S.A. De C.V., Los Andes 605, Col. Coyoacan, Monterrey, N.L., C.P. 64510, Mexico

R076/1992-GB1-2008.02
Torrey L-EQ and EQ
Fabricantes De Basculas Torrey S.A. De C.V., Los Andes 605, Col. Coyoacan, Monterrey, N.L., C.P. 64510, Mexico

R076/1992-GB1-2008.03
Non-automatic weighing instrument comprising the D70b weight indicator connected to a load receptor
Societa Cooperativa Bilanciai r.l, Via S. Ferrari 16, I-41011 Modena, Italy

R076/1992-GB1-2008.04
Charder 7725 Baby weigher
Charder Electronic Co. Ltd., 103, Kuo Chung Road, Dah Li City, Taichung Hsien 412, Chinese Taipei

R076/1992-GB1-2008.05
Non-automatic weighing instrument comprising the #821E weight indicator connected to a compatible load cell
Ryco Equipment Inc., 6810 220th Street SW, Mountlake Terrace, WA 98043 Belllingham, United States

Issuing Authority / *Autorité de délivrance*
NMi Certin B.V., The Netherlands

R076/1992-NL1-1998.15 Rev. 1
Non-automatic weighing instrument - Family of type: HS-series
CAS Corporation, # 19 Kanap-ri, Gwangjuk-Myoun, Yangju-Si, 482-841 Gyeonggi-Do, Korea (R.)

R076/1992-NL1-2004.15 Rev. 1
Non-automatic weighing instrument - Type POScale
CAS Corporation, # 19 Kanap-ri, Gwangjuk-Myoun, Yangju-Si, 482-841 Gyeonggi-Do, Korea (R.)

R076/1992-NL1-2005.06 Rev. 1
Non-automatic weighing instrument - Type: XS..., XP... or QD...
Mettler-Toledo GmbH, Im Langacher, CH-8606 Greifensee, Switzerland

R076/1992-NL1-2006.04 Rev. 1
Non-automatic weighing instrument - Family of type: CL5000 Series
CAS Corporation, # 19 Kanap-ri, Gwangjuk-Myoun, Yangju-Si, 482-841 Gyeonggi-Do, Korea (R.)

R076/1992-NL1-2007.20 Rev. 1
Non-automatic weighing instrument - Type: RN20../Viva..
Mettler-Toledo (Changzhou) Measurement Technology Ltd., No. 1111, West TaiHu Road, ChangZhou XinBei District, 213125 Jiangsu, P.R. China

R076/1992-NL1-2007.39 Rev. 1
Non-automatic weighing instrument - Type: Spider SW, BC, FC and SC IND4..., IND4x9...
Mettler-Toledo GmbH, Unter dem Malesfelden 34, D-72458 Albstadt, Germany

R076/1992-NL1-2008.01
Non-automatic weighing instrument - Type: DS-162SS S-GE
Shanghai Teraoka Electronic Co. Ltd., Tinglin Industry Developmental Zone, Jin Shan District, 201505 Shanghai, P.R. China

R076/1992-NL1-2008.02
Non-automatic weighing instrument - Type: SM-500
Teraoka Weigh-System PTE LTD., 4 Leng Kee Road, #06-01 SIS Building, 159088 Singapore, Singapore

R076/1992-NL1-2008.03
Non-automatic weighing instrument - Type: QHW/QSP/QTP
Taiwan Scale Mfg. Co. Ltd., 282, Sec. 3, Hoping W. Road, 215337 Taipei, Chinese Taipei

R076/1992-NL1-2008.04
Non-automatic weighing instrument - Type: Pioneer series
Ohaus Corporation, 19A Chapin Road, NJ 07058, New Jersey, Pine Brook, New Jersey, United States

R076/1992-NL1-2008.05 Rev. 1
Non-automatic weighing instrument - Type: FMP-PL60, FMP-PL61, FMP-PL62, FP-310, FP-311 and FP-312
Fook Tin Technologies Ltd., 4/F Eastern Center, 1065 King's Road, Quarry Bay, Hong Kong

R076/1992-NL1-2008.06
Non-automatic weighing instrument - Type: DS-162HD
Shanghai Teraoka Electronic Co. Ltd., Tinglin Industry Developmental Zone, Jin Shan District, 201505 Shanghai, P.R. China

R076/1992-NL1-2008.08
Non-automatic weighing instrument - Type: K-series
Dibal S.A., Astinze Kalea, 24 Pol. Ind. Neinver,
E-48160 Derio (Bilbao-Vizcaya), Spain

R076/1992-NL1-2008.09
Non-automatic weighing instrument - Type: InBody 230
BIOSPACE Co. Ltd., F, 518-10, Dogok 2-dong,
Gangnam-gu, 135-854 Seoul, Korea (R.)

R076/1992-NL1-2008.10
Non-automatic weighing instrument - Type: ECO
Grupo Epelsa, S.L. or EXA, Ctra. Sta. Cruz de Calafell,
35 km. 9,400, Sant Boi de Llobregat,
E-08830 Sant Boi de Llobregat - Barcelona, Spain

R076/1992-NL1-2008.13
Non-automatic weighing instrument - Type: GZII/GZH
Shinko Denshi Co. Ltd., 3-9-11 Yushima, Bunkyo-ku,
113-0034 Tokyo, Japan

R076/1992-NL1-2008.14
Non-automatic weighing instrument - Type: SUP-xxS
Shang Chuen Weighing Machine Co. Ltd., No. 53,
Liao-Yang 4th St., Taichung City 406, Chinese Taipei

R076/1992-NL1-2008.15
Non-automatic weighing instrument - Type: DS-700E
Shanghai Teraoka Electronic Co. Ltd., Tinglin Industry
Developmental Zone, Jin Shan District,
201505 Shanghai, P.R. China

R076/1992-NL1-2008.16
Non-automatic weighing instrument - Type: DS-700...
Shanghai Teraoka Electronic Co. Ltd., Tinglin Industry
Developmental Zone, Jin Shan District,
201505 Shanghai, P.R. China

R076/1992-NL1-2008.17
Non-automatic weighing instrument - Type: RM-40II
Shanghai Teraoka Electronic Co. Ltd., Tinglin Industry
Developmental Zone, Jin Shan District,
201505 Shanghai, P.R. China

R076/1992-NL1-2008.21
Non-automatic weighing instrument -
Type: 8442 (Tiger P)
Mettler-Toledo (Changzhou) Scale & System Ltd.,
No. 10 Kunlan Road, Changzhou XinBei District,
213125 Jiangsu, P.R. China

▶ **Issuing Authority / *Autorité de délivrance***
Physikalisch-Technische Bundesanstalt (PTB), Germany

R076/1992-DE1-2008.02
Non-automatic electromechanical weighing instrument for persons - Types: M799x0, M877x0, M899x0, M799x1, M877x1
SECA GmBH & Co. kg., Hammer Steindamm 9-25,
D-22089 Hamburg, Germany

▶ **Issuing Authority / *Autorité de délivrance***
OIML Chinese Secretariat,
State General Administration for Quality Supervision and Inspection and Quarantine (AQSIQ), China

R076/1992-CN1-2007.01
Barcode Label Scale - Type LS2615E-LS2615EC, LS21530E-LS21530EC, LS215E-LS215EC
Xiamen Pinnacle Electrical Co. Ltd., 4F, Guangxia
Building, North High-Tech Zone, Xiamen, Fujian,
P.R. China

▶ **Issuing Authority / *Autorité de délivrance***
DANAK The Danish Accreditation and Metrology Fund, Denmark

R076/1992-DK1-2001.02 Rev. 2
Non-automatic weighing instrument -
Type: 200, 205, 210, 210-FE, 215, or 220
Cardinal Scale Manufacturing Co.,
203 East Daugherty St., P.O. Box 151, 64870 Missouri,
Webb City, Missouri, United States

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Fuel dispensers for motor vehicles
Distributeurs de carburant pour véhicules à moteur

R 117 (1995) + R 118 (1995)

▶ Issuing Authority / *Autorité de délivrance*

International Metrology Cooperation Office, National Metrology Institute of Japan (NMIJ) National Institute of Advanced Industrial Science and Technology (AIST), Japan

R117/1995-JP1-2008.01
Fuel dispenser for motor vehicles, SNS/Space-fill system series

Tatsuno Corporation Tokyo, 2-12-13, Shibaura Minato-ku, 108-8520 Tokyo, Japan

▶ Issuing Authority / *Autorité de délivrance*

NMi Certin B.V., The Netherlands

R117/1995-NL1-2008.02
Fuel dispensers for motor vehicles, model "Global Vision" with a Q_{max} of 40, 70, 90, or 130 L/min. In case of blending the Q_{max} is 40 L/min

Dresser Industria e Comercio Ltda, Wayne Division, Estrada do Timbo, 126, Higienopolis, Rio de Janeiro - RJ, Brazil

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Evidential breath analyzers
Éthylomètres

R 126 (1998)

▶ Issuing Authority / *Autorité de délivrance*

Centro Español de Metrologia, Spain

R126/1998-ES1-2008.01
Etilometro/evidential breath analyzer. New battery pack model VLT 80, 80 W power supply

Gruppo Itturi S.A., Roberto Osborne 5, E-41007 Sevilla, Spain

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Multi-dimensional measuring instruments
Instruments de mesure multidimensionnels

R 129 (2000)

▶ Issuing Authority / *Autorité de délivrance*

Physikalisch-Technische Bundesanstalt (PTB), Germany

R129/2000-DE1-2007.01
Mehrdimensionales Messgerät - Type: Volumec HS2s

VITRONIC Dr.-Ing. Stein Bildverarbeitungssysteme GmbH, Hasengartenstrasse 14, D-65189 Wiesbaden, Germany

R129/2000-DE1-2008.01
Multi-dimensional measuring instrument - Type: APACHE portal LFT

AKL-tec GmbH, Boehlstrasse 7, D-57518 Alsdorf, Germany

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Automatic instruments for weighing road vehicles in motion
Instruments à fonctionnement automatique pour le pesage des véhicules routiers en mouvement

R 134 (2003)

▶ Issuing Authority / *Autorité de délivrance*

NMi Certin B.V., The Netherlands

R134/2003-NL1-2008.01
Automatic instrument for weighing road vehicles in motion. Total vehicle weighing - Type: DINA 3

Dinamica Generale s.r.l, Via Mondadori 15, I-46025, Poggio Rusco, Italy

OIML Certificates, Issuing Authorities, Categories, Recipients:

www.oiml.org

OIML CERTIFICATE SYSTEM

List of OIML Issuing Authorities (by Country)

*The list of OIML Issuing Authorities is published in each issue of the OIML Bulletin. For more details, please refer to our web site: www.oiml.org/certificates. There is one change (RU1) since the April 2008 issue of the Bulletin, marked in **red**.*

AUSTRALIA

AU1 - National Measurement Institute	R 49	R 50	R 51	R 60	R 76	R 85
	R 106	R 107	R 117/118	R 126	R 129	

AUSTRIA

AT1 - Bundesamt für Eich- und Vermessungswesen	R 50	R 51	R 58	R 61	R 76	R 85
	R 88	R 97	R 98	R 102	R 104	R 106
	R 107	R 110	R 114	R 115	R 117/118	

BELGIUM

BE1 - Metrology Division	R 76	R 97	R 98

BRAZIL

BR1 - Instituto Nacional de Metrologia, Normalização e Qualidade Industrial	R 76

BULGARIA

BG1 - State Agency for Metrology and Technical Surveillance	R 76	R 98

CHINA

CN1 - State General Administration for Quality Supervision and Inspection and Quarantine	R 60	R 76	R 97	R 98

CZECH REPUBLIC

CZ1 - Czech Metrology Institute	R 49	R 76	R 81	R 85	R 105	R 117/118

DENMARK

DK1 - The Danish Accreditation and Metrology Fund	R 50	R 51	R 60	R 61	R 76	R 98
	R 105	R 106	R 107	R 117/118	R 129	
DK2 - FORCE Technology, FORCE-Dantest CERT	R 49					

FINLAND

FI1 - Inspecta Oy	R 50	R 51	R 60	R 61	R 76	R 85
	R 106	R 107	R 117/118			

FRANCE

FR1 - Bureau de la Métrologie	*All activities and responsibilities were transferred to FR2 in 2003*
FR2 - Laboratoire National de Métrologie et d'Essais	R 31 R 49 R 50 R 51 R 58 R 60 R 61 R 76 R 85 R 88 R 97 R 98 R 102 R 105 R 106 R 107 R 110 R 114 R 115 R 117/118 R 126 R 129

GERMANY

DE1 - Physikalisch-Technische Bundesanstalt (PTB)	R 16 R 31 R 49 R 50 R 51 R 58 R 60 R 61 R 76 R 88 R 97 R 98 R 102 R 104 R 105 R 106 R 107 R 110 R 114 R 115 R 117/118 R 128 R 129 R 133 R 136

HUNGARY

HU1 - Országos Mérésügyi Hivatal	R 76

JAPAN

JP1 - National Metrology Institute of Japan	R 60 R 76 R 115 R 117/118

KOREA (R.)

KR1 - Korean Agency for Technology and Standards	R 76

THE NETHERLANDS

NL1 - NMi Certin B.V.	R 31 R 49 R 50 R 51 R 60 R 61 R 76 R 81 R 85 R 97 R 105 R 106 R 107 R 117/118 R 126 R 129 R 134

NEW ZEALAND

NZ1 - Ministry of Consumer Affairs, Measurement and Product Safety Service	R 76

NORWAY

NO1 - Norwegian Metrology Service	R 50 R 51 R 61 R 76 R 105 R 106 R 107 R 117/118 R 129

POLAND

PL1 - Central Office of Measures	R 76 R 98 R 102

ROMANIA

RO1 - Romanian Bureau of Legal Metrology	R 97 R 98 R 110 R 114 R 115

RUSSIAN FEDERATION

RU1 - Russian Research Institute for Metrological Service	R 31	R 50	R 51	R 58	R 60
	R 61	R 76	R 85	R 88	R 93
	R 97	R 98	R 102	R 104	R 105
	R 106	R 107	R 110	R 112	R 113
	R 114	R 115	R 117/118	R 122	R 126
	R 128	R 129	R 133	**R 134**	

SLOVAKIA

SK1 - Slovak Legal Metrology (Banska Bystrica)	R 49	R 76	R 117/118		

SLOVENIA

SI1 - Metrology Institute of the Republic of Slovenia	R 76				

SPAIN

ES1 - Centro Español de Metrología	R 51	R 60	R 61	R 76	R 97
	R 98	R 126			

SWEDEN

SE1 - Swedish National Testing and Research Institute AB	R 50	R 51	R 60	R 61	R 76
	R 85	R 98	R 106	R 107	R 117/118

SWITZERLAND

CH1 - Federal Office of Metrology METAS	R 16	R 31	R 49	R 50	R 51
	R 60	R 61	R 76	R 97	R 98
	R 105	R 106	R 107	R 117/118	

UNITED KINGDOM

GB1 - National Weights and Measures Laboratory	R 49	R 50	R 51	R 60	R 61
	R 76	R 85	R 98	R 105	R 106
	R 107	R 117/118	R 129	R 134	
GB2 - National Physical Laboratory	R 97				

UNITED STATES

US1 - NCWM, Inc.	R 60	R 76			

VIETNAM

VN1 - Directorate for Standards and Quality (STAMEQ)	R 76				

COFRAC

Accreditation formally recognized

DANIEL PIERRE
General Director, COFRAC

Good news indeed! The recent European regulation on accreditation (EC) No. 765/2008 of the European Parliament and of the Council of 9 July 2008[1] notably stipulates that:

- accreditation should be considered as a public service, and can be granted in both a voluntary and a mandatory manner;
- accreditation is a non profit-making activity and must not be of a commercial nature;
- there should be one (and only one) accreditation body per country, and competition between accreditors is prohibited;
- accreditation is recognized as the preferred means of proof of the competence of the conformity assessment bodies. Any EU Member State notifying to Brussels a non accredited conformity assessment body will have to provide justification as to the competence of the latter.

The European regulation also confirms the peer evaluation system set up by the EA (European cooperation for Accreditation) to harmonize accreditation practices and guarantee the equivalence of accreditations delivered within the European Union.

The consequences for Cofrac are on the one hand nil in terms of organization, but are on the other hand very significant in terms of national (and consequently international) recognitions.

Effectively, since its creation in 1994, the basis of Cofrac has been to uphold the recommendations provided at that time by the European Commission, that is to say it has always remained an independent and impartial, transparent and open national body (through the active participation of all interested parties), covering at the same time the voluntary and mandatory domains.

Since its creation, Cofrac has become well-known and successful, but its official recognition as a unique national accreditation body was not possible until its status of public accreditation service was acknowledged.

Consequently, the recognition of Cofrac as an accreditation body (but not as the national accreditation body) is still today ensured through a renewable agreement between the state and Cofrac, signed by six ministries. This status can now change, and a draft law has been drawn up in this respect; Cofrac can certainly be happy with this progress at European level which will perhaps also permit us to promote our concept of accreditation at the worldwide level. ■

[1] 765/2008: Setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) No. 339/93 (Official Journal of the European Union L 218/30-13.8.2008).

See also the decision No. 7638/2008/EC of the European Parliament and of the Council of 9 July 2008 on a common framework for the marketing of products, and repealing Council Decision 93/465/EEC (Official Journal of the European Union L 218/82-13.8.2008).

OIML TC/SC TRAINING

OIML TC/SC Secretariat Training – First session

8–11 April 2008

Ecole des Mines de Douai, France

RÉGINE GAUCHER – BIML
TC/SC Secretariat Training Manager
OIML TC 5/SC 3 Co-Secretariat
BIML Contact for certain TCs/SCs
MAA Project Leader

Introduction

Further to the conclusions of the March 2006 Presidential Council Meeting, the BIML was requested to schedule the organization of Training Seminars for the Secretariats of OIML Technical Committees and Subcommittees (TCs/SCs) in order to improve the efficiency and consistency of OIML technical work.

A formal BIML proposal recommending two types of training seminars was accepted by the Presidential Council in March 2007:

- A four-day extensive training session for OIML TC/SC Secretariats and conveners of Working Groups set up within OIML TCs/SCs; and
- A one-day general information seminar on OIML structures, systems and technical work for experts who participate in OIML work either at the national/regional level or at the international level. Such one-day seminars could be conducted in the various countries by CIML Members, and the BIML is developing training material which should be available in 2009.

The first four-day TC/SC Training Seminar session was held from 8 to 11 April 2008 at the Ecole des Mines in Douai, Northern France. This location was chosen due to its closeness to Paris and in particular the high speed rail link from central Paris and from CDG Airport, the accommodation and meeting room facilities, and very importantly the reasonable organization costs, all of which (including certain participants' travel) were borne by the BIML.

Twenty participants from among the 49 OIML TC/SC Secretariats attended the first session.

A further session should be organized in 2009 to train the remaining Secretariats, following which additional sessions should be organized every three years to train newly appointed TC/SC Secretariats and conveners of Working Groups and to maintain the level of competence of those experts who have already been trained. Depending on the location of participants, the venue could be adapted, in particular to reduce travel costs.

Goals and program

The main goals of the TC/SC Secretariat Training are the following:

- Reminder of OIML technical work and associated procedures (notably the Directives);
- Presentation of the changes to be implemented in OIML procedures to facilitate and speed up the technical work;
- Presentation of tools to assist TC/SC Secretariats in drawing up OIML Publications, in particular OIML Recommendations;
- OIML Documents to assist in developing requirements and tests in OIML Recommendations (e.g. OIML D 11, OIML Draft on "Software");
- Templates (e.g. Foreword format, Recommendation format, TC/SC voting form format); and
- Interactive workgroups for TCs/SCs to be managed by the TC/SC Secretariats.

The detailed Training Program for the First Session, established on the basis of these goals, is published on the next page.

One main issue worth highlighting is that practical exercises were included during the session. Four small groups were established, and each group was requested to draw up a particular section of an imaginary new OIML Recommendation. The measuring instrument chosen for this exercise was a speedometer.

One of the groups was requested to develop sections related to the requirements on maximum permissible errors and measurement uncertainties. Another was instructed to develop the relevant technical requirements, including software requirements. The last two groups had to draw up requirements related to influence factors and disturbances.

To facilitate this practical work, a Draft Recommendation Format was developed. This practical element was considered by the participants to be very

Training Session Program

1 Introduction and reminder of the goal of the training session

2 Individual presentations

3 Presentation of the OIML - What is legal metrology?

4 OIML Technical Work
- 4.1 The different kinds of OIML Publications
- 4.2 OIML Certificate System, MAA
- 4.3 Technical Committees (TC) and Sub-Committees (SC)
- 4.4 Participants in TCs/SCs

5 Reference documents to be used in the OIML Technical Work
- 5.1 The Directives for the OIML Technical Work
- 5.2 International Vocabularies (VIM and VIML) and Units (D 2)
- 5.3 ISO/IEC Standards and others
- 5.4 OIML D 11
- 5.5 Questions
- 5.6 Software requirements
- 5.7 Revision of the Directives for the OIML Technical Work
- 5.8 Questions

6 Technical work process
- 6.1 The different steps
- 6.2 Working Drafts (WD) and Committee Drafts (CD)
- 6.3 TC/SC meeting organization
- 6.4 Final step: Draft Publication
- 6.3 The use of electronic tools

7 Communication with the BIML - Reports to be submitted to the BIML and to the CIML

8 Uncertainties

9 Questions

10 Practical exercises (in small groups)
- 10.1 Introduction (goal, materials, task, presentation of the work to be done)
- 10.2 Work session
- 10.3 Report from the groups on their work
- 10.4 Debriefing

11 General comments and conclusions on the third day

12 Representation of stakeholders

13 OIML web site

14 Presentation of certain liaison organizations
- 14.1 Bureau International des Poids et Mesures (BIPM)
- 14.2 International Laboratory Accreditation Cooperation (ILAC) - International Accreditation Forum (IAF)
- 14.3 Presentation by a Regional Legal Metrology Organization
- 14.4 Standardization Organizations
- 14.5 Other Liaison Organizations

15 Conclusions and evaluation

Participants in the First Training Session

useful and instructive; they suggested that more time could be devoted to the exercises (see the summary of the Seminar Satisfaction Inquiry, below). The Draft Recommendation Format was considered as being very appropriate, and participants recommended making it available to all the TC/SC Secretariats.

Consequently, the Draft has been uploaded to the interactive TC/SC pages on the OIML web site (http://tcsc.oiml.org) under the heading "General Templates" (accessible to TC/SC Secretariats only).

The Draft Format comprises two documents:

- Part 1: Metrological and technical requirements combined with Part 2: Metrological controls and performance tests; and
- Part 3: Report format for type evaluation.

TC/SC Secretariats which start to develop new OIML Recommendations are invited to use these documents and to send any appropriate comments to the BIML in order to improve the Format. Whilst this Format does not yet have official status, considering the feedback received from the participants during the Training Session the BIML, with the support of a number of CIML Members, envisages proposing to set up an ad-hoc working group (in conjunction with the WG in charge of revising the Directives for the OIML Technical Work) to be responsible for developing an OIML Guide related to an OIML Recommendation Format. The work could start on the basis of the existing Draft Format together with the comments which will shortly be received from the Secretariats.

Feedback from participants

At the end of the Training Seminar, each participant was requested to fill in a Seminar Satisfaction Inquiry which focused on various aspects:

- General organization;
- Training contents;
- Training duration;
- Use of such a training;
- Training sections to be extended; and
- Training section to be withdrawn.

The results of this inquiry are summarized in the graphs below.

In addition to this inquiry, a round table led to the following conclusions:

- This Training Seminar is useful and should be periodically repeated in order to train newly appointed TC/SC Secretariats and to maintain the competence of TC/SC Secretariats. Detailed sessions such as the first one should be organized for beginners and in addition periodic maintenance sessions should be held;
- The Draft Recommendation Format is very helpful, in particular to guide Secretariats as to how to implement the appropriate requirements in the relevant sections. It is also a tool for harmonizing OIML Recommendations;
- Practical exercises and working in small groups are efficient methods and should be maintained in future sessions; and

Delegates were priviledged to be given a guided tour of the Bellfroy and Town Hall. Quentin Leriche, a bell-ringing scholar, gave us an enthusiastic and highly professional demonstration of the Douai "Carillon".

- Such a seminar is an ideal opportunity for TC/SC Secretariats to meet each other and to exchange information. Consequently, two goals may be combined: teaching and sharing experience.

Further developments

Taking the above feedback from participants into consideration, it has been decided to maintain these training sessions. Suggestions for improvement and proposals for associated actions could also be taken into account. Suggestions for improvement are:

- Practical sessions on the whole process (e.g. how to organize a meeting) to be included in the training;
- Clarifying in advance the scope of the practical exercises or deciding to include discussions of the scope in the practical exercises;
- Having all the small groups working on the same issues during the practical exercises to compare the

various approaches. Critical issues might be selected instead of whole sections;

- Conformity to type issues to be presented in the seminar;
- Adding in the Draft Recommendation Format guidance on the situations where the requirement is relevant; and
- Splitting the seminar into several modular sessions which could be planned one after the other.

Proposals for associated actions:

- Development of an OIML Guide for TC/SC Secretariats (similar to the existing *Guide for CIML Members*);
- BIML letter to be sent to newly appointed Secretariats to inform them of their responsibilities, existing training and available tools;
- Development of training material for TC/SC Secretariats, in particular to assist them in organizing TC/SC meetings, in summarizing comments received on Committee Drafts, etc.;
- Organization of specific training on software for experts involved in OIML technical work.

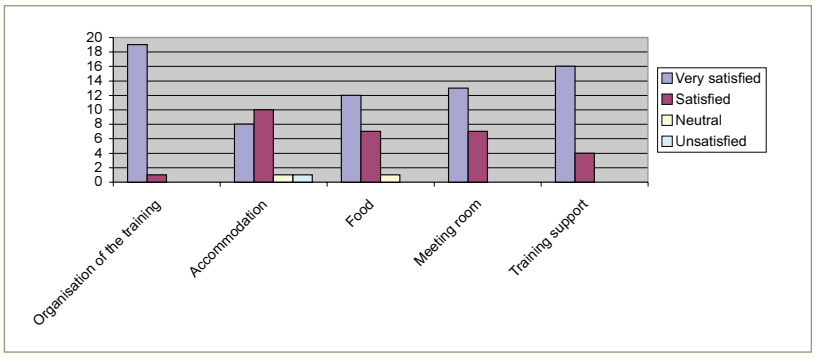
Concluding remarks

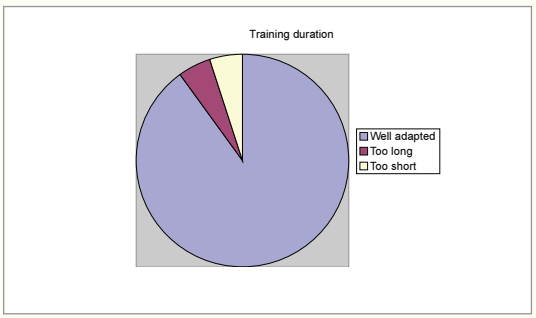
We can conclude that this Training Seminar has fulfilled participants' expectations and that the BIML should clearly continue with this activity.

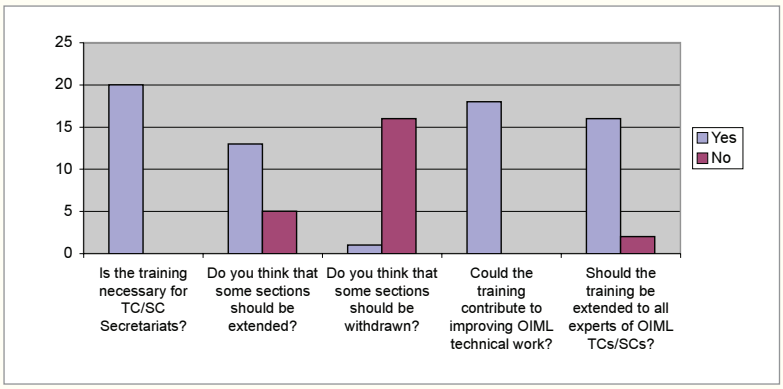
We would like to take the opportunity of this article to thank the speakers, the Ecole des Mines for its kind cooperation and the BIPM, IEC, ISO, ILAC and WELMEC for attending and giving presentations on their work.

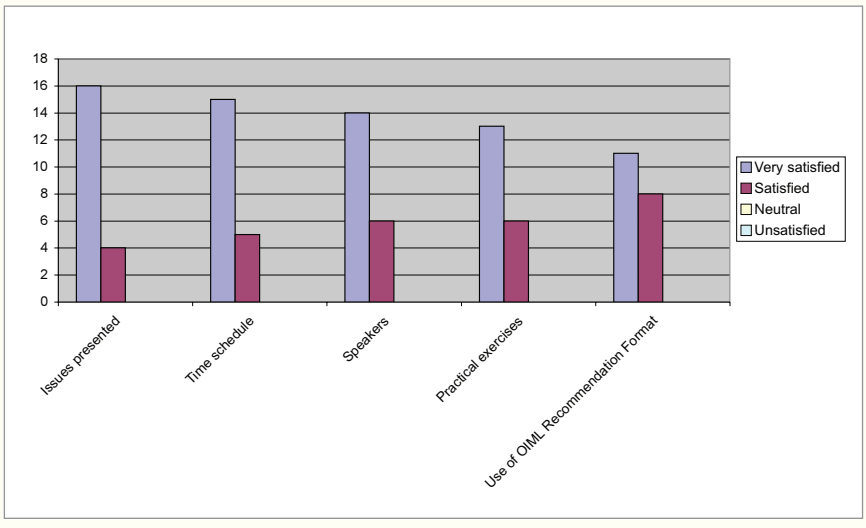
All in all the Training Seminar was a resounding success and we look forward to holding the next session in 2009. ■

Training Session Feedback









TC/SC MEETING

Meeting of OIML TC 3/SC 5

27–30 May 2008

BIPM (Sèvres - France)

RÉGINE GAUCHER
OIML TC 3/SC 5 Co-secretariat, BIML

1 Context and opening addresses

The context and the reasons for planning a four-day meeting were the following:

- To begin the revision of OIML B 3 *OIML Certificate System for Measuring Instruments*;
- To begin the revision of OIML B 10-1 *Framework for a Mutual Acceptance Arrangement on OIML Type Evaluations (MAA)*;
- To finalize the draft OIML Document related to the guidelines for the application of ISO/IEC Guide 65 to legal metrology (project p5);
- To finalize the draft OIML Document related to the guidelines for the application of ISO/IEC 17025 to legal metrology (project p4); and
- To define the scope of the OIML Publication to be developed on uncertainties by TC 3/SC 5 (project p2).

Several working documents had been drawn up in preparation for the discussions - these were available on the TC 3/SC 5 interactive pages of the OIML web site and all the participants confirmed that they had succeeded in downloading them. Included among these was a marked-up First Committee Draft (1CD) which had been drawn up to start the revision of OIML B 3.

For the revision of OIML B 10-1, it had been decided to prepare separate working documents on the main issues to be discussed; a 1CD would be drawn up after the meeting. Since the structure of the Publication would be profoundly changed, it might be difficult to prepare a marked-up version, and therefore a correspondence table would be compiled to facilitate the comparison.

2 Detailed agenda

1 Opening addresses from the Secretariat and the BIML
2 Roll call of experts and confirmation of heads of delegations
3 Approval of the agenda – other items to be added
4 Revision of OIML B 3: Requirements for designation of an OIML Issuing Authority
5 Revision of OIML B 3: Designation of OIML Issuing Authorities by Corresponding Members (special situations)
6 Revision of OIML B 3: Proposal for considering an OIML Type Evaluation as a type approval
7 Revision of OIML B 3: Revision of terminology
8 Revision of OIML B 3: Content of an OIML Test Report
9 Revision of OIML B 3: Content of an OIML Type Evaluation Report
10 Revision of OIML B 3: Modification of a Certificate
11 Revision of OIML B 3: Period of validity of OIML Certificates
12 Revision of OIML B 3: Fees for registration
13 Revision of OIML B 3: Transition period
14 Revision of OIML B 10-1: Evaluation of Issuing Participants in a Declaration of Mutual Confidence on the basis of ISO/IEC Guide 65
15 Revision of OIML B 10-2: Proposal for deleting B 10-2
16 Revision of OIML B 10-1: Operating rules for the Committees on Participation Review
17 Revision of OIML B 10-1: Keeping the alternative for evaluating conformity of Testing Laboratories to ISO/IEC 17025 (i.e. accreditation and peer assessments)
18 Revision of OIML B 10-1: Modification of an OIML Certificate (issued outside the MAA) by an Issuing Participant in a DoMC
19 Revision of OIML B 10-1: Taking into account test results from manufacturers
20 Revision of OIML B 10-1: Designation of a new OIML Issuing Authority for categories under a Declaration of Mutual Confidence
21 OIML TC 3/SC 5 project p4: Guide for the application of ISO/IEC 17025 to the assessment of testing laboratories involved in legal metrology testing
22 OIML TC 3/SC 5 project p5: Guide for the application of IEC/IEC Guide 65 to assessment of measuring instrument certification bodies in legal metrology
23 OIML TC 3/SC 5 project p2: Uncertainties
24 Closing session

The conclusions reached on Items 19 and 20 contributed to the final wording of the MAA Resolution to be submitted to the CIML for approval in Sydney in October 2008, as indicated in the decisions of the 42nd CIML Meeting (Shanghai, October 2007) under item 8.3.

3 Revision of OIML B 3

3.1 Requirements for the designation of an OIML Issuing Authority

Further to the preliminary discussions, it was concluded that:

- OIML B 3 should define the general requirements for the implementation of the OIML Certificate System;
- Additional (or other) requirements should be identified for the implementation of the MAA. Those requirements should be defined in the revision of OIML B 10. In fact the MAA should be considered as enhancing the OIML Certificate System.

An introduction should be included at the beginning of both documents to clarify this philosophy, and it was decided to refer to OIML Certificates either as ***OIML Basic Certificates*** (when issued under the OIML Basic Certificate System) or ***OIML MAA Certificates*** (when issued under the OIML MAA). It was additionally suggested to add flowcharts in the Publications to highlight the procedure in the case of the OIML Basic Certificate System and the differences in the case of the MAA.

In order to emphasize the above concept, the title of the revised OIML B 3 should be *OIML Basic Certificate System for OIML Type Evaluations*.

It was decided that the criteria applicable to OIML Issuing Authorities would remain unchanged. This means that the OIML Issuing Authority (which is responsible for the evaluation of the measuring instruments and for issuing the OIML Basic Evaluation Report) should demonstrate its competence, in particular on the basis of ISO/IEC Guide 65. However, participants agreed that the Member State should continue to informally evaluate the OIML Issuing Authority in order to promote harmonization in designating OIML Issuing Authorities. It was decided that this recommendation would be included in a note in the appropriate section of the 2CD together with examples for evaluations.

3.2 Terminology

Participants agreed that the scope of OIML B 3 should clearly indicate that conformity to type is not addressed in OIML B 3. Consequently, the Working Group on Conformity to Type should consider conformity to type from the very beginning (ability of the manufacturer to produce instruments which conform to the evaluated type).

It was agreed to extensively revise the entire "Terminology" section in particular to clarify the various steps of Type Evaluation of measuring instruments and the various types of documents issued depending on the steps and to avoid any confusion between documents issued under the OIML Basic Certificate System and the OIML MAA.

Examples:

OIML Type Evaluation

Type evaluation conducted on the basis of the relevant OIML Recommendation.

OIML Basic Certificate System

Voluntary system for issuing and using OIML Basic Type Evaluation Reports and associated OIML Basic Certificates of Conformity and for registering OIML Basic Certificates of Conformity.

OIML Basic Certificate of Conformity

Document issued under the rules of the OIML Basic Certificate System by the OIML Issuing Authority providing confidence that the identified type of measuring instrument or module is in conformity with the requirements of the relevant Recommendation.

Note: If the additional rules defined in OIML B 10 are also met, the Certificates issued are called "OIML MAA Certificates".

OIML Basic Type Evaluation Report

Report, issued by the OIML Issuing Authority, that assesses the conformity of the type of measuring instrument or module to all the requirements in the relevant OIML Recommendation.

Test Report

Report issued by a Testing Laboratory that includes results of tests and examinations carried out on the basis of the relevant OIML Recommendation during OIML Type Evaluation on identified sample(s) of a given type of measuring instrument or module.

OIML Issuing Authority

Certifying body or person in an OIML Member State, designated by its CIML Member, that issues OIML Basic Certificates of Conformity and OIML Basic Type Evaluation Reports according to the rules of the OIML Basic Certificate System.

3.3 Test Report and OIML Basic Evaluation Report

It was decided that the Test Report would not bear the OIML logo. The OIML logo should be affixed on the OIML Basic Type Evaluation Report and on the OIML Basic Certificate of Conformity. No other evaluation reports (even if issued on the basis of requirements of an OIML Recommendation) should bear the OIML logo.

3.4 Modification of a Certificate

Concerning the modification of a Certificate, it was clarified that it should be considered that the owner of the Certificate is the applicant and not the manufacturer according to the terminology used on the cover page of Certificates. It was also highlighted that the manufacturer should be considered as responsible for the design of the measuring instrument. It was pointed out that the manufacturer did not necessarily produce the instruments.

Participants agreed to include definitions of "manufacturer", "producer" and "applicant" in the next CD. European countries confirmed that clarification was needed since the same terms did not have the same meaning in the European Directive for Measuring Instruments (MID).

Several cases where the modification of a Certificate may be necessary were identified:

- ***A revision of a Certificate*** to correct an error made by the applicant or the OIML Issuing Authority or to modify the Certificate upon request of its owner, in particular when the certified type has been modified;
- ***A transfer of a Certificate*** when the name or address of the applicant is requested to be changed by a new applicant. The new applicant shall apply to the original OIML Issuing Authority for the transfer of the Certificate provided that the new applicant is also in possession of all of the appropriate technical documentation, and of the existing OIML Evaluation Report. The OIML Issuing Authority should make any necessary inquiry to ensure the validity of the transfer.
- ***An additional Certificate*** when a new applicant applies to the original Issuing Authority to issue an Additional Certificate to the one previously issued to the original applicant provided that the new applicant is also in possession of all the appropriate technical documentation and the existing OIML Evaluation Report. The OIML Issuing Authority should make any necessary inquiries to ensure the validity of the application.
- ***After revision of the relevant Recommendation*** for a given category of measuring instrument(s) for which Certificates may be issued, the owner of a Certificate issued on the basis of the previous edition of the relevant OIML Recommendation may apply for a new Certificate on the basis of the revised OIML Recommendation.

A revised wording of section 9 of OIML B 3 will be included in the 2CD on the basis of the above conclusions.

3.5 Period of validity of an OIML Certificate

Concerning the period of validity of OIML Certificates, participants decided to retain the current situation and not specify any period of validity.

3.6 Transition period

Discussions on the revision of OIML B 3 also covered the transition period during which it might be possible to apply for Certificates based either on the revised OIML Recommendation or on the previous edition (after the publication date of a revised Recommendation).

It was pointed out by participants that the "publication date" of an OIML Recommendation was neither defined nor recorded. Only the edition is available and recorded on the OIML web site. It was suggested that the "publication date" should be the date on which the OIML Recommendation is made available on the OIML web site. It was felt that the BIML should make this information available on the Publications page of the site.

It was also pointed out that countries might decide to keep their national regulation on the basis of a previous edition. Consequently, a transition period could be detrimental to them.

Therefore, participants agreed that a transition period might not be appropriate and suggested submitting two Resolutions to the CIML for approval at its 43rd CIML Meeting in October 2008 in order to improve the operating rules of the System and not delay the applicability of the Certificate System to new or revised OIML Recommendations. See accompanying Resolutions 2008/01 and 2008/02.

4 Revision of OIML B 10-1 and B 10-2

4.1 Evaluation of Issuing Participants in a Declaration of Mutual Confidence on the basis of ISO/IEC Guide 65

Several participants recalled that the MAA concerned test results and not evaluation conclusions. They suggested that no additional requirement to those

already defined in OIML B 3 (see above) should be defined. Consequently, participants decided to delete references to ISO/IEC Guide 65 in the revision of OIML B 10-1.

4.2 OIML B 10-2

The checklists of OIML B 10-2 were based on ISO/IEC Guide 65 requirements for OIML Issuing Authorities (section 3) and on ISO/IEC 17025 requirements for Testing Laboratories (section 4). When starting the implementation of the OIML MAA, these checklists were very helpful for OIML Issuing Authorities and their subcontracting Testing Laboratories to prepare their application files.

In the meantime OIML TC 3/SC 5 has developed two OIML Documents:

- Project p4: Guide for the application of ISO/IEC 17025 to the assessment of Testing Laboratories involved in legal metrology testing; and
- Project p5: Guide for the application of ISO/IEC Guide 65 to assessment of measuring instrument certification bodies in legal metrology.

In addition, the OIML has reinforced its cooperation with ILAC in order to increase consistency in the evaluation of Testing Laboratories within the MAA implementation. The goal was to guarantee the equivalency of assessments by accreditation and peer assessments. The two above OIML Documents, developed with the support of ILAC, were intended to achieve this objective.

Consequently, it was suggested to withdraw the checklists and to request Testing Laboratories to use ISO/IEC 17025 and the appropriate OIML Documents D XX (to be published after the 43rd CIML Meeting if approved) above to conduct and record the results of assessments.

The proposal to delete OIML B 10-2 was accepted.

In addition, participants agreed on the principle to develop an "assessment material set" in particular to assist assessors responsible for evaluating Testing Laboratories. Such an assessment material set would be developed independently of the OIML B 10 revision and could include:

- Assessment formats which would compile the text of the Standards (ISO/IEC Guide 65 and ISO/IEC 17025) and the text of the two OIML Documents related to the application of these Standards to legal metrology;
- An assessment report format;
- An assessment agenda format;
- General guidance on the use of these various formats;
- etc.

The fact was highlighted that some of these formats and guidance documents had already been developed to start the MAA implementation (assessment report format, assessment agenda format, OIML MAA 03 *The peer assessment process*, OIML MAA 04 *Guidelines for filling in the Peer Assessment Report*, OIML MAA 05 *Memo for Peer Assessment closure session*) and could be appropriately revised taking into account experience and be included in such an "assessment material set".

4.3 Operating rules of CPRs and DoMCs

Participants concluded that:

- It was not necessary to set up a horizontal CPR;
- One CPR per DoMC should be kept except in the case of closely related fields (e.g. R 60/R 76);
- In the event that there is more than one Participant (either Issuing or Utilizing) per country in a DoMC, each Participant might be represented in the relevant CPR;
- The rules defined in section 5 of OIML MAA 01 should be maintained for CPR decisions. They would be included in the revision of OIML B 10-1.

4.4 Keeping the alternative means for evaluating the conformity of Testing Laboratories to ISO/IEC 17025 (i.e. accreditation and peer assessment)

Participants agreed that the evaluation of the competence of Testing Laboratories through accreditation should be encouraged. Nevertheless, the alternative to use peer assessment should be kept.

Participants concluded that the revision of OIML B 10-1 should keep the alternative. In addition, they suggested requesting the Issuing Participant to be responsible for the organization of the peer assessment and specifying this requirement in the revised Publication. This process should be easier since lists of lead assessors and technical and metrological experts were drawn up and are available on the OIML web site.

4.5 Modification of an OIML Certificate (issued outside the MAA) by an Issuing Participant in a DoMC

Participants were reminded that as soon as an OIML Issuing Authority became an Issuing Participant in a DoMC, it should *only* issue OIML MAA Certificates for the relevant category.

It was also pointed out that manufacturers could apply to an Issuing Participant for a revised Certificate which was issued under the OIML Basic Certificate System, without requesting an MAA Certificate and that the current requirement could penalize both the Issuing Participant and the manufacturer.

Consequently, participants suggested a compromise which would be a Resolution to be submitted for approval by the CIML at its 43rd Meeting. See accompanying Resolution 2008/03.

4.6 Taking into account test results from manufacturers within a DoMC

After intensive discussions, participants decided that results of tests performed by manufacturers should not be taken into account to issue any OIML MAA Evaluation Reports.

Nevertheless, participants agreed on a Resolution to be submitted to the CIML for approval at its 43rd Meeting. This proposal should also contribute to revising the Resolution adopted at the 41st CIML Meeting concerning the transitory period during which both systems (the OIML Basic Certificate System and the MAA) could be kept in parallel. See accompanying Resolution 2008/04.

4.7 Designation of a new OIML Issuing Authority for categories under a DoMC

Participants concluded that as soon as a category was covered by a DoMC, any new Issuing Authority to be appointed for the relevant category should apply to be an Issuing Participant in the DoMC.

5 TC 3/SC 5 project p4 and project p5

project p4 ***Guide for the application of ISO/IEC 17025 to the assessment of Testing Laboratories involved in legal metrology***

and

project p5 ***Guide for the application of ISO/IEC Guide 65 to assessment of measuring instrument certification bodies in legal metrology***

A voting session was organized to take the opportunity of the meeting to obtain the missing votes on these two projects. For both projects, at least 2/3 of TC 3/SC 5 P-Members voted "yes". Consequently, the two OIML Draft Documents have been drawn up and posted on the OIML web site for preliminary CIML online ballot. It is expected that they will be approved at the 43rd CIML Meeting.

6 OIML TC 3/SC 5 project p2: uncertainties

The intensive discussions at the meeting led to the following feedback from TC 3/SC 5 Members who reported that:

- Incorporating measurement uncertainty had already been done for a long time in legal metrology, but not always in a 'correct' way; it had just not been called that;
- Incorporation of measurement uncertainty could be done differently for different applications (e.g. type evaluation versus verification);
- The 'Examples' would be the most important part of the OIML Uncertainty Document;
- A 'textbook' should be written (that is, elaborate on what had been presented at the meeting in an explanatory text in the OIML Uncertainty Document);
- Distinction should be made between incorporating measurement uncertainty for consumer measurements versus health, safety and 'public behavior' (e.g. radar, breathalyzer) measurements. Appropriate coverage factors should be suggested for various measurement applications;
- The OIML Uncertainty Document should be kept as simple as possible, with the understanding that measurement uncertainty is complicated but must be taken into account;
- The costs associated with incorporating measurement uncertainty into conformity assessment decisions should be kept in mind (provide recent literature references);
- OIML Recommendations should identify sources/components of measurement uncertainty and should specify targets (MPUs) for each, whenever possible;
- It should be defined whether the 'shared risk' philosophy should be endorsed for all/most applications;
- The OIML Document should refer to existing documents as far as possible in order to avoid duplicating what already exists;
- How to interpret and apply ISO/IEC 17025, Clauses 5.4.6.2 and 5.4.6.3, as far as possible, should be discussed;
- The target audience of the OIML Uncertainty Document should be the OIML Secretariats and

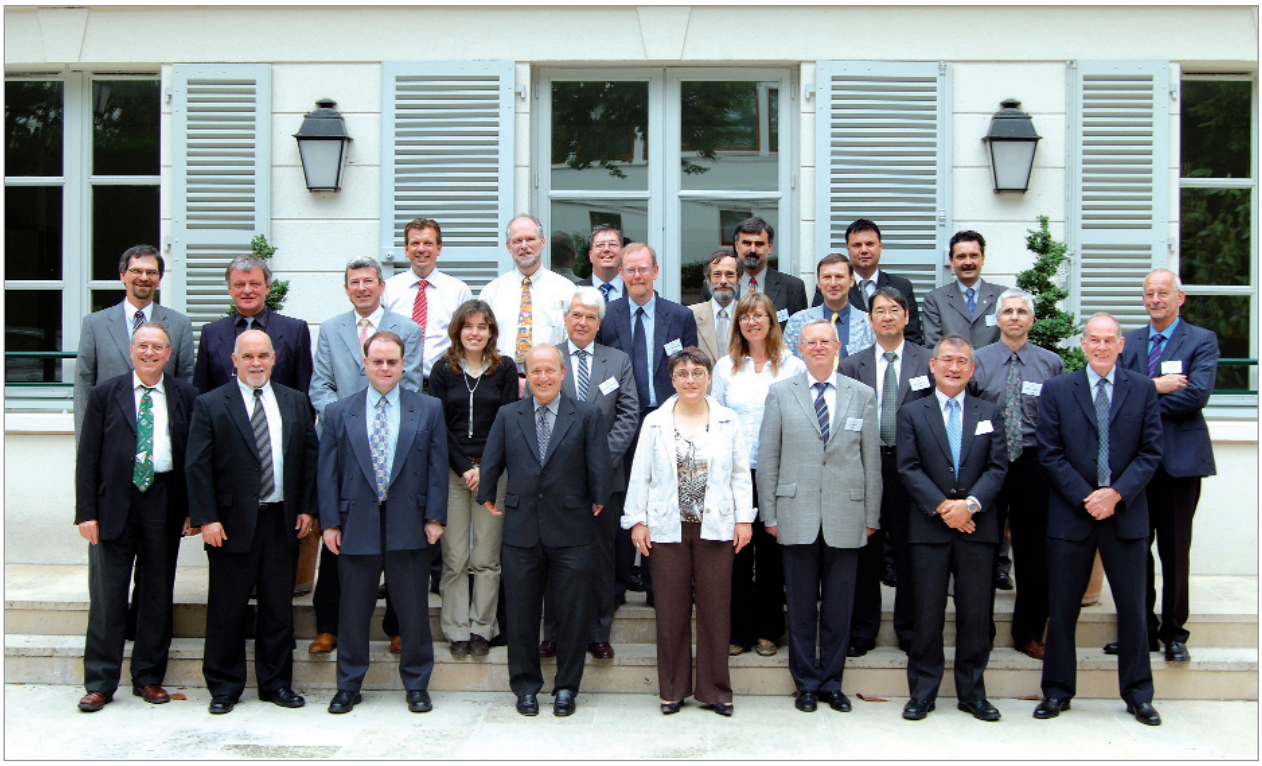
TC/SC members. However, the Document could also be used to provide guidance in developing national legislation involving measurement;

- A variety of options that TC/SC Secretariats can chose from but which do not specify particular values ("think about this, think about that ...") should be provided;
- It should be considered whether influence factor and disturbance tests would require special treatment concerning measurement uncertainty;
- Every case was different, and the Document should leave the experts in each category to provide details;
- The issue related to how much effort should go into evaluating measurement uncertainty (say, for type evaluation) when there is a lot of variability in 'production' instruments, should be discussed;
- The issue of specifying test conditions (e.g. reference conditions, rated operating conditions) when considering measurement uncertainty should be discussed. It was suggested to specify tests in OIML Recommendations that would correspond to 'real-life' operating conditions of measuring instruments;
- 'Scientifically sound' text/terminology should be provided to be cut and pasted into Recommendations for specified applications.

7 Closing session

The next steps for the revision of OIML B 3 and OIML B 10-1 were presented. OIML TC 3/SC 5 Co-secretariats indicated that a 2CD would be drawn up for the revision of OIML B 3 and a 1CD for the revision of OIML B 10-1. These CDs should be ready by the end of 2008 and circulated within TC 3/SC 5 for comments during a three-month consultation period (March 2009).

They would be drawn up on the basis of the conclusions of the meeting and on the basis of the decisions of the CIML on the four Resolutions that TC 3/SC 5 suggested submitting for CIML approval. ■



Resolutions 2008/01 and 2008/02

Resolution 2008/01

A Draft OIML Publication (e.g. FDR, FDD, FDB) approved by the CIML shall be available on the OIML web site immediately after the CIML approval, for reference purposes and in order for manufacturers and OIML Issuing Authorities to begin preparing for issuing Certificates in the future.

However, since the Draft could be changed before Publication, it is not permitted to issue an OIML Basic Certificate based on the Draft.

The official date on which an OIML Basic Certificate can be issued is the date on which the OIML Publication appears on the OIML web site. This date shall be recorded in the table of Publications available on the OIML web site. See note 2 below for the OIML MAA.

Note 1:
FDR: Final Draft Recommendation
FDD: Final Draft Document
FDB: Final Draft Basic Publication

Note 2:
The date on which an OIML MAA Certificate can be issued is specified in the corresponding DoMC.

Resolution 2008/02

As soon as the three parts of an OIML Recommendation are published, the relevant OIML Recommendation is automatically included in the OIML Basic Certificate System. The BIML will publish the appropriate information on the web site.

If a new version of the OIML Recommendation is published, the earlier version is maintained in the OIML Basic Certificate System or in the relevant OIML DoMC, together with the new version.

A comparison document between the two versions, drawn up by the appropriate TC/SC Secretariat, is no longer required.

Note:
The last part of the Resolution suggests withdrawing the requirement defined in 6.6.1 of OIML B 3:2003. OIML TC 3/SC 5 considers that OIML Issuing Authorities are competent to define whether an instrument which complies with the previous edition of an OIML Recommendation also complies with the new version of the Recommendation, or if additional tests and examinations shall be conducted to issue the new OIML Certificate on the basis of the new edition of the OIML Recommendation. Drawing up a comparison document (under the responsibility of the TC/SC) to be confirmed by the CIML is not considered to be needed. In addition, it appears that such comparison documents were not always developed by the relevant TC/SC.

Resolutions 2008/03 and 2008/04

Resolution 2008/03

When an applicant requests a revision (see the Note below) of an OIML Basic Certificate based on the same version of the OIML Recommendation, which has been subsequently covered by the MAA, the revised OIML Basic Certificate may be issued by the original OIML Issuing Authority even it is not an Issuing Participant in the relevant DoMC, or by an Issuing Participant in the DoMC.

If a new Certificate is applied for, based on the new version of the OIML Recommendation, then an OIML Basic Certificate cannot be issued anymore. Rather, an OIML MAA Certificate shall be issued. Therefore the application can only be made to an Issuing Participant in the relevant DoMC.

Note:
A Certificate is considered to be a 'revision' when the basis for issuing the revised Certificate is the same edition of the Recommendation as was used when issuing the original Certificate. A Certificate is considered to be 'new' when the Certificate is issued on the basis of the new version of the Recommendation, even if some results of tests conducted when issuing the original Certificate are still valid and used for issuing the new Certificate.

Resolution 2008/04

The OIML Basic Certificate System and the OIML MAA are maintained in parallel for categories under the MAA until the CIML decides to stop the implementation of the OIML Basic Certificate System. The proposal to stop the OIML Basic Certificate System for a particular category shall be examined, as appropriate, by the CIML independently for each category covered by the MAA. It is anticipated that a two-year period (after the CIML decision) would be allowed before stopping the OIML Basic Certificate System for the relevant category.

Discussions on the acceptance of manufacturers' test results are still ongoing within OIML TC 3/SC 5. For the time being, Issuing Participants shall not issue OIML MAA Certificates in the event that results of tests outside the scope of the DoMCs are taken into account (e.g. test results from manufacturers) in the Evaluation Reports. In this case an OIML Basic Certificate may still be issued.

Note:
Proponents of acceptance of manufacturers' test results will provide an explanation on conditions (in particular to guarantee that the acceptance of manufacturers' test data can be done in a fair manner for all manufacturers) which could be requested to include manufacturers' test results in the implementation of the MAA and an example, to be submitted for CPR examination at the next CPR Meeting (possibly a combined R 60 CPR/R 76 CPR/R 49 CPR Meeting).

TC/SC MEETING

Meeting of OIML TC 17/SC 7

17–18 June 2008

LNE, Paris, France

ESTELLE MOËNS
Department for Certification
of Measuring Instruments
LNE, France

OIML TC 17/SC 7 Secretariat

The third Committee Draft (3 CD) of the revision of OIML R 126 *Evidential breath analyzers* was circulated in October 2007 for comments among TC 17/SC 7 Members; the deadline for commenting was set at 3 March 2008. When reviewing the comments received and preparing the Secretariat's replies, several critical comments were identified. Consequently, it was decided to hold a meeting to facilitate discussions on these issues and to improve the general efficiency of the work.

A two-day meeting was held on 17 and 18 June 2008 at the Laboratoire National de Métrologie et d'Essais (LNE) in Paris, France.

Twenty-six delegates from nine countries attended the meeting: participants came from legal metrology institutes, manufacturers, and testing laboratories; a number of users were also present.

In order to optimize the discussions at the meeting, the agenda was drawn up on the basis of the critical issues which were identified when drawing up the synthesis of comments received on the 3 CD. The following items were discussed:

- metrological requirements;
- quantities and their values to be taken into account when defining the rated operating conditions;
- testing conditions, in particular the breath profile, the influence factors related to parameters which characterize the test gases, reference values of the test gases, use of simplified means for testing, physiological influence factors; and
- operating conditions, in particular the measurement cycle to be applied.

The discussions were based on a fourth Committee Draft (4 CD) which was drawn up prior to the meeting and which took into account the comments on the 3 CD which were automatically (and readily) accepted by the Secretariat.

Discussions during the meeting were vivid and constructive, even though it was not possible to reach a consensus (or even a satisfactory agreement) on several issues – among which influence factor tests.

The conclusions of the meeting highlighted the fact that major clarification of the document was still necessary and that without this, it would be difficult to pursue the development of the revision.

Among the conclusions of the meeting, the following points are noteworthy:

- considering the parties involved in the implementation of regulations for this kind of measuring instrument, it was requested that an explanatory note be added at the beginning of the document to remind readers of the general status of OIML Recommendations as model regulations and International Standards according to the TBT Agreement;
- the scope will be revised to emphasize the fact that this OIML Recommendation does not apply to diagnostic instruments which only indicate whether the mass concentration of alcohol exceeds the prescribed limits, or which do not provide a sufficiently accurate result by which compliance may be established with national policies regarding alcohol use (referred to as "preliminary" breath testers or "screening" devices). In addition, it shall be indicated that the OIML Recommendation defines minimum requirements and that additional devices (to the breath analyzer) may be requested by national regulations;
- the maximum permissible errors will be revised, in particular to define a continuous curve as a function of the mass concentration;
- reference conditions and influence factor tests will be reconsidered on the basis of variations in the characteristics of human breath; and
- the list of tests which may be carried out using simplified means will be revised.

Participants were requested to provide the Secretariat with inputs on these issues by the end of July 2008.

Considering these conclusions, participants agreed that an additional Committee Draft would be necessary in 2009 (possibly in June). Consequently, the expected time schedule has been revised.

A fifth Committee Draft (5 CD) will be drawn up on the basis of the meeting discussions and the above-mentioned additional inputs from the participants. This 5 CD should be circulated for comments among

TC 17/SC 7 Members by December 2008, and the agenda for the 2009 meeting will be drawn up on the basis of the comments received on this 5 CD.

The conclusions of this additional meeting should lead to a 6 CD being drawn up, which would then be definitively submitted for voting within TC 17/SC 7.

A Draft Recommendation could be expected in 2010, which would then be submitted to the CIML for approval. ■

OIML TC 17/SC 7
Breath testers

P-Members: 14 - O-Members: 14

Responsibility:
OIML R 126 *Evidential breath analyzers*

CECIP

58th General Assembly

2 May 2008

Fayence, France

MICHEL TURPAIN
CECIP Permanent Secretary

CECIP, the European Committee of Weighing Instruments Manufacturers, held its 58th General Assembly in Fayence near Nice, at the invitation of COFIP, the French Committee of Weighing Industrialists.

The General Assembly took place in a typical Provencal village at the Domaine de Fayence, and brought together the various CECIP Federations. A welcome cocktail was offered, which enabled us to fully enjoy the flavor of this beautiful region of France. As every year, a number of guests and members of CECIP – to whom we extend our warm thanks – gave presentations on a wide range of topics concerning our activity:

- Mrs. Corinne Lagauterie of the Bureau de la Métrologie, accompanied by Mr. Alain Rocchelli of the Provence Alpes Côte d'Azur DRIRE office, presented metrology in France and the in-service checking of instruments,
- Mr. Ludovic Cailleau of the French LNE, Laboratoire National de Métrologie et d'Essais, presented the position of the LNE in the field of metrology,
- Mr. Jean-François Magana, Director of the BIML, Bureau International de Métrologie Légale, presented the key actions of the OIML, Organisation Internationale de Métrologie Légale,
- Mrs. Régine Gaucher, MAA Project Leader at the BIML, presented the OIML Certificate System and the MAA, the Mutual Acceptance Arrangement.

Each CECIP Federation, from the following countries:

Czech Republic	Romania
Finland	Russia
France	Slovak Republic
Germany	Spain
Hungary	Switzerland
Italy	Ukraine
Netherlands	United Kingdom
Poland	

then presented the situation of the weighing industry in its country during 2007. The table summarizes the weighing industry production in Europe and indicates an increase in production compared to 2006 in all the countries. Overall, there was an average increase of + 8.2 % in Europe.

During the afternoon the statutory part included, as usual, the following program:

- the activity report of the Legal Metrology Group, which is continuing with its task of coming up with proposals on and examinations of OIML publications and of WELMEC documents, European Cooperation in Legal Metrology (especially harmonization Guides). This report was presented by Mr. Martin Stoll, who is now leaving us for a well-deserved retirement – we wish him all the best. The new Group President is Mrs. Véronika Martens, to whom we wish every success.
- the activity report of the Bureau, which takes care of the day-to-day management of the Committee and of its development by passing on experience acquired to the younger Federations of those countries that recently became part of the European Union, for example Bulgaria which joined CECIP this year. This report was presented by Michel Turpain, who is also getting ready to retire at the end of 2008 after 23 years in CECIP, of which 15 as Permanent Secretary.

This year, after three years under the presidency of Mr. Antonio Matute, to whom we express our thanks for his work, the CECIP Bureau was elected: its composition is now as follows:

President	Mr. Antonio Matute Dutch Federation
Vice-President	Mr. Richard Herbert United Kingdom Federation
Vice-President	Mr. Antonio Matute Spanish Federation
Vice-President	Mr. Daniel Stastny Czech Republic Federation
Member	Dr. Günther Maaz German Federation
Member	Mr. Roland Nater Swiss Federation
Observer	Mr. Guy Mairot French Federation
Permanent Secretary	Mr. Michel Turpain French Federation

The Assembly ended with a gala dinner at the Moulin de Mougins, where the Chef Alain LLorca delighted us with delicious dishes with a distinct flavor of Provence.

On the last day, a visit was conducted to the Ile Saint Honorat near Cannes. This Island, which forms part of the Lerins Islands, has a long history dating back to the V century. An exceptional monastery-dungeon was used

as a refuge for monks during troubled times over history. The modern monastery, surrounded by luxurious vegetation, is a haven of peace for some thirty monks that run a vineyard that makes delicious wine. It was a very enjoyable sunny day and was appreciated by all the participants.

We express our thanks to the French Federation, to President Guy Mairot, and to all the members of COFIP for their warm welcome. See you next year in Russia! ■

European Committee of Weighing Instruments Manufacturers

CECIP

58ème Assemblée Générale

2 mai 2008

Fayence, France

MICHEL TURPAIN
Secrétaire Permanent du CECIP

Le CECIP, Comité Européen des Constructeurs d'Instruments de Pesage, vient de tenir sa 58ème Assemblée Générale à Fayence près de Nice, à l'invitation du COFIP, Comité Français des Industriels du Pesage.

C'est dans le cadre d'un village provençal, le Domaine de Fayence, que s'est tenue l'Assemblée Générale rassemblant les Fédérations du CECIP. Un cocktail de bienvenue nous a permis d'apprécier les saveurs de cette belle région. Comme tous les ans de nombreux invités, que nous remercions chaleureusement, sont intervenus dans les domaines très variés intéressant notre activité:

- Mme Corinne Lagauterie du Bureau de la Métrologie, accompagné de M. Alain Rocchelli de la DRIRE Provence Alpes Côte d'Azur, nous ont présenté la Métrologie en France et le contrôle des instruments en service,
- M. Ludovic Cailleau du LNE, Laboratoire National de Métrologie et d'Essais, nous a présenté la position du LNE dans le domaine de la métrologie,
- M. Jean-François Magana, Directeur du BIML, Bureau International de Métrologie Légale, nous a présenté les actions essentielles de l'OIML, Organisation Internationale de Métrologie Légale,
- Mme Régine Gaucher, Chef du projet MAA, au BIML, nous a présenté le Système de Certificats OIML et l'Arrangement d'Acceptation Mutuelle, MAA.

Puis chaque Fédération du CECIP, venant des pays suivants:

Allemagne
Espagne
Finlande
France
Hongrie
Italie
Pays-Bas
Pologne
République Slovaque
République Tchèque
Roumanie
Royaume-Uni
Russie
Suisse
Ukraine

nous a présenté la situation de l'industrie du pesage en 2007 dans son pays, résumée dans un tableau récapitulatif détaillant la production d'instruments de pesage en Europe et montrant une hausse de la production par rapport à 2006 dans tous les pays. Ceci nous amène à une hausse moyenne européenne de + 8,2 %.

La partie statutaire s'est déroulée l'après-midi avec le programme habituel suivant:

- le rapport d'activité du Groupe Métrologie Légale qui poursuit sa tâche de propositions et d'examens des documents de l'OIML et du WELMEC, European Cooperation in Legal Metrology (en particulier les guides d'harmonisation). Le rapport a été présenté par M. Martin Stoll, qui nous quitte pour une retraite bien méritée que nous souhaitons longue et heureuse. Le nouveau Président de ce Groupe est Mme Véronika Martens à qui nous souhaitons bonne chance,
- le rapport d'activité du Bureau qui assure la gestion quotidienne du Comité et son développement, en apportant notre expérience aux jeunes Fédérations des pays entrés récemment dans l'Union Européenne, comme la Bulgarie qui a rejoint le CECIP cette année. Ce rapport a été présenté par Michel Turpain qui s'apprête également à prendre sa retraite à la fin de l'année 2008, après 23 ans d'activité au sein du CECIP dont 15 ans comme Secrétaire Permanent.

Puis cette année nous avions l'élection du Bureau du CECIP après trois ans de présidence de M. Antonio Matute que nous remercions pour le travail accompli. La composition du Bureau est maintenant la suivante:

Président	M. Vincent van der Wel Fédération des Pays-Bas
Vice-Président	M. Richard Herbert Fédération du Royaume-Uni
Vice-Président	M. Antonio Matute Fédération d'Espagne
Vice-Président	M. Daniel Stastny Fédération de la République Tchèque
Membre	Dr. Günther Maaz Fédération de l'Allemagne
Membre	M. Roland Nater Fédération de la Suisse
Observateur	M. Guy Mairot Fédération de la France
Secrétaire Permanent	M. Michel Turpain Fédération de la France

L'assemblée se termina par un dîner de gala au Moulin de Mougins où le Chef Alain LLorca, nous a enchanté avec des plats délicieux aux saveurs de la Provence.

La dernière journée fut consacrée à une visite de l'Ile Saint Honorat près de Cannes. Cette Ile, qui fait partie des Iles de Lerins, a une longue histoire remontant au Vème siècle. Un monastère-donjon exceptionnel servit de refuge aux moines durant les périodes troublées de l'histoire. Le monastère moderne entouré d'une végétation luxuriante est un havre de paix pour une trentaine de moines qui exploite une vigne au vin délicieux. Ce fut une très belle journée ensoleillée et appréciée par les participants.

Merci à la Fédération française, au Président Guy Mairot, et à tous les membres du COFIP pour leur chaleureux accueil. A l'année prochaine en Russie !

Statistiques - Industrie du Pesage *Année 2007* — Results - Weighing Industry *Year 2007*

Pays / Country	Production		Variation	Export	Import
	Hors taxe Monnaie locale Local currency	Hors taxe Without tax Million Euro	2007 / 2006	Variation/2006 Million Euro	Variation/2006 Million Euro
ALLEMAGNE *GERMANY*		855	+ 10.0 %	589.6 + 12.4 %	216.1 + 10.4 %
ESPAGNE *SPAIN*					
FINLANDE *FINLAND*		30	+ 6.4 %	2.8 – 70.9 %	10.6 – 51.7 %
FRANCE *FRANCE*		161.5	+ 6.7 %	64.2 – 2.4 %	142.9 – 3.5 %
HONGRIE *HUNGARY*					
ITALIE *ITALY*		134.3	+ 1.7 %	21.8	75.4
PAYS-BAS *NETHERLANDS*		167.4	+ 12.8 %		
POLOGNE *POLAND*		51.6	+ 3.6 %	7.4 + 4.0 %	18.7 + 9.3 %
REPUBLIQUE SLOVAQUE *SLOVAK REPUBLIC*					
REPUBLIQUE TCHEQUE *CZECH REPUBLIC*		17	+ 21.0 %	7.7 – 2.4 %	21.4 + 15.0 %
ROUMANIE *ROMANIA*					
ROYAUME-UNI *UNITED KINGDOM*		183.4	+ 4.5 %	152.2 + 8.3 %	136.5 + 6.4 %
FEDERATION RUSSE *RUSSIAN FEDERATION*		95.7	+ 16.0 %	9.4 + 17.0 %	49.7 + 29.0 %
SUISSE *SWITZERLAND*				121.0 + 13.3 %	51.5 + 28.1 %
UKRAINE *UKRAINE*					

SADCMEL

Report on SADCMEL activities

BRIAN BEARD
SADCMEL Secretariat

Current membership and office bearers

Full membership of the Southern African Development Community Cooperation in Legal Metrology (SADCMEL) is restricted to the present 14 member countries making up the Southern African Development Community (SADC). Within the next few months it is expected that the Republic of Seychelles will become a member of SADC and then automatically become a member of SADCMEL. Provision is also made for institutions responsible for legal metrology in non SADC countries to participate in activities as associate members. At present SADCMEL has four associate member institutions.

The Democratic Republic of Congo (DRC) presently chairs SADCMEL and South Africa provides the Regional Coordinator and Secretariat. Four technical committees have been established to deal with packaging and sale of goods, instruments, rules of procedure and training.

SADCMEL harmonized legislation

One of the aims of SADCMEL is to harmonize technical regulations in order to facilitate trade. Where OIML Recommendations are not available or not explicit enough for our needs SADCMEL harmonized requirements are drafted. Amendments to these documents are proposed by the relevant technical committee as the need arises and the amendments are formally adopted at a SADCMEL meeting. Member countries are obliged to adopt these requirements under the terms of a memorandum of understanding to the SADC Protocol on Trade that has been signed by member governments. To date requirements covering the following areas have been completed:

- SADCMEL Document 1: Labelling requirements for prepacked products and general requirements for the sale of goods (based on OIML R 79).
- SADCMEL Document 2: Metrological and technical requirements for non-automatic, non-self- or semi-self-indicating, ungraduated counter scales subject to legal metrology control (based on applicable requirements in OIML R 76).
- SADCMEL Document 3: Metrological and technical requirements for non-automatic, undenominated beam scales and balances subject to legal metrology control (based on applicable requirements in OIML R 76).
- SADCMEL Document 4: Tolerances permitted for the accuracy of measurements made in terms of legal metrology legislation including the measurement of goods when prepackaged or when measured at the time of sale or in pursuance of a sale, and requirements for the inspection of prepackages (based on OIML R 87).
- SADCMEL Document 5: Metrological and technical requirements for liquid measuring devices subject to legal metrology control.

These documents are available at:
http://workgroups.oiml.org/rlmos-forum/sadcmel-publications

2008 annual meeting

The 2008 annual meeting was held on 9 May in Cape Town, South Africa. The meeting was attended by 56 delegates consisting of member country delegations, associate members and invited observers. The meeting was preceded by Technical Committee meetings of TC 1 (Requirements for the packaging and sale of goods) and TC 2 (Requirements for instruments) at which amendments to current documents were discussed. The agenda contained the topics below.

1 Report by BIML

Mr Ian Dunmill, Assistant Director at the BIML reported on recent activities within the OIML and the BIML. The report included updates on Recommendations approved, documents under development, progress with the MAA on type approval test results and the OIML Certificate System, liaisons with other organizations and assistance to developing countries.

2 Reports from members and associate members

In summary the reports indicated that most countries are developing their legal metrology infrastructures.

Issues highlighted were a lack of adequate funding and staffing and the need for training and test equipment. Developing countries are also in various stages of modernizing legislation and French and Portuguese speaking countries are finding difficulty in translating SADCMEL and other documents.

3 Report from TC 1 (Packaging and sale of goods)

Amendments to the SADCMEL document dealing with the marking of prepackages and the document dealing with accuracy requirements in general trade and for prepackages had been agreed to at the TC meeting held on 8 May. These amendments included clarification of the tolerance requirements for bread and permitting the use of catchweighing instruments in the retail without a need for packages to conform to the average packaging rules. The amendments were formally adopted by members.

4 Report from TC 2 (Instruments)

It was reported that the SADCMEL requirements for liquid measuring devices were now complete and that the TC had recommended their adoption as SADCMEL harmonized requirements. This was agreed to by members. It was also reported that a working group had been formed to produce draft requirements for motor vehicle tyre pressure gauges. The working group had been tasked to investigate the availability of suitable requirements internationally, that covered electronic instruments, as OIML R 23 only covered mechanical gauges.

5 Report from TC 4 (Training)

It was reported that the German government, through the PTB, had previously supplied various member countries with inspection equipment for prepackages. In March 2008 a workshop, also funded via the PTB, was held at the SABS to train inspectors on the use of the donated electronic balances. It was attended by two delegates each from DRC, Madagascar, Malawi, Mozambique, Zambia and Zimbabwe. Training on the input of data and use of the balances was given by representatives of the supplier of the balances and the SABS provided background to the SADCMEL requirements for prepackages and input to the practical sessions. It was agreed to thank the German Government in the form of a resolution.

A report was also presented by the project managers overseeing an EU/SADC funding project. Training, equipment and other needs had been assessed in most member countries and motivation for the first phase of funding was being finalized.

6 Elections

The following countries were elected to chair SADCMEL and the Technical Committees for the next two years:

SADCMEL	Democratic Republic of Congo
TC 1 - Packaging and sale of goods	South Africa
TC 2 - Instruments	Zambia
TC 3 - Rules of procedure	Zambia
TC 4 - Training	Tanzania

Capacity building

Under an agreement between SADC and the EU, the EU will be providing funding for capacity building in the area of Standardization, Quality Assurance, Accreditation and Metrology (SQAM). To date, project managers have been appointed and a needs analysis conducted. Most member countries have been visited by technical experts to give advice and determine how to meet identified needs most efficiently. Once funding is allocated at least twenty different courses, mostly concerning the interpretation of OIML Recommendations and the verification of an assortment of instruments, will be held throughout the region. It is intended to recruit trainers internationally where expertise is not available locally. Deserving countries will receive various types of equipment as long as sustainable use can be proven.

Participation in AFRIMETS

The Intra-Africa Metrology System (AFRIMETS) was formed to harmonize metrology activities within Africa. It covers the fields of legal, scientific and industrial metrology. At present full membership of AFRIMETS consists of 5 sub-regions. There are also three ordinary members (individual national metrology institutions that do not belong to a sub-regional body), two associate members and one observer member. SADC is one of the full members and SADCMEL is represented on the Executive Committee as the Vice Chair – Legal Metrology. SADCMEL also heads the AFRIMETS Secretariat. At present technical committees are being established to deal with technical issues and SADCMEL will no doubt play a significant role in these committees. ■

WELMEC

24th WELMEC Committee Meeting

Dubrovnik, Croatia 8–9 May 2008

GABRIELLE WESSELY
WELMEC Secretary

The 24th WELMEC Committee meeting was held in Dubrovnik, Croatia, on 8–9 May 2008 and was opened by the Director of the State Office for Metrology, Mr. Mirko Vuković.

One of the most important items on the agenda was the election of a new Chairperson. The sole candidate, Ms. Nataša Mejak Vukovič, gave a short presentation and then answered questions about how she sees the future of WELMEC (cooperation with the EA - signing of an MoU with the EA as was done between the OIML and ILAC at international level; closer cooperation with consumer associations, etc.). She was then elected new Chairperson.

Another topic on the agenda were the requests from the Former Yugoslav Republic of Macedonia (FYROM), Serbia, and Montenegro to become Associate Members. It was established that Montenegro does not yet fulfill the basic requirements. As for Serbia, their request only arrrived immediately prior to the Committee meeting without the necessary accompanying information, therefore it was agreed that voting would take place by e-mail.* The FYROM gave a presentation about their national legal metrology structure and was welcomed as the latest Associate Member.

Mr. Klenovský gave an update on the developments in EURAMET and passed on the request for close cooperation with WELMEC.

It was decided to hold the meeting with the European Commission and the BIML in June in Brussels in order to solve differences in the tables of correspondance between the presentation of the MID essential requirements and the relevant OIML Recommendations and ZA annexes of EN Harmonized Standards.

Next on the agenda were a number of Directives. The Directive 2007/45/EC on *Nominal quantities for prepacked products*, repealing Council Directives 75/106/EEC and 80/232/EEC and amending Council Directive 76/211/EEC, has to be implemented by Member States by 11 October 2008 and is to be applied from 11 April 2009.

Ms. Mejak Vukovič, representing Slovenia (which held the Presidency of EU for the first half of 2008) gave a short report concerning the latest developments on the draft Directive on *Units of Measurement* (amending Council Directive 80/181/EEC). The draft Directive was adopted by the European Commission in September 2007, approved by the European Parliament in November 2007 but has not yet been approved by the Council as a political compromise on a revision clause has still to be worked out among the EU Member States.**

Mr. Hanekuyk, from the European Commission, informed Committee Members about the ongoing work regarding the revision of the eight remaining Old Approach Directives.

The WELMEC Secretariat had sent out an inquiry to the Committee Members about the implications of the Directive 2006/123/EC on *Services in the internal market*, but had not received answers from all countries to date.

The Directive 2006/32/EC on *Energy end-use efficiency and energy services* and repealing Council Directive 93/76/EEC was also discussed. It was suggested to include WG11 and ESMIC in the discussion.

Next on the agenda were the Working Group Reports.

Working Group 2

The new Convenor of WG 2 Mr. Gulian Couvreur was represented by Ms. Fuchs, who presented the papers. WELMEC Guide 2.6 now also includes front end loaders and was approved by the Committee as well as WELMEC Guide 2.8.

Working Group 4

Mr. Lindlov, Convenor of WG 4, reported. Work on the *Guide on Uncertainty in Legal Metrology* will start soon.

Working Group 5

Mr. Turner, Co-Convenor of WG 5, presented the report and gave updated information concerning the *Market Surveillance Seminar* which will be organized by WELMEC in October 2008.

* *Serbia was accepted as an Associate Member at the end of June by e-mail voting.*

** *In the meantime due to the compromise reached in June 2008, the Council adopted a common position in July 2008. The second reading in the European Parlament is expected in September 2008.*

Delegates attending the 24th WELMEC Committee Meeting in Dubrovnik, Croatia (8–9 May 2008)

As no WG is dealing with *Units of Measurements Directive - Transposition in the Member States* - it was suggested to allocate this to WG 5. Mr. Turner agreed to add a questionnaire covering units of measurement information exchange to the WP of WG 5. The topic will be discussed again during the next Committee meeting.

Working Group 6

The report of WG 6 was presented by Mr. Burnett. It was agreed to continue the work on Guide 6.12 *Catch Weights* but not to start anything new.

Working Group 7

The Convenor Mr. Richter gave the report for WG 7. It was noted that the TOR are too detailed so it was agreed to prepare new TOR and transfer some points or the tabled proposal to the Working Program and confirm the new TORs via e-mail.

As for the update of WELMEC Guide 7.2, the amendments were accepted.

Working Group 8

Ms. Lagauterie was confirmed as convenor. She gave the report of WG 8. It was agreed to publish the MID implementation table as an informative document of WELMEC.

It was agreed to hold an e-mail voting for the Draft *Guide on Voluntary System of Modular Evaluation* after it was discussed with the EC. There was no opinion against this Guide so the further procedure will be set out after the meeting of the European Commission.

Working Group 10

Ms. van Spronssen gave the report. WELMEC Guide 10.6 was approved. The Draft *Guide on the Design of Road Tankers* was not accepted, and the OIML was requested to take into account the additional requirements.

Working Group 11

Mr. Kramer presented this WG report. It was agreed to prepare new TOR and to transfer some points or the tabled proposal to the Working Program and confirm the new TORs via e-mail.

The amended WELMEC Guide 11.1 was adopted.

Ad hoc Working Group Information Exchange

The report was presented by Mr. Schulz. The Committee agreed on the revised criteria for national databases. The inquiry started by the Secretariat about the number of certificates in 2007 was so far only answered by 12 countries.

The 25th Committee meeting will be held in Rotterdam, The Netherlands, on 7–8 May 2009.

Main decisions of the 24th WELMEC Committee meeting

- Accepted the Chairman's Report for 2007
- Approved the report concerning the budget for 2007 and up to May 2008
- Approved the subscriptions for 2009 to be the same as in 2008
- Took note about the results of the Seminar in Rome (2007), the Chairman's Group Meeting with the Convenors (2008) including the proposals to amend the Member Policy Document, the Procedure for WELMEC Activities and the Working Group Instructions
- Elected Ms. Nataša Mejak Vukovič as Chairperson of WELMEC
- Approved to examine the Type Approval Agreement taking into consideration the coming EU regulation concerning free acceptance of goods in the non-harmonized area
- Welcomed FYROM as a new Associate Member of WELMEC
- Took note about the creation of the European Forum for Conformity Assessment (EFCA)
- Recommends to the Committee Members to contact the responsible person for the Services Directive to discuss the implication on legal metrology in their country
- Took note about the possible influences of the Energy Efficiency Directive on MID (and discuss this with the European Commission in WG 11)
- Took note about the ongoing work on:
  - MID developments
  - Simplification process (8 Directives to be included in the MID in an appropriate way)
  - Prepackages
  - EU New Approach Revision (Framework - Decision)

  Proposal - Regulation on Accreditation and Market Surveillance
  - Proposal - draft regulation (Free Movement of Goods)
  - Units of Measurement
  - NAWI and EMC (Mandate to amend EN 45501)
- Approved all Working Group Reports
- Approved all Working Group Programs
- Added the exchange of information concerning the metrological supervision of Units of Measurement to the WP of WG 5 and asked WG 5 to report about the results at the next Committee Meeting
- Approved the revision of the criteria for national databases for MID Certificates
- Approved that all Member States with Notified Bodies issuing MID Type Examination Certificates, Design Examination Certificates or Quality System Approval Certificates should support the information exchange system by fulfilling the proposed criteria for national databases or if the number of certificates is not too high by a list of certificates
- Approved that all Member States with Notified Bodies issuing MID Type Examination Certificates, Design Examination Certificates or Quality System Approval Certificates should appoint a national contact person for inquiries about access to the certificates and give the name to the convenor of the ad hoc WG on Information Exchange (to be published on the WELMEC web-page "MID Certificates")

NCWM

93rd NCWM Annual Meeting

13–17 July 2008

Burlington (Vermont), United States

RÉGINE GAUCHER
MAA Project Leader, BIML

Context

The NCWM Annual Meeting brings together government officials and representatives of business, industry, and trade organizations for the purpose of discussing subjects that relate to the field of weights and measures technology and administration.

Representatives of the States vote on the recommendations of the NCWM Committees concerning amendments to the relevant NCWM Publications, and the meeting comprises several sessions among which:

- an *Open Hearings Session* which allows each NCWM Committee to present its interim report drawn up after the interim meeting held in January, and which gives each participant in the meeting the opportunity to address comments and proposals to the NCWM Committees;
- *Committee Work Sessions* during which each NCWM Committee prepares its final recommendations to be submitted for voting, taking into account the comments and proposals made during the Open Hearings Session;
- a *General Voting Session* during which each NCWM Committee presents its recommendations which are at the same time submitted for approval by the representatives of the States.

The NCWM Annual Meeting also includes technical sessions and associated meetings such as meetings with manufacturer associations.

Main discussion items

The following key topics were presented and discussed:

- Management restructuring of the NCWM and the NTEP;
- Progress in National Regulation;
- Participation of the NCWM in the R 76 DoMC;
- Participation of the USA in OIML technical work.

Management restructuring of the NCWM and the NTEP

In order to improve efficiency and effectiveness, the NCWM will no longer contract with a professional management company. The NCWM has hired an Executive Director, a NTEP Administrator and office staff for its new headquarters. The structure of the NCWM Board of Directors will remain. The management transition of the NCWM and of the NTEP to the new headquarters will be complete on 1 October 2008.

Progress in National Regulation

Temperature compensation for fuel dispensers was extensively discussed at the 92nd NCWM Meeting in 2007. The outcomes of this one year of experience showed that there was no consensus within the States concerning the implementation of temperature compensation for fuel dispensers.

Two major problems were raised:

- the cost benefits are not that significant, since the verification costs would increase (test equipment to be bought, periodicity of verification, duration of the verification, etc.);
- there is not that much difference (over a year) between measurements with and without compensation for most of the States.

It was decided that before pursuing this issue, any benefits for the consumer should be clearly demonstrated. Two studies are ongoing, one by the State of California and the other by the General Accounting Office, to aid in the decision making process.

The Laws & Regulation Committee and the Specifications & Tolerances Committee were advised to work together on this issue.

Concerning hydrogen refueling measuring systems, a National Working Group has been established and met twice in 2008. It is preparing a third Draft Standard for

the commercial measurement of hydrogen for vehicles and other refuelling applications, including:

- technical and metrological requirements;
- testing procedures;
- fuel quality requirements.

OIML R 81 *Dynamic measuring devices and systems for cryogenic liquids* and OIML R 139 *Compressed gaseous fuel measuring systems for vehicles* were taken into account when the Draft Standard was being drawn up, and it is expected that it will shortly be included in Handbook 44.

During the NCWM Meeting, a very interesting technical visit of a hydrogen refueling station was organized (see accompanying photos and technical documentation). It gave the opportunity to see a refueling measuring system and a car designed to operate on hydrogen.

Participation of the NCWM in the R 76 Declaration of Mutual Confidence

This issue was identified as being critical, and it was decided at the meeting of the Board of Directors to organize a one-hour brainstorming session during the NCWM Meeting on the participation of the USA in the R 76 DoMC. Several questions were identified during this session, among which:

- the effective benefit of US participation for US manufacturers;
- the financial impact of setting up an appropriate Testing Laboratory to be an Issuing Participant;
- the maintenance of competence in other laboratories if all the tests should be conducted in the designated laboratory;
- the way to deal with national requirements that are not aligned on those of the relevant OIML Recommendation(s).

Two years ago, the NCWM started to consider its participation in the R 76 DoMC. Internal discussions are still ongoing and additional information should be available after the NCWM Interim Meeting to be held in January 2009.

Participation of the USA in OIML technical work

The USA is responsible for several Secretariats of OIML Technical Committees and Subcommittees. The NCWM Meeting gave the opportunity to those responsible for these Secretariats to give updates on the work progress.

The OIML TC 8/SC 3 Co-Secretariat mentioned that the revision of OIML R 117 *Dynamic measuring systems for liquids other than water* will be pursued with the revision of the testing procedures for fuel dispensers (revision of OIML R 118) and the development of testing procedures for other types of measuring systems (such as measuring systems on trucks) and for modules of measuring systems (flowcomputers, conversion devices, self-service devices, etc.). A first Working Document should be available by the end of 2008.

The OIML TC 8/SC 6 Secretariat indicated that a first Working Document or a first Committee Draft should be circulated among TC 8/SC 6 Members by the end of 2008 for the revision of OIML R 81 *Dynamic measuring devices and systems for cryogenic liquids*.

The OIML TC 9 Secretariat indicated that a project proposal for revising OIML R 60 *Metrological regulation for load cells* should be submitted for approval by the CIML at its 43rd Meeting. ■

Vermont Hydrogen Generation/Refueling Station,
Burlington Vermont
Adjacent to 545 Pine Street, Burlington VT 05041

N 44° 27.7922
W 73° 12.9829

Electrolyzer -- Proton HOGEN; 12 kgH2/day capacity

Dispenser -- Air Products 350 bar H2 dispensing; CaFCP communication fill

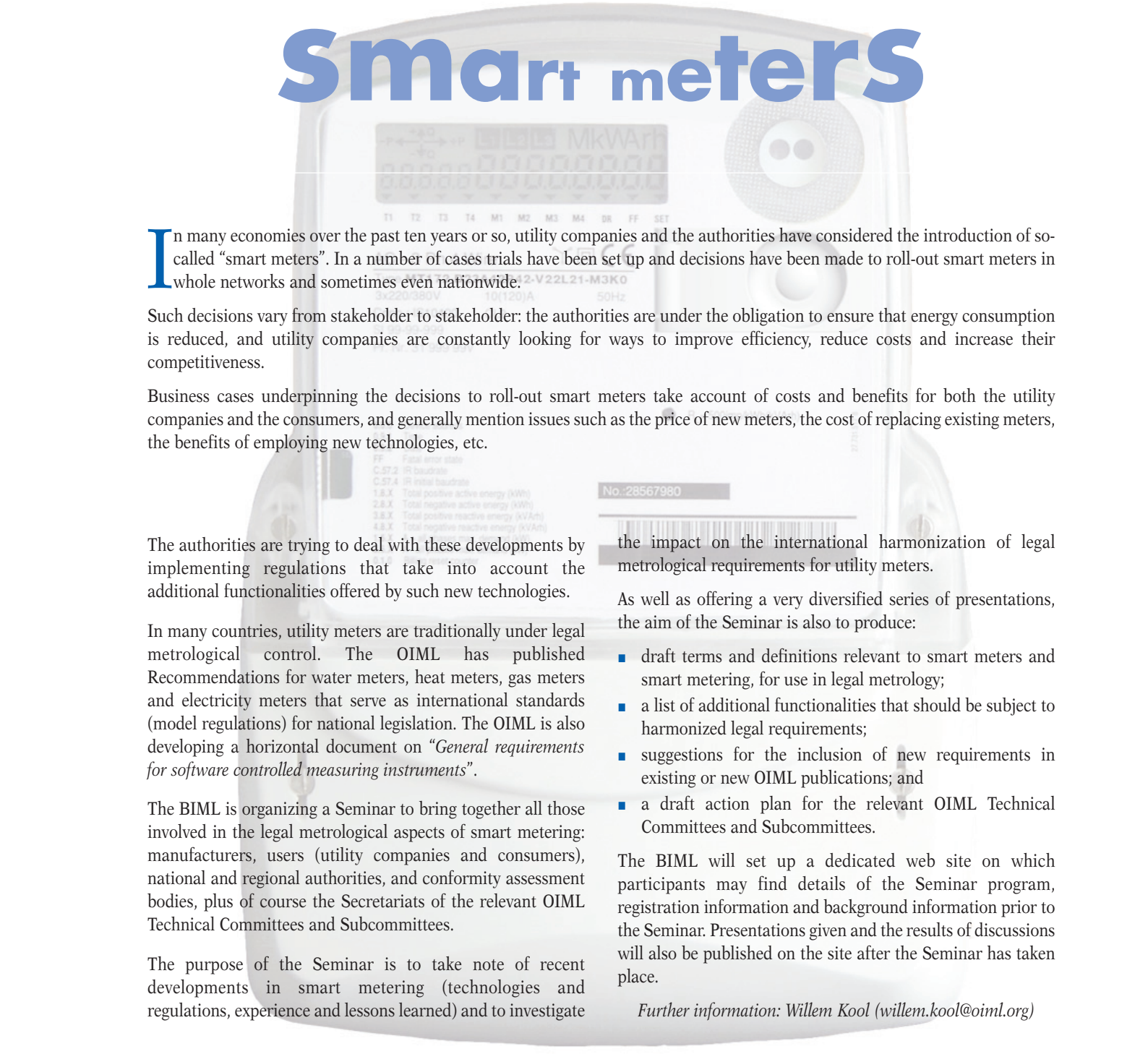
Vehicle -- Quantum Technologies H2 Prius

Wind turbine -- AOC 50; 50 kW capacity

For additional information, please contact harold.garabedian@state.vt.us

OIML Seminar

Smart meters



In many economies over the past ten years or so, utility companies and the authorities have considered the introduction of so-called "smart meters". In a number of cases trials have been set up and decisions have been made to roll-out smart meters in whole networks and sometimes even nationwide.

Such decisions vary from stakeholder to stakeholder: the authorities are under the obligation to ensure that energy consumption is reduced, and utility companies are constantly looking for ways to improve efficiency, reduce costs and increase their competitiveness.

Business cases underpinning the decisions to roll-out smart meters take account of costs and benefits for both the utility companies and the consumers, and generally mention issues such as the price of new meters, the cost of replacing existing meters, the benefits of employing new technologies, etc.

The authorities are trying to deal with these developments by implementing regulations that take into account the additional functionalities offered by such new technologies.

In many countries, utility meters are traditionally under legal metrological control. The OIML has published Recommendations for water meters, heat meters, gas meters and electricity meters that serve as international standards (model regulations) for national legislation. The OIML is also developing a horizontal document on "*General requirements for software controlled measuring instruments*".

The BIML is organizing a Seminar to bring together all those involved in the legal metrological aspects of smart metering: manufacturers, users (utility companies and consumers), national and regional authorities, and conformity assessment bodies, plus of course the Secretariats of the relevant OIML Technical Committees and Subcommittees.

The purpose of the Seminar is to take note of recent developments in smart metering (technologies and regulations, experience and lessons learned) and to investigate the impact on the international harmonization of legal metrological requirements for utility meters.

As well as offering a very diversified series of presentations, the aim of the Seminar is also to produce:

- draft terms and definitions relevant to smart meters and smart metering, for use in legal metrology;
- a list of additional functionalities that should be subject to harmonized legal requirements;
- suggestions for the inclusion of new requirements in existing or new OIML publications; and
- a draft action plan for the relevant OIML Technical Committees and Subcommittees.

The BIML will set up a dedicated web site on which participants may find details of the Seminar program, registration information and background information prior to the Seminar. Presentations given and the results of discussions will also be published on the site after the Seminar has taken place.

Further information: Willem Kool (willem.kool@oiml.org)

2–5 June 2009, Croatia (Date and venue to be confirmed)

First Announcement - Call for Papers

14TH INTERNATIONAL CONGRESS OF METROLOGY

Added value through better measurement

22-25 June 2009

Paris, France

As the science of measurement, Metrology is a vital quality factor and a source of performance for a growing number of business activities.

The *International Congress of Metrology*, held every two years, is to date the only event of its kind in Europe, with a large number of lecturers and participants attending from many industrial sectors.

The Congress is a meeting place for specialists in metrology from industry and scientific laboratories through:

- 6 industrial round table sessions, and about 180 presentations,
- 90 exhibition booths of equipment and services,
- technical visits to companies.

Call for Papers

www.cfmetrologie.com

The aim of the Congress is to contribute to the improvement of measurement in industry and research.

The audience of the Congress: 800 to 1 000 participants from 50 different countries.

The Congress is organized by the CFM in partnership with:

- major industrial users of metrology: Eurocopter, Renault;
- technical centers and providers: Acac, BEA Métrologie, Cetiat, Cetim, IMQ;
- the following national Institutes of Metrology: LNE (FR), NPL (UK);
- representatives from universities; and
- key European and international metrology organizations: EA, Euramet, BIPM, OIML.

The OIML is pleased to welcome the following new

CIML Members

- **Norway:**
  Mrs. Ellen Stokstad
- **Poland:**
  Mrs. Dorota Habich
- **Slovak Republic:**
  Dipl. Ing. Iveta Botkova
- **Slovenia:**
  Dr. Nineta Majcen
- **Vietnam:**
  Mr. Tran Van Vinh

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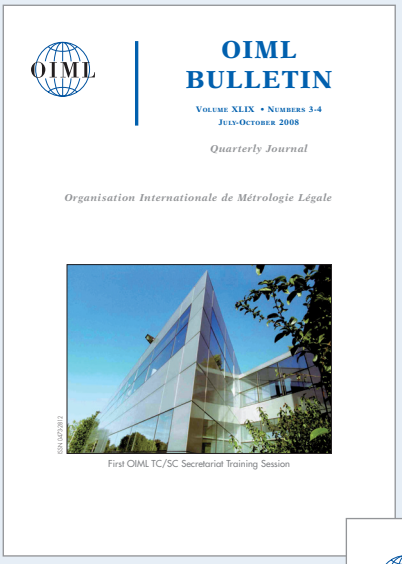
Joint BIPM-BIML Web Portal

Committee Drafts

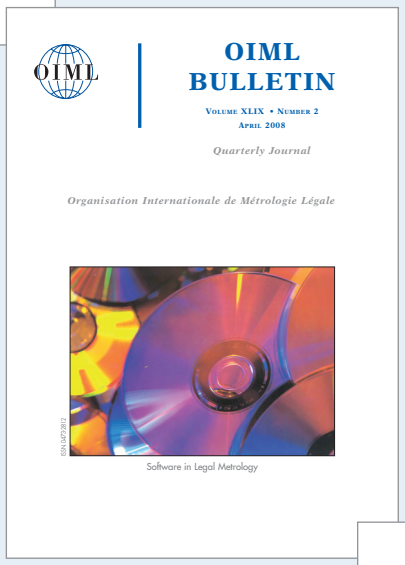
Received by the BIML, 2008.03 – 2008.07

Revision D 16: Principles of assurance of metrological control	E	2 CD	TC 3/SC 2	CZ
Revision OIML B 3: OIML Certificate System for OIML Type Evaluations of Measuring Instruments	E	1 CD	TC 3/SC 5	US+BIML
OIML R 99-3: Instruments for measuring vehicle exhaust emissions Part 3: Report format for type evaluation	E	1 CD	TC 16/SC 1	NL
Revision of ISO 3930/OIML R 99: Instruments for measuring vehicle exhaust emissions Part 1: Metrological and Technical Requirements Part 2: Metrological controls, and performance tests	E	1 CD	TC 16/SC 1	NL

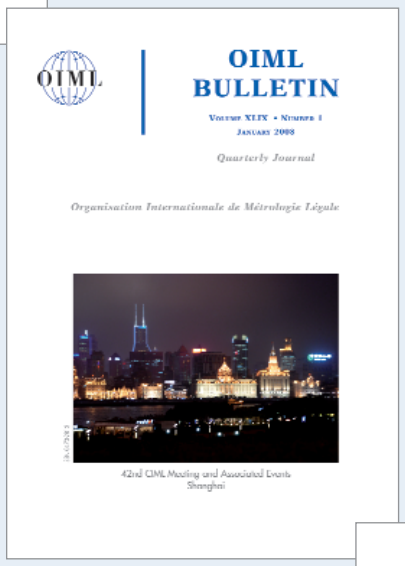


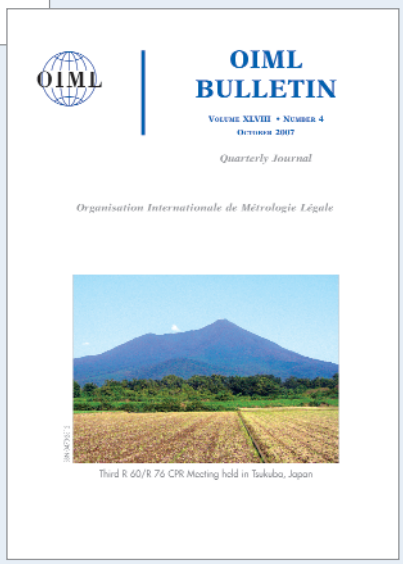
Call for papers

OIML Members
RLMOs
Liaison Institutions
Manufacturers' Associations
Consumers' & Users' Groups, etc.



- Technical articles on legal metrology related subjects
- Features on metrology in your country
- Accounts of Seminars, Meetings, Conferences
- Announcements of forthcoming events, etc.





The **OIML Bulletin** is a forum for the publication of technical papers and diverse articles addressing metrological advances in trade, health, the environment and safety - fields in which the credibility of measurement remains a challenging priority. The Editors of the Bulletin encourage the submission of articles covering topics such as national, regional and international activities in legal metrology and related fields, evaluation procedures, accreditation and certification, and measuring techniques and instrumentation. Authors are requested to submit:

- a titled, typed manuscript in Word or WordPerfect either on disk or (preferably) by e-mail;
- the paper originals of any relevant photos, illustrations, diagrams, etc.;
- a photograph of the author(s) suitable for publication together with full contact details: name, position, institution, address, telephone, fax and e-mail.

Note: Electronic images should be minimum 150 dpi, preferably 300 dpi.

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