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THE OIML BULLETIN IS THE QUARTERLY JOURNAL OF THE ORGANISATION INTERNATIONALE DE MÉTROLOGIE LÉGALE

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Editorial

ALAN E. JOHNSTON
President, CIML

Happy New Year to all our Members and Readers

At this time of year, as we look forward to new activities and challenges, it's a great time to reflect on what we have accomplished over the last twelve months. 2007 was a very successful year for the OIML, with excellent progress made in several areas.

The 42nd CIML meeting held in Shanghai was a resounding success. I would like to extend a special thank you to our colleagues at China's General Administration for Quality Supervision, Inspection and Quarantine (AQSIQ) for hosting the meeting. The Chinese measuring instrument industry is very present on the international market and the legal metrology service, under the authority of the AQSIQ participates actively in OIML work, notably in the Certificate System and the Mutual Acceptance Arrangement.

The meetings in Shanghai allowed us to focus on some important issues in the field of legal metrology. Since our last meeting in Cape Town, we have been working to make the organization of the CIML Meetings more interactive and to draw more benefit from your experience and contributions. As a result of this initiative, a Round Table for Regional Legal Metrology Organizations was organized in order to have more in-depth dialogue on regional legal metrology issues. I look forward to future discussions which should result in a more robust OIML.

We now have two new Corresponding Members: United Arab Emirates and Sudan. This brings the total number of Member States to 59 and Corresponding Members to 56. Our membership continues to grow!

We have signed a Memorandum of Understanding (MoU) with the International Laboratory Accreditation Cooperation (ILAC) and the International Accreditation Forum (IAF). This relationship will allow us to share resources and promote the many benefits of these organizations.

We have also adopted a new Action Plan to serve us for the next few years. The plan will enable us to remain on track as we continue to grow. Work is also continuing on helping developing countries improve their legal metrology infrastructure under the direction of Dr. E. Seiler. It is equally important that we continue to promote participation in the OIML Certificate System and the MAA.

I wish to thank everyone for their hard work on the various initiatives. I look forward to see you at the 14th conference and the 43rd CIML meeting in Sydney later this year. We have a very busy year ahead of us!

Best wishes for a happy and prosperous New Year.

ELECTRICAL ENERGY

The importance of accurate measurement of electrical energy, and the performance of modern electricity meters

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National Institute of Metrology
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Abstract

The main mission of the Romanian Bureau of Legal Metrology (BRML, a specialized body of the state central public administration) is to ensure the scientific background for the consistency and accuracy of measurements in Romania. In 1956, Romania became a founding member of the International Organization of Legal Metrology, and has participated in the production of a number of OIML Recommendations and Documents by voting as a member of the CIML.

This paper describes the efforts made to ensure the accuracy of electrical energy measurements, an activity which falls under the scope of legal metrology. The measuring instruments and installations used in the public domain to measure electrical energy fall under the regulated area and the objective is, of course, to prevent incorrect measurements and to protect the consumer. Electrical energy meters are instruments that are subject to mandatory state legal metrological control in order to ensure consumer protection.

1 Introduction

Measuring electrical energy represents one of the activities involved in commercial transactions, the accuracy and correctitude of the measurement therefore being of interest to all the parties involved: producers, importers, transporters, distributors and consumers of electrical energy.

The importance of accurately measuring electrical energy used by households and small companies has increased over recent years as a result of a new legislation which aims to provide consumer protection in this field.

The Ordinance of the Government (OG) No. 20/1992 regarding metrology, approved and amended by Law No. 11/1994, with other subsequent amendments, stipulates in Chapter 1, Art. 3:

> *In order to protect natural and legal persons against the harmful effects of incorrect or fake measurements in public domain activities such as trade relations and commercial transactions, work safety and environmental protection (...) are subjected to the mandatory metrological control of the state [1].*

In Romania, manufacturers of measuring instruments are interested in providing quality products that meet the requirements of international standards, especially European ones, in order to comply with the requirements of the European Union.

2 Ways to provide consumer protection for measurements falling under the public domain

Romania is very much interested in producing high quality goods and services that comply with both international and European standards.

Concerns regarding how to guarantee the quality of measurements have had a positive effect concerning consumer and environmental protection, and also concerning safety.

OIML Recommendations and Documents also form the basis for regulatory metrological documents issued in Romania.

Legislation developed recently governing the quality of services and consumer protection has led to steps towards reaching consumer, environmental and safety objectives set by the state bodies that are responsible for the enforcement of these laws.

In order to protect the consumer, state metrological control is exerted on measuring instruments before they are introduced on the market and put into working situations in several ways, e.g. [1]:

a) national type approvals;
b) European type approvals;
c) national initial metrological verifications;
d) European initial verifications;
e) metrological notice.

State metrological control for measuring instruments in use in the public domain is exerted through:

a) periodic metrological verifications;
b) metrological verifications after the repair or modification of an instrument;
c) inspection and unexpected testing;
d) metrological surveillance.

According to the provisions of OG No. 20/1992, the BRML identifies those measuring instruments that are used in the public domain and nominates them on the Official List of Measuring Instruments, submitted to mandatory state metrological control. This list is published, and periodically updated, in the Official Journal of Romania.

Using its specialized departments, the BRML establishes the appropriate metrological control mechanisms, applicable to each type of measuring instrument, as well as the maximum permissible interval between two subsequent metrological verifications [1].

The measurement of electric energy belongs to the public domain and, therefore, electrical energy meters are instruments submitted to mandatory state metrological control.

3 Modern electrical energy meters

The importance of electrical energy and the dynamics of commodities on the international market call for widely recognized and accepted concepts, methods and references.

The present increase in and diversification of the producers of electrical energy and of the techniques used to produce it (thermoelectric, hydroelectric, nuclear or environmentally friendly techniques such as those based on solar, water or wind energy) have also led to an increased need for new and high performance solutions for the protection of electrical energy systems.

The liberalization and globalization of the international electrical energy market require geographically widely distributed electric energy systems to be unified in order to facilitate optimum management of the production, transport and distribution of the electricity produced, based on a realistic estimation and prediction of the electrical energy consumption.

At the same time, there is increasing consumer awareness regarding the importance of maintaining the appropriate level of quality of the electrical energy sold to them. As a result, the quality of the electrical energy has become an issue that requires mutual understanding and widely acceptable solutions.

Also, the increasing number of consumers calls for new ways to measure the amount of electrical energy which is transferred, for example by remote metering.

A variety of instruments may be used to measure electrical energy. Beside the classical watt-hour meters for active electrical energy, whose operation is based on the electromagnetic induction principle, a wide variety of electronic meters has been developed in recent years at a rapidly increasing rate, along with the development of microelectronics, based on the following measurement principles:

- the double amplitude and duration modulation principle;
- the Hall multiplier principle; and
- the thermoelectric multiplier principle.

The rapid modernization of electrical energy meters is also a result of manufacturers' efforts to meet current consumer requirements regarding the technical, structural and metrological characteristics of those measuring instruments that are used in the public domain.

Based on its role, competence and accumulated experience, at the National Institute of Metrology (within the AC Measurements Workgroup of its Electrical Measurements Laboratory) a large number of electrical energy meters for small consumers such as households were assessed, within their type testing for the type approval certificates granted by the BRML Type Approval Department (SAM), as well as within their initial verification, their subsequent periodic verification and their verification after repair.

Active electrical energy meters for household and industrial consumers are tested in metrology laboratories where all the tests required by specific standards in force are carried out in order to assess the meters.

A new issue that currently has to be dealt with is the quality of the electrical energy. Tests such as impulse voltage tests for circuits and between the circuits, tests for electromagnetic compatibility (EMC), for immunity to electrostatic discharges, immunity to electromagnetic HF fields, fast transient burst test and radio interference measurement, stipulated in certain European standards, are now also stipulated in the respective Romanian standards; they are intended to lead to a correct assessment of the behavior of the electrical energy measuring instruments.

Recently, it has become more important to be able to accurately measure electrical energy used by small consumers and now it is also possible to remotely read individual consumers' meters; this data is then directly stored in the memory of a central computer.

The development of static energy meters should also be mentioned, as these enable the consumer to pay for the electrical energy using a card.

The maximum admissible error for electrical energy meters is defined depending on the current running through the meter and on the power factor, always indicated as a relative error.

For example, in the case of directly connected static energy meters of accuracy class 1, the relative permissible error is:

- ± 1.0 % for current values within the range

  $0.1 \times I_b \leq I \leq I_{max}$ and for $\cos \varphi = 1$,

  as well as within the range

  $0.1 \times I_b \leq I \leq I_b$ for $\cos \varphi = 0.5$ inductive and $\cos \varphi = 0.8$ capacity factor; and

- ± 1.5 % for current values within the range

  $0.1 \times I_b \leq I \leq 0.2 \times I_b$ and for $\cos \varphi = 0.5$ inductive factor and $\cos \varphi = 0.8$ capacity factor, where:

  I_b is the basic current of the meter, and
  I_{max} is its maximum permissible current.

As one may notice, electrical energy meters are a category of measuring instrument having the same MPEs for a large range of load currents at various values of the power factor. Another characteristic is the starting current. For example, in the case of induction meters and static meters of accuracy class 1, which are directly connected, the starting current is $I_{st} = 0.004 \times I_b$ at unity power factor, while in the case of static meters of accuracy class 1, which are connected through transformers, the starting current is $I_{st} = 0.002 \times I_n$, where I_n is the nominal current.

This metrological condition emphasizes the sensitivity of the meter. Thus, in the case of the induction meter, when the starting current is verified, the mobile part should start to move on its own and perform at least one full turn. In the case of static meters, these should register energy when the current equals the values of the starting current indicated above.

For example, an active energy meter with the following characteristics: $I_b = 10$ A, $U_n = 220$ V and $\cos \varphi = 1$, should register energy when a consumer whose power is: $P = U \times I \times \cos \varphi = 220 \text{ V} \times 0.04 \text{ A} = 8.8$ W is connected to the network. The corresponding energy is 0.0088 kWh, which means a very low energy consumption.

In order to illustrate the metrological behavior of static single phase active energy meters, Figures 1, 2 and 3 show the curves corresponding to the relative measurement errors for various types of meters together with the curves of the corresponding permissible errors allowing their comparison.

As one may deduce from these graphic representations, static single phase active energy meters, with accuracy class 1, exhibit low measurement errors compared with the values of the permissible errors.

These findings are the result of the initial metrological verifications, performed within the AC Measurements Workgroup, for 10 000 static single phase active energy meters, in different models.

Static meters, which tend to replace classic induction meters, may include an optical communication port that can be used both to read the information stored in the meter's memory and to program the meter.

These meters may also include a built-in clock and calendar, used to change the tariffs. The electrical energy consumption may be recorded using several tariffs and switching from one tariff to another may be programmed depending on various parameters such as the season, whether it is a weekday or weekend, or the time of day.

Static meters may store in their memory data regarding the index of each tariff or the overall index covering a longer period when the circuits are not powered up. The measurement accuracy, the low own energy consumption, the possibility to program hourly tariffs, the possibility to be connected to a computer via a built-in interface and to store information, the reduced size and weight, as well as other advantages provided by electronic meters, make it possible to successfully and accurately use these instruments to measure electrical energy.

4 Conclusions

Romania is very much interested in producing high quality goods and services that comply both with international and with European standards. Providing consumer protection in all fields falling under the public domain, besides being a constant topic for mass media, has proved to be a beneficial activity not only for consumers, but also for producers of goods and services. The BRML is constantly concerned with organizing metrology in Romania in line with modern principles, as well as with the maintenance and development of the national system of measurement standards, as a basis for uniform and correct measurements, with the approval of investment projects, aiming at purchasing highly accurate measuring equipment, and with promoting programs for the implementation in all its subordinate laboratories of quality systems in compliance with the ISO/IEC 17025:2005 international standard "General requirements for the competence of testing and calibration laboratories", the previous version of which was adopted in 2000 without any change as a European standard, translated into Romanian in 2001 and adopted as a Romanian standard, then brought up to date in 2005.

The accurate measurement of electrical energy in Romania has become more and more important

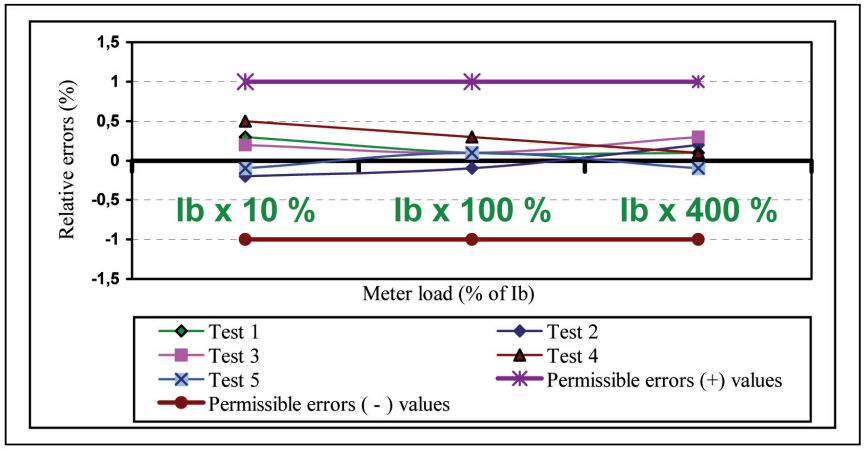

Fig. 1 Relative errors for various types of static single phase active energy meters *cos* φ = 1, accuracy class 1

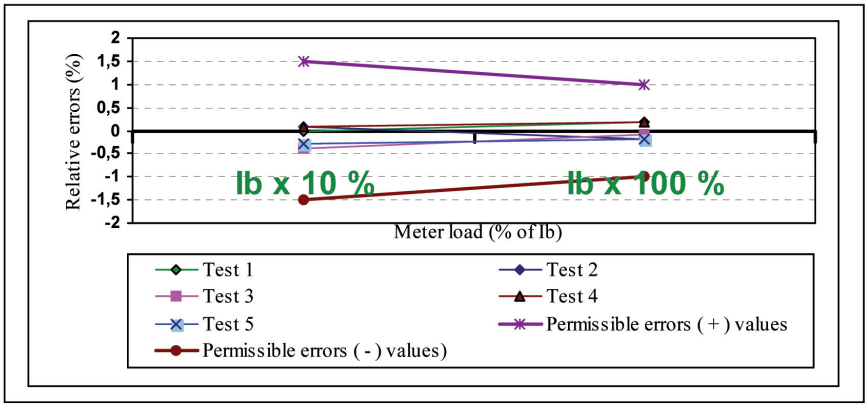

Fig. 2 Relative errors for various types of static single phase active energy meters *cos* φ = 0.8 lead, accuracy class 1

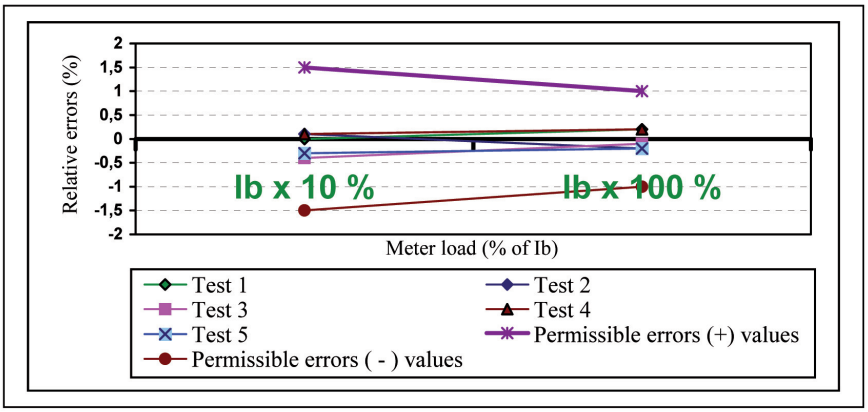

Fig. 3 Relative errors for various types of static single phase active energy meters *cos* φ = 0.5 lag, accuracy class 1

because the price of electricity is continuously increasing and this is reflected in all industrial activities.

The importance of electrical energy makes it necessary to use modern measuring instruments, with higher accuracy, and to draw up laws for ensuring consumer protection. ■

References

[1] Ordinance of the Government No. 20/1992 regarding Metrology

[2] MID No. 22/2004

[3] Ordinance of the Government No. 264/2006

[4] SR 13251/1996, International vocabulary of Basic and General Metrological Terms.

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ILAC-IAF-OIML MoU

Extension of the ILAC/OIML Memorandum of Understanding (MoU) to the IAF (International Accreditation Forum)

ILAC/IAF General Assembly
28 October 2007
Sydney, Australia

RÉGINE GAUCHER
MAA Project Leader
BIML

Introduction

The OIML has drawn up systems to facilitate cooperation between its Members, notably concerning the recognition of Test Reports between them.

The *OIML Certificate System for Measuring Instruments*, established in 1991, allows designated bodies (OIML Issuing Authorities) to issue OIML Certificates of Conformity to attest the conformity of types of measuring instruments which are examined and tested according to the requirements of certain OIML Recommendations. For that purpose, those OIML Recommendations that are applicable within the System define detailed testing and examination procedures and report formats.

An additional tool to this System was implemented in 2005 to increase confidence in test and examination results. The *OIML Mutual Acceptance Arrangement* (MAA) allows a participant in a Declaration of Mutual Confidence (DoMC) to accept and utilize test and examination results issued by the other participants. This Mutual Confidence is based on an evaluation of the testing laboratories according to the requirements of ISO/IEC 17025 *General requirements for the competence of testing and calibration laboratories*.

In the field of prepackages, the OIML has started technical work in order to develop an international prepackage mark to facilitate marketing of prepackaged goods.

All these Systems implement requirements similar to those applicable to the accreditation of testing laboratories, to the accreditation of certification bodies and to certification.

Existing cooperation with ILAC

Existing cooperation has increased thanks to the implementation of the OIML MAA. The evaluation of the competence of the testing laboratories shall be demonstrated by one of the following means:

- Accreditation by an ILAC full Member, which covers the scope of testing in the field of legal metrology and according to the relevant OIML Recommendation;
- Peer assessments organized by the BIML (International Bureau of Legal Metrology).

The MoU between ILAC and the OIML (signed on 12 November 2006) includes shared interpretations of common technical issues (e.g. assessments according to ISO/IEC 17025) and shared use of technical and metrological experts (validated by the OIML) and lead assessors (validated by National Accreditation Bodies, ILAC full Members).

Extension to the IAF

The *OIML Certificate System for Measuring Instruments* does not currently define any requirements for the designation of OIML Issuing Authorities.

Under the OIML MAA, if the evaluation of the competence of testing laboratories is required, the evaluation of OIML Issuing Authorities is only required in terms of a self-declaration. The requirements to be applied are those of ISO/IEC Guide 65 *General requirements for bodies operating product certification systems*.

Since the *OIML Certificate System* and the OIML MAA are both currently under revision, the aim is to use ISO/IEC Guide 65 requirements as a basis for designating an OIML Issuing Authority even if an accreditation or a peer assessment of the OIML Issuing Authority will not be mandatory.

To this end, the BIML is currently drawing up a *Guide for the application of ISO/IEC Guide 65 to legal metrology*. It should be noted that ISO/IEC Guide 65 is currently under revision, and will become ISO/IEC 17065. The scope and structure will be fundamentally modified to be consistent with those of ISO/IEC 17021, the aim being to draw up a Standard

which can easily be used by Accreditation Bodies to assess product Certification Bodies. ISO CASCO WG 29 is responsible for this revision and as a liaison organization, the OIML participates in this Working Group.

The OIML is also developing a scheme to set up an OIML Quantity Mark for pre-packaged products. Evaluations on the basis of ISO/IEC Guide 65, ISO/IEC 17020, ISO/IEC 17021 and ISO 9001 should be envisaged since such a scheme would involve:

- Product Certification Bodies;
- Quality Management System Certification Bodies, in particular to certify management system of packers; and
- Inspection Bodies.

Such a scheme could be extended to initial and (periodic) re-verifications of measuring instruments which could involve various conformity assessment procedures such as:

- Product verification conducted by a third-party inspection body;
- Declaration of conformity by the manufacturer based on quality assurance of its production process including, for instance, a certification of its quality management system on the basis of ISO 9001; and
- In-service inspection by third-party inspection bodies.

In this field, cooperation is similar to that between ILAC and the OIML and includes shared interpretation of appropriate ISO/IEC Standards and development of OIML training for assessors of National Accreditation Bodies, signatories of the IAF Product MLA, who will be responsible for accrediting, in the field of legal metrology, product certification bodies, inspection bodies and bodies providing audit and certification of management systems.

The revised MoU, including its extension to include the IAF, was signed by Mr. Daniel Pierre (ILAC Chair), Mr. Thomas Facklam (IAF Chair) and Mr. Alan Johnston (CIML President) on 28 October 2007 during the ILAC/IAF General Assembly held in Sydney (see photo). ■

Left to right:

Mr. Thomas Facklam (IAF Chair), Mr. Alan Johnston (CIML President), Mr. Daniel Pierre (ILAC Chair)

MEMORANDUM OF UNDERSTANDING (MOU)
BETWEEN
THE INTERNATIONAL LABORATORY ACCREDITATION COOPERATION (ILAC),
THE INTERNATIONAL ACCREDITATION FORUM (IAF)
AND
THE INTERNATIONAL ORGANIZATION OF LEGAL METROLOGY (OIML)

The Chair of the International Laboratory Accreditation Cooperation (ILAC),
The Chair of the International Accreditation Forum (IAF) and
The President of the International Committee of Legal Metrology (CIML),

- considering that measurement plays an essential role in developing confidence between trading partners and in demonstrating that goods comply with written specifications and legal requirements;

- considering that accreditation and legal metrology are key elements of an essential infrastructure for national and international consistency of measurements;

- considering that the use of competent product certification, quality management system certification, laboratory testing and calibration service and inspection service in legal metrology controls must be encouraged;

- considering that the existence of a Mutual Recognition Arrangement (MRA) between ILAC members has already led to the acceptance of test data delivered by an accredited body from another country by a number of national regulatory bodies and that further acceptance is being pursued in a number of regulated sectors (e.g. electromagnetic compatibility (EMC), energy efficiency, food);

- considering that the existence of a Multilateral Recognition Arrangement (MLA) between IAF members has already led to the acceptance of certifications delivered by an accredited certification body from another country by a number of national certification bodies;

- considering the importance of the International Organization of Legal Metrology (OIML) Mutual Acceptance Arrangement (MAA), the ILAC MRA and the IAF MLA to underpin a unified worldwide metrology system for consumer protection, industry, commerce and world-wide trade; and

- considering the complementary nature of OIML, ILAC and IAF work and the benefits of working together for the development of an international, global metrology system

have agreed to cooperate through this Memorandum of Understanding (MoU).

Scope of the Memorandum of Understanding

The aim of the cooperation between ILAC,IAF and the OIML is to:

a) maintain an active ILAC-IAF-OIML liaison by:

   i) facilitating common approaches in the interpretation and implementation of ISO/IEC 17025, ISO/IEC Guide 65, ISO/IEC 17021 and other relevant standards and/or technical criteria, and
   ii) harmonizing assessment procedures;

b) share interpretations of common issues of relevance to laboratories and/or certification bodies by:

   i) exchanging information,
   ii) jointly developing publications and, where practicable, conducting joint work on the development of technical guides, standards, procedures and policies relevant to the affected laboratories and/or certification bodies, and
   iii) cooperating in the development of joint training courses for assessors and conformity assessment experts operating in the field of legal metrology;

c) establish lists of technical and metrological experts and assessors trained by OIML and ILAC full Members and IAF MLA signatories;

d) request ILAC and IAF Members to use technical and metrological experts and assessors from the above-mentioned lists whenever legal metrology is included in the scope of the accreditation;

e) request IAF Members to promote, to the certification bodies, the use of technical and metrological experts validated by the OIML when legal metrology enters into the scope of the certification ;

f) request the OIML to use assessors from ILAC full Members, that are trained by the OIML for OIML peer assessments,;

g) request the OIML to recognize accreditations delivered under the conditions defined in this MoU;

h) promote and develop the consistency and complementarity of the ILAC Mutual Recognition Arrangement, the IAF Multilateral Recognition Arrangement and the OIML Mutual Acceptance Arrangement;

i) promote and develop inter-laboratory comparisons and, in particular, proficiency testing; and

j) invite representatives of each Organization to participate as liaisons in certain meetings of the other Organizations.

Implementation

This Memorandum of Understanding will come into force upon its signature by the ILAC Chair, the IAF Chair and the CIML President, and will remain in force until terminated in accordance with the provisions hereafter defined. It will be reviewed every three years.
Two work programs implementing this MoU will be decided on during an annual tripartite meeting:

- one by the ILAC Chair and the CIML President;
- one by the IAF Chair and the CIML President.

The appropriate ILAC bodies, IAF bodies and the International Bureau of Legal Metrology (BIML) will be responsible for implementing these work programs and for reporting on them at the ILAC General Assembly, at the IAF General Assembly and at the CIML Meeting.

Amendments

This Memorandum of Understanding, which supersedes the one signed between ILAC and the OIML on 12 November 2006, may be amended at any time by a written agreement between the parties.

Termination

This Memorandum of Understanding may be terminated by either party upon three months written notice.

Daniel Pierre
Chair
International Laboratory Accreditation Cooperation (ILAC)

Thomas Facklam
Chair
International Accreditation Forum (IAF)

Alan Johnston
President
International Committee of Legal Metrology (for the OIML)

Signed on: 2007/10/28

OIML SEMINAR ON D 1

Legislating for metrology in developing countries

JOHN BIRCH AM
Hon. Member CIML, Hon. Member APLMF

OIML Seminar on D 1
Elements for a Law on Metrology:

Why and how to legislate on metrology

Shanghai, 23 October 2007

1 Introduction

In recent years there has been an increased interest in metrology legislation in developing countries, reflecting the growth in their economies, the expanding scope of metrology and the need to modernize metrology systems. In 1996 a Survey of Legal Metrology Infrastructure Needs in Asia Pacific Developing Economies conducted for the Asia Pacific Legal Metrology Forum (APLMF) by the late Knut Birkeland found that metrology legislation in developing countries in the region was in differing stages of revision. These revisions were motivated by the need to modernize the legislation to meet the requirements of both technical and political/economic developments. However, it was noted that in most cases the revisions were extrapolations of existing legislation.

Arising from this Survey in September 1997 the APLMF organized a three-day workshop on Legislation and Administration in Tsukuba, Japan, which considered existing legislative and administrative systems, current challenges to legal metrology and the role of accreditation. Since then a number of APLMF member countries have been revising their metrology legislation.

2 Background

When legal metrology developed some 5000 years ago there were only developing countries. However, the development of state structures created a need for the information provided by measurement to organize, plan, defend and tax with efficiency. Such accounting required metrology systems that could provide consistency of measurement across a wide range of practical measurements. The mandate of the state was essential to ensure conformity to measurement requirements, suppress fraud and provide trust and confidence in the measurement system.

China [1] well illustrates this traditional relationship between the state and metrology. During the Shang Dynasty some 3500 years ago a system of standard measuring instruments for length, mass and capacity was established. A state organization with special officials was assigned responsibility for checking the accuracy of these instruments twice a year. As well as trade in commodities, these standards were also mandatory for the production of weapons, vehicles, a wide range of handicrafts and the construction of buildings.

However, metrology systems need strong states to avoid fragmentation of the system, and historically all nations have experienced periodic decline of central state power and national metrology systems.

This was emphasized by Confucius in his Analects [2] where he stated:

> *"Decide on standard weights and measures after careful consideration, and re-establish official posts fallen into disuse, and government measures will be enforced everywhere"*

Metrology systems also have had a pervasive development impact by shifting societies from a qualitative to a quantitative perception of reality [3] which has made modern science and technology possible.

The importance of metrology systems to the authority of the state and national sovereignty was also highlighted when the USA achieved its independence. George Washington in his first Presidential address to Congress identified a standardized system of weights and measures as a top priority for the new nation, and in July 1790 Jefferson introduced legislation to Congress to establish a decimal weights and measures system.

With the development of the modern state, royal decrees and religious commandments were replaced by

weights and measures legislation and administration, which have been most effective in providing trust and confidence in market place measurements. However, regulatory metrology has a different enforcement structure with the government authority operating the measuring instruments. This has led to a legislative fragmentation of legal metrology and in many countries there is now a need for a comprehensive and unified legislative basis for the national measurement system.

3 Why legislate for metrology?

Metrology legislation is central to the development of a metrology system. In developing or revising measurement legislation the following roles of legislation need to be taken into account.

1 It ensures the consistency of measurements by giving legal standing to the national standards and units of measurement, and requires all measurements used for legal purposes to be traceable to these national standards and that only legal units to be used.

2 By providing a legal definition of traceability and by certifying working standards it provides a sound evidential basis for measurements.

This was essential for the effective operation of trade measurement enforcement and has become increasingly important with legal challenges to regulatory requirements based on measurement, particularly traffic speed measurement, breathalyzers and environmental measurements. It avoids the difficulties that can be encountered when lawyers in court cases attempt to define the meaning of measurements i.e. "lawyers' metrology" rather than legal metrology.

3 By having well defined requirements and an enforcement mechanism, it minimizes fraud in transactions based on measurements.

4 Legislation and enforcement will also provide trust and confidence in measurements, which will significantly reduce transaction costs and contribute to the social capital and maintenance of a civil society. The Nobel economic Laureate Kenneth Arrow stated [4]:

"Virtually every commercial transaction has within itself an element of trust, certainly any transaction conducted over a period of time. It can be plausibly argued that much of the economic backwardness in the world can be explained by the lack of mutual confidence."

5 The legislative requirement for traceability, together with certification of working standards, can provide an effective mechanism for overcoming fragmentation of the measurement system and coordinating the measurement activities of regulatory authorities.

6 Legislation also defines the commitment of government to the metrology system. Generally this is a more durable commitment than policy, however it does need to be supported by evidence of the utility of the metrology system.

7 Legislation can unify the national measurement system and contribute to the development of a global measurement system.

4 How to legislate for metrology in developing countries

There are a number of issues that need to be considered by developing countries when drafting their metrology legislation:

1 There has been a massive change in the scope of legal metrology, so that whilst traditional weights and measures is still important other areas of metrology such as utility metering, agricultural quality measurements, health and safety and environment measurements may be more economically or socially significant.

2 Weights and measures in many developed countries has limited its scope to consumer protection, however in developing countries farmers are amongst the poorest members of society and need protection when selling their produce. The APLMF identified rice moisture measurement as a significant problem in the sale of rice by farmers and has a significant training program on this issue.

3 Metrology systems in developing countries have tended to follow the path of development of developed countries, and this has been emphasized by development assistance programs, which transfer technology from developed countries. However this can result in inappropriate development due to very significant differences in the economic and social structures leading to quite different needs for metrology.

4 Limited resources will mean that the scope of the measurement legislation should be limited to those measurements, which are of significant economic and social importance and for which it is practical to maintain national standards. Many developing countries have established niche markets in particular products, which should be given priority.

5 Enacting comprehensive legislation based on the SI units as national legal units, will result in many legal measurements being unverifiable. Units of measurement should only be made legal units of measurement where there is a need and they are verifiable.

6 Provision should be made in the legislation for incorporating overseas measurement standards into the national system by certification.

7 Whilst income tax is the main source of government income in developed countries, excise and resource rent taxes often based on measurement are significant sources of government revenue in developing countries. In Papua New Guinea it was noted that [5]:

- *Mineral products contribute 70 % of Papua New Guinea export income and 17 % of government revenue;*
- *In Papua New Guinea excise revenue based on the measurement of petroleum alcohol and tobacco are important sources of government revenue; and*
- *There is a proposal to develop the Papua New Guinea natural gas deposits and export the gas to Australia by a high-pressure gas pipeline.*

All of these sources of government revenue and national income rely on accurate and consistent measurement.

8 The UNCTAD specialist workshop on commodity exports of Least Developed Countries (LDCs) held in 2002 noted [5] that adequate measurement systems have often been overlooked in developing countries and the difficulties these countries face in fulfilling the requirements of the SPS and TBT Agreements.

9 Many developing countries lack the governmental structures and mechanisms necessary to support an effective measurement system. The World Bank in their 1997 World Development Report *The State in a Changing World,* [6] stated:

"An effective State is vital for the provision of the rules and institutions that allow markets to flourish, without it sustainable development, both economic and social, is impossible."

10 Whilst bulk commodity exports have been important for developing countries as I mentioned in my paper given in Cape Town in 2006 [7] international trade in processed food and beverages is increasing at twice the rate of trade in primary commodities and for developing countries, trade in high value food products now accounts for more than 50 % of the agri-food exports.

11 Introducing regulatory metrology for environmental, health and safety control is also a challenge for developing countries. The World Disaster Report estimated [5] that 70 % of road fatalities occur in developing countries and that the current cost of traffic accidents in these countries roughly equaled the level of all international aid.

The OECD has noted the need for a stringent enforcement regime and a consistent penalty system to address this problem. Legal metrology can make a significant contribution to such a program.

12 Privatization of government measurement related services, e.g. utility services could result in an increased demand for measurement [5] and a loss of trust and confidence in these measurements. Metrology legislation needs to accommodate these changes

13 Overseas Development Assistance (ODA) has been a major source of funds for the development of metrology systems in developing countries. However, ODA is increasingly being directed to achieve the Millennium Development Goals as expressed in the National Development Plans of each developing country. Generally these plans do not recognize metrology and if this is not corrected it will become increasingly difficult to obtain funding. An important way to obtain this recognition and commitment from government is to enact metrology legislation.

14 Harmonizing legislation and administration both regionally and internationally to reduce technical barriers to trade.

15 Finally, a most important issue in drafting metrology legislation is to have a well-defined structure for the administration of the legislation. Too often metrology legislation is enacted that turns out to be unadministrable.

5 Legal metrology in the Pacific Islands

In the last few years I have been involved in trying to establish or develop metrology systems in East Timor and the Pacific Islands. Progress has been slow, partly due to civil unrest, however I would like to describe the metrology situation in the Pacific Islands.

In 2005 I conducted a study [8] for the Pacific Islands Forum on the appropriate legal and physical metrology infrastructure in the fourteen Forum Island Countries (FICs). This was to assist the consistency of measurement in the FICs and support regional and international trade.

The topic was not new to me. I had organized a meeting of trade measurement authorities from the

Pacific Islands in association with the Eighth International Conference of Legal Metrology held in Sydney in October 1988. A second meeting was held in Sydney in 1994 in association with the First Asia Pacific Legal Metrology Forum meeting. Whilst these meetings adopted recommendations on regional co-operation in metrology, no progress was made in harmonization of metrology legislation and training of staff due to a lack of commitment by Pacific Island governments and a lack of interest by bilateral donors. A further meeting held in Auckland in 2001 agreed that before deciding on a detailed program of regional co-operation, a sectorial and institutional analysis and needs assessment should be undertaken. The 2005 study was stimulated by discussions on meeting WTO requirements for international trade and had some degree of government commitment.

Whilst international trade in bulk commodities, particularly sugar, timber, minerals and gold have been important for some FICs it has recently been noted [9] that the revolution that is occurring in the export of high value agricultural and spice exports from developing countries provides a significant trading opportunity for FICs which is yet to be realized. A recent success story has been the production and export of vanilla from Papua New Guinea, which is now the second largest producer in the world.

The Pacific Islands Forum comprises the cultural and geographic regions of Melanesia, Micronesia and Polynesia. There are fourteen independent and self governing island member countries in the Forum, of which Papua New Guinea with a population of six million is the most populace and Nuie with a population of 1,800 and a further 30,000 living overseas in New Zealand and Australia the least populace. A median country would be Tonga with a population of 100,000. The total land area of the fourteen countries is about 500,000 km^2, primarily [5], and a sea area of 20,000,000 km^2.

There is significant regional cooperation among Forum members that has as its goals economic growth, sustainable development, good governance and security. However, this cooperation is based on independent sovereign states and there is no political or legal integration as in the European Union.

Due to limited capabilities and resources, consideration was given to a regional metrology system. Apart from the political/legal impediments mentioned above, geographical isolation is a further impediment. Whilst there will be a place for regional calibration and testing laboratories for primary standards and pattern approval, most regulatory measurements and enforcement activities will be conducted locally. Those countries that have established systems have had to establish a number of local facilities to service trade and industry.

Most of the countries had weights and measures systems derived from their relationship before independence with Britain, the USA, Australia and New Zealand. However, lack of resources and unstable government has seen many of these weights and measurement systems cease. Of the fourteen countries only three (Papua New Guinea, Fiji and Tonga) have well-established measurement systems, with metrology legislation, national standards of measurement and specialized metrology staff/inspectors. Three other countries (Solomon Islands, Cook Islands and Kiribati) have metrology legislation and limited standards facilities but lack specialized staff.

The other eight countries have yet to establish metrology systems and have no standards or metrology legislation. However, measurements are used extensively in these countries, e.g. sale of petroleum and meat, pre-packaged goods, utility metering, weighing of freight, export of commodities, quarantine, surveying, medical and meteorological applications, manufacturing and construction industries and collection of government excise, and there were complaints about many of these measurements in all countries.

Traditional systems and values in the Pacific were geared to subsistence living by small self-sufficient groups. Market transactions were based on a form of reciprocal exchange of goods, which was seen as a gift relationship rather than a commercial transaction [10], and measurement was not seen as necessary or desirable. In addition governance is a major development issue for these countries with some being seen as failed states. All this has worked against the maintenance and development of metrology systems.

Whilst conducting the study opposition to the introduction of metrology systems was expressed as "there is no place for measurement in our country", reflecting opposition to commercialization of traditional practices.

For this reason I stressed in my report the role of metrology in establishing trust and confidence in transactions based on measurement and the support given to the ethical nature of metrology by the holy books of the world.

However, the comments opposing measurement also reflected a lack of understanding of the wide use of measurement in these countries, and the contribution it makes to economic and social development, a lack of understanding that is also quite common among governments and industry in developed countries. Without this understanding there are difficulties in obtaining the commitment of governments to establish and maintain a metrology system.

In addition the Pacific Island countries receive a very large amount per capita of overseas development assistance much of which has been ineffective. I detailed in another study [5] the analysis by the Asian

Development Bank of their experience in capacity building with governments of developing member countries and their guidelines for effective development, which could equally be applied to the metrology systems.

They found that technical assistance grants for institutional strengthening are often ad hoc and have a short-term narrow focus, concentrating on superficial symptoms of institutional inadequacies and missing key institutional areas in need of strengthening. They also found that there was a tendency to impose recommendations for institutional improvement from the outside rather than develop solutions to problems with the full participation of those affected.

They also identified a number of specific inadequacies, which included:

- prior sector and institutional analyses, and related needs assessments are not undertaken rigorously;
- there tends to be an over emphasis on training and hardware supply and inadequate attention to more important capacity variables such as policy, strategy, management ability, systems and redesigned work processes;
- inadequate attention is given to the active involvement of higher management of the institution concerned and to creating internal resources to sustainably manage the capacity building process.

Taking account of this, the first recommendation of the Pacific Study was:

> *To identify needs and assist in setting priorities for the development of the national metrology system, each FIC should conduct a basic survey of the current and future use of measurement in their economy and identify the economic and social benefits.*

Following on from this survey it was further recommended:

> *Coordination of government measurement facilities staff and resources should be implemented by the national metrology authority in each FIC to provide cost effective systems and better use of scarce resources.*

Both of these recommendations would be difficult for many of the countries to implement without assistance so a third recommendation was:

> *To establish a Pacific Islands Metrology Forum which would provide for information exchange between members and harmonize metrology requirements in the Pacific.*

A fourth and key recommendation was for:

> *Each FIC government to commit to enacting modern and harmonized metrology legislation and administration.*

Harmonization of requirements and administrative procedures will require consultation with metrology authorities in other FICs. It is quite difficult and expensive to organize meetings of all FICs so it was recommended that consultation on legislative harmonization could occur in association with a meeting to establish a Pacific Islands Metrology Forum.

The Study and its recommendations were endorsed at technical and ministerial meetings but implementation has been delayed by civil unrest in some FICs and a lack of commitment by some governments without bilateral development assistance. ■

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FACILITATING TRADE

Views from a notified body towards global acceptance

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Abstract

Global acceptance is one of the most important topics in legal metrology to facilitate global trade. This paper presents the views of a leading Notified Body in Europe on global acceptance. What needs to be organized and by whom? Which problems arise today? Will the future be able to offer a system of one stop testing for manufacturers, resulting in approvals that are valid all around the world?

Introduction

The globalization of the economy forces us to also develop our legal metrology system in the direction of a global system. Today, however, this is absolutely not the case. Although most countries signed the Technical Barriers to Trade Treaty of the World Trade Organization (WTO TBT Treaty), there are still technical barriers for manufacturers when they intend to export to the global market. The main question today is: "Do we want to solve this problem, and how?" As a leading testing and certification institute, Notified Body and OIML Issuing Authority, NMi is in close contact with both manufacturers and regulators around the globe. In this paper, I will explain my views in relation to a real global acceptance of type approval tests for measuring and weighing instruments.

Who is responsible for global acceptance?

In my opinion, manufacturers should focus on their main business, namely to design and produce instruments. All unnecessary barriers for gaining approvals should be taken away by governments together with metrology institutes. In principle, it is the task of governments to facilitate global trade: they signed for it as a member of the WTO. As a testing and certification laboratory, we are willing to offer support. To put it briefly, governments set up the rules and conditions for the acceptance of test reports and the testing laboratories follow these rules. At NMi, we test the products and absolutely do not waste any time on discussing the regulations. We must not overestimate our role. In most countries, the national government is responsible for issuing the type approvals. Getting test reports accepted is possible in most countries, but the final decision is taken by the national authority. In the EU, one laboratory can issue type approvals that are accepted in all the other EU countries. Such exceptions are the result of a general political decision, and metrology has little influence on this. Let us focus on the common situation: a manufacturer needs to test his product once, but he wants approvals for several countries without testing again. How can we accomplish this?

What are the reasons for non acceptance?

Most manufacturers have had bad experiences in getting their products approved, even if all the tests have been performed successfully. To understand how to achieve global acceptance, we first need to know why test reports are rejected. The reasons are:

1 The test report is not accepted/is mistrusted;
2 The test report is not understood, or not drawn up in common format;
3 Not all requested tests were performed;
4 The test method is not accepted;
5 Misunderstanding in interpretation of the regulations for a specific country;
6 The exact test sample used for testing is not documented;
7 The documentation is not complete;
8 The conclusion / evaluation is not accepted; or
9 Politics / protectionism / formal issues.

Except for the last reason, all these problems can be solved. If a country does not want to accept or, due to national legislation, can not accept, a complaint can be sent to the WTO.

Basic philosophy in acceptance

To organize global acceptance of type approval tests, we first need to define what kind of documents have to be accepted. This would seem to be obvious, but in fact it is not. At NMi, we limit the acceptance documents to test data and relevant documentation of the test sample. This means that we do not argue with states about their laws, even if the latter are not harmonized with OIML Recommendations; nor do we argue whatsoever about their test methods - we simply want to know their requirements, test methods and criteria. This implies that an approval Certificate is not part of the acceptance documents. The final decision, expressed by a Certificate, merely has a function in the country itself, and is based on the test data and relevant documentation.

Conditions for acceptance

If we agree on the objective, as mentioned above, than the following steps must be taken:

Transparent testing

The testing laboratory is the key player and organizes the acceptance. It is essential to demonstrate competence of the staff, traceable test facilities and transparent methods and procedures. Accreditation (by an organization recognized by ILAC) according to ISO 17025 is the first proof at NMi. In most cases this is sufficient. However, some countries do not trust accreditation alone. These countries normally send over experts to check procedures and methods, sometimes as a member of the official audit team. In addition, we agree on the format of the test report and all tests to be performed. As a standard we always present reports based on the relevant OIML Recommendations, but if anything else is necessary, we supply the format we agreed on. By acting this way, reasons 1 to 5 to reject the test report are solved. It is important to keep in touch with the authorities in case of questions or doubts.

Acceptance protocol

The next step is to supply the relevant documentation in addition to the test report. Our bilateral agreements include specific lists of documents that need to be presented together with the test report. This enables us to guarantee that the receiving country can always check whether the product presented by the manufacturer is exactly the same as that tested in the laboratory. Some countries ask for a sample, which they can evaluate together with our test report and documentation. Some countries ask NMi to send the proven copies of the original documents, since they do not trust anything else. Now we have covered reasons 6 and 7 on the above list.

Evaluation and decision

In my opinion, the evaluation of test reports and documentation is always the task of the country that intends to accept. So, we do not cover this in the acceptance protocol. It would be a mistake to include this in the process of acceptance. Even in Europe, a Notified Body is not allowed to delegate these tasks; thanks to this approach, refusal for reason 8 is not possible, because we do not ask for acceptance of our Certificate or conclusion, we ask them to do that themselves. Therefore, if a country still does not issue the approval, it must be based on reason 9.

Experiences so far

NMi has several bilateral agreements and non formalized procedures based on the method described. Of course, most important is that the government officials who evaluate our test reports and related documents know the relevant NMi engineers. There is frequent e-mail contact if any explanation is needed. We have had very good experiences in Asia (including China and India), Australia and New Zealand, South Africa and Russia. It becomes more complex in the Americas, depending on the type of instrument and applicable regulations, but the development of the OIML MAA should particularly cover this region.

The 27 EU countries and the 3 EFTA countries form a single market and a single approval is sufficient. In Europe, acceptance of test reports between countries is no longer an issue for measuring instruments covered by the MID and NAWI Directives.

The future

In the short term, acceptance is expected to improve day by day. However, the next huge step is to harmonize the legal systems. This process will take decennia and therefore NMi is working on global acceptance of test reports. In a relatively short time, we have achieved a reasonable worldwide acceptance of test reports.

The next step could be the development of the OIML MAA. In the first phase, we can try to harmonize all existing bilateral agreements on acceptance. In the

second phase, it should increase value by attracting more and more countries, leading to *one global system* of acceptance of test reports.

During the *Milestones in Metrology* congress in May 2006 [1], a voting session on the future showed that 70 % agreed that the OIML MAA should be given a chance by implementing at least one category of instruments and build up experience. Also, 70 % were happy with the current OIML Certificate System, which means that the acceptance based on OIML test reports is working well, and that the OIML MAA could be a further improvement of it.

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13e CONGRÈS INTERNATIONAL DE MÉTROLOGIE
13th INTERNATIONAL METROLOGY CONGRESS
Innovation and knowledge transfer / Innovation et transfert de connaissances

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SHANGHAI

42nd CIML Meeting and Associated Events

Shanghai, P.R. China

22–26 October 2007

The Administration of Quality Supervision, Inspection and Quarantine (AQSIQ) hosted the following Meetings in the Grand Ballroom at the Okura Garden Hotel, Shanghai, from 22 through 26 October 2007:

- *42nd CIML Meeting,*
- *Seminar on OIML D 1 "Law on Metrology",*
- *OIML Working Group on Conformity to Type, and*
- *RLMOs Workshop.*

SHANGHAI

42nd CIML Meeting: Opening Address

Minister Li Chuanqing

Ladies and Gentlemen,
Dear Members and Guests,

The 42nd CIML Meeting is being held here in Shanghai, China, in this most beautiful season. On behalf of the AQSIQ, I would like to offer my congratulations and extend my warmest welcome to all delegates from OIML Member States, Corresponding Members and other Organizations present here this week.

Three days ago, the 17th National Congress of the Communist Party of China was closed. The Congress proposed to fully implement the fundamental requirements of the Scientific Outlook on Development. It determined the new demands for the goal of building a wealthy society by giving a summary of the economic, political, cultural and social construction of socialist China, drawing the magnificent blueprint of building a rich, democratic, civil, harmonious and modern socialist country in a new era.

On this occasion the convening of the 42nd CIML Meeting in Shanghai is of great significance for China, as well as for the world, as deliberations will be centered around legal metrology which has an important influence on worldwide social and economic development. Discussions will include coordination of international legal metrology efforts, removal of trade barriers and the promotion of exchange and cooperation. Taking this opportunity I would like to make three main points.

1 - The critical role of legal metrology

Firstly, the Chinese Government attaches great importance to the critical role that legal metrology plays in economic and social development.

Metrology is an important technical foundation for economic, scientific and social development, which relate closely not only to people's lives, but also to international economic, trade, scientific and technological cooperation. Legal metrology also plays an important role in maintaining economic and social order.

China has a long history of legal metrology. As early as the Shang and Zhou Dynasty 3,000 years ago, there existed weights and measures in China with the development of agricultural, handicraft and construction businesses. When Emperor Qin Shihuang united China in 200 B.C., the decree of uniform units of weights and measures was issued, thus effectively facilitating commodity exchanges. I believe this is also a significant event in the world history of legal metrology.

After the founding of the New China in 1949, the Chinese Government attached great importance to metrology work which experienced rapid development. So far, China has established 4,300 Verification Institutions which conduct mandatory verification on over 31,000,000 measuring instruments used in trade transactions, safety, defense, medicine, healthcare, and environmental monitoring. The Chinese Government has also implemented a type approval and licensing system on measuring instruments in accordance with the law, and promotes the OIML Certificate System so as to enhance product quality. Especially when developing a socialist market economy, the quality inspection and supervision authorities at all levels have intensified metrological surveillance on commodities in circulation. They regulate market trading, strictly punish illegal activities such as short measures, and hence effectively protect the legal rights of consumers and enterprises and preserve social and economic order.

The Chinese Government attaches great importance to product quality and safety. With the aim of ensuring product quality and safety and improving the international competitiveness of Chinese industry, companies and products, the Chinese Government has clearly defined enhancing product quality as being a very important task of immediate urgency, as well as a major ongoing long term task. Currently, the special rectification program for product quality and food safety is being carried out nationwide. Metrology work is an important foundation for improving product quality. With a view to fully implementing the human-oriented, harmonized and sustainable Scientific Outlook on Development, the Chinese Government highly values the role of metrology work in promoting healthy and rapid development of the economy and society, which can be illustrated in four points:

- Firstly, China is endeavoring to implement the "Strategy of Prevailing by Quality" and the "Metrological Service Project" in order to guide and help enterprises to establish and perfect measurement testing systems;
- Secondly, the Chinese Government is engaged in building an energy-conservative and environment-friendly society by carrying out energy and resource measurement projects, advocating energy conservation, reducing emissions and developing an ecological society;

- Thirdly, the Government is striving to build an innovative country by undertaking projects on scientific metrology, speeding up and perfecting the completion of traceability systems, and providing a reliable measurement technology platform for self innovation; and
- Fourthly, the Government aims to build a socially harmonious society by deploying the project of "Metrology for the People's Livelihood", intensifying legal metrology work to guarantee the fundamental benefits for individuals.

2 - International cooperation in legal metrology

Secondly, seeking extensive international cooperation in legal metrology is an effective way to advance work on metrology in China.

The OIML was established in 1955, in order to build a worldwide structure by uniting the legal metrology authorities of its Member States to provide solutions to issues concerning metrology and measuring instruments. The OIML aims to promote global harmonization of national metrological infrastructures. By formulating internationally agreed-upon technical documents and establishing the OIML Certificate System and the MAA, the OIML has made a huge contribution to the global development of metrological systems, and has consequently advanced the economic and social development of many countries in the world.

The Chinese Government has been actively participating in OIML activities for some time and considers that extensive international cooperation in legal metrology is an effective way to advance work on metrology in China. Since joining the OIML as a Member State in 1985, China has taken part in numerous CIML Meetings, has participated in the meetings of several TCs and SCs, international comparisons, seminars, trainings, and has participated in the revision of many international Recommendations. It has assumed responsibility for the Secretariats of three OIML Subcommittees and has made many active contributions to OIML development.

Over the past two decades, China has been pursuing the promotion of international cooperation in metrology and has made great progress. By taking part in major OIML activities and by strengthening the information exchange on metrological systems and development with other Member States, China has effectively proceeded to reform its metrology system.

By harmonizing the technical regulations of legal metrology and participating in the OIML Mutual Acceptance Arrangement, the metrological technology institutions of China have improved their position in the measurement testing market. Cooperation with other OIML Members has helped Chinese industry to gain a competitive edge in international trade, and has contributed to better product quality, environment protection, health and safety, and to technological advancements in international trade.

Currently, the international context is undergoing profound and complex changes with further trends towards worldwide multi-polarization and economic globalization. As science and technology progress day by day, regional cooperation is booming and interdependence among countries is deepening; legal metrology development in China is facing unprecedented opportunities and challenges.

China wishes to strengthen cooperation with other OIML Members on the basis of reciprocity, seeking common ground while respecting differences, so as to deepen mutual understanding, expand consensus, harmonize actions and play a more practical and more active role in perfecting international trade systems and rules, harmonizing international Recommendations and regulations and thus facilitating international trade.

3 - Joint efforts of OIML Members

My third main point is that cooperative efforts are requested on the part of OIML Members to ensure the efficient development of legal metrology in the world.

Advancing the development of legal metrology worldwide requires greater international cooperation. The Chinese Government is willing to vigorously take part in OIML activities to contribute to legal metrology harmonization among Members. It wishes to obtain help from the OIML and strengthen communication with other Members - it hopes, by participating in the annual CIML Meeting, to better promote cooperation and hence contribute to the economic, social and scientific advancement of Members.

As joint efforts of Members are required in order to make progress in legal metrology in the world, in concluding I would like to make the following three suggestions:

- Firstly, the OIML needs to take measures to encourage Members who have significant metrological resources to provide assistance to developing countries in areas such as metrology training, helping to establish national metrological systems and traceability systems, and capacity building for metrology staff;
- Secondly, the OIML should heavily promote the MAA and measures for its implementation that are more operable and easier to follow, so as to decrease expenses for mutual acceptance and attract more members' participation and thus make significant progress for the MAA; and
- Thirdly, China agrees with the reform led by the OIML, and hopes that the OIML will come up with a practical and effective reform plan so that more Members will use OIML International Recommendations.

Ladies and Gentlemen,

Shanghai is one of the most dynamic cities in China and is the window and frontier of reform and opening up in China. I believe, during your stay in Shanghai, that you will be impressed by the great achievements that China has made in economic construction, social development, scientific advancement as well as metrology development. I hope and trust that the legal metrology authorities of our Members will, by participating in this 42nd CIML Meeting, further deepen mutual understanding and push cooperation and friendship to new limits.

I wish the CIML Meeting great success, and I wish a prosperous future to the OIML and legal metrology development worldwide.

Thank you. ■

SHANGHAI

42nd CIML Meeting: Opening Address

Mr. Alan E. Johnston
CIML President

Good morning Ladies and Gentlemen and welcome to Shanghai.

First of all Mr. Li Chuanqing (VP of AQSIQ) and Mr. Zhou Taitong (Mayor of the Shanghai Municipal Government), thank you for your very warm welcome. I would also like to thank the Chinese Government and AQSIQ for hosting this, our 42nd CIML Meeting, in Shanghai; it is an honor for us to meet here and we look forward to discovering your exciting city.

The People's Republic of China is a key country for legal metrology. The Chinese measuring instrument industry is very present on the international market and the Chinese legal metrology service, under the authority of AQSIQ, participates actively in OIML work, notably in the OIML Certificate System and the MAA.

China also plays an important role in this Region and has taken over the Chair of the Asia-Pacific Legal Metrology Forum, thus contributing to the success of Regional Metrology Cooperation.

Last but not least of course, I have to mention that the AQSIQ staff in Beijing and in Shanghai have done an excellent job in organizing this CIML Meeting in this beautiful city of Shanghai, taking care of the meeting facilities and organizing delegates' accommodation.

There are more than 120 CIML Members, OIML Corresponding Members, Observers and Liaison Organizations attending this 42nd meeting of the CIML.

Since the last CIML Meeting in Cape Town, we have two new Corresponding Members: the United Arab Emirates and Sudan. A number of other countries have also expressed an interest in becoming OIML Member States or Corresponding Members.

Once again, we can expect our membership to continue to grow in the coming years, and we therefore now have 59 Member States and 56 Corresponding Members.

In reviewing the composition of our Committee, I have pleasure in welcoming the following new CIML Members:

- Mrs. Myrvete Pazaj, from Albania
- Mr. Sid-Ali Reda Ben El-Khaznadji, from Algeria
- Mr. Luiz Carlos Gomes dos Santos, from Brazil
- Mr. Pu Changcheng, from P.R. China
- Mr. Ntinos Hadjiconstantinou, from Cyprus
- Mr. Wondwosen Fisseha, from Ethiopia
- Mr. Mathurbootham, from India
- Mr. Seyed Mohammad Mehdi Taghaddoss, from the Islamic Republic of Iran
- Dott. Antonio Lirosi, from Italy
- Mr. Stephen O'Brien, from New Zealand and
- Mr. Peter Mason, from the United Kingdom.

I have also pleasure in welcoming representatives from the following Liaison Organization:

- Mr. Martin Stoll and Mrs. Veronika Mertens from CECIP.

Prof. Andrew Wallard, Director of the BIPM, is presently finalizing the organization of the General Conference of Weights and Measures, and is not able to be with us today. However, he is very pleased with the continued BIPM-OIML cooperation over the last few months and we will be giving you more details later in the proceedings.

Mr. Loesener, from UNIDO, initially planned to be present, but had to attend another meeting and has sent us his apologies.

ILAC and IAF, whose General Assembly is being held in Sydney at the end of October, also sent us their apologies.

I am also pleased to have among us today:

- Mr. Gerard Faber, CIML Past President,
- Mr. Manfred Kochsiek, CIML Past Vice-President,
- Mr. John Birch, Honorary CIML Member, and
- Mr. Eberhard Seiler, Chairman of the Permanent Working Group on Developing Countries.

It is with the deepest sorrow that I now remind you of the sad news that you heard about this summer: Dr. Samuel Chappell, CIML Honorary Member, died on 28 June this year. He was highly respected by all of us – Chuck Ehrlich, please will you convey to his family the very sincere condolences of all those present today.

At the 41st CIML Meeting in Cape Town, I told you that I intended to review the organization of the CIML Meetings to make them more interactive and to draw more benefit from your experience and contributions. You since sent me a number of very interesting comments and suggestions and these were discussed at the Presidential Council Meeting in March. As a conclusion to this discussion, it was decided to organize a separate Round Table for the Regional Legal Metrology Organizations in order to have a deeper discussion with these Organizations and to be able to allow more time in the Committee Meeting for discussions. This RLMO Round Table was held yesterday, chaired by Grahame Harvey, and he will give you a report later in the proceedings.

During this CIML Meeting, comments by the Bureau will merely highlight any outstanding issues with items where a written report has been posted, to allow additional time for discussions. Therefore, I would ask that you be prepared when you take the floor to make comments on these items and to actively contribute to the discussions as and when appropriate.

Of course, improving the CIML Meetings is an ongoing issue and we remain open to any further comments.

Now to a short review of the last year since the 41st Committee Meeting in Cape Town. I would like to mention a number of key issues on which I expect constructive discussions to take place:

- Financial issues, including the main points on which the Bureau will base the 2009-2012 draft budget for the Conference next year;
- The Action Plan, which should be discussed and adopted following the approval of the Strategy Plan last year;
- Activities for Developing Countries, for which orientations and organizational issues have to be decided;
- Liaison activities and, in particular, the various Memoranda of Understanding and joint work programs with liaison organizations;
- Communication and web site issues, any remarks you wish to make concerning the OIML web site and the online services that you would like to see developed or improved;
- Key issues related to the OIML Certificate System and the MAA in order to have as many participants as possible in the DoMCs and to meet their needs;
- The evolutions envisaged for the Directives for the Technical Work and the possibility of changing the voting rules will be presented and submitted to your comments;
- And of course item 8, Technical Work, in which a number of publications and decisions have to be voted on.

In conclusion, we once again have a very busy and interesting agenda for this three-day CIML Meeting and I look forward to your assistance and cooperation to ensure its success.

Thank you very much for your time. ■

SHANGHAI

42nd CIML Meeting: Agenda

Opening address
Roll-call - Quorum
Approval of the agenda

1 Approval of the minutes of the 41st CIML Meeting

2 Member States and Corresponding Members
2.1 Situation of certain Members

3 Financial matters
3.1 Adoption of the Auditor's report for 2006
3.2 Assets and liabilities as at 01/01/2006 and at 01/01/2007
3.3 Financial report for 2006 and estimates for 2007
3.4 Elements for the 2009 – 2012 budget
3.5 Pension Scheme

4 Presidential Council activities
4.1 Report on Presidential Council activities
4.2 Long Term Strategy
4.3 Action Plan

5 Developing Country activities
5.1 Report on PWGDC and JCDCMAS activities
5.2 Report on the D 1 Seminar

6 Liaisons
6.1 Presentation by the Bureau on liaison activities and joint actions
6.2 Updates by Liaison Organizations + short update
6.3 Report on the RLMO Workshop and on the Conformity to Type Working Group
6.4 MID Tables

7 BIML activities
7.1 Report on BIML activities for 2006-2007
7.2 Communication, web site

8 Technical activities
8.1 Approval of International Recommendations and Documents
8.2 Information and proposals regarding TC/SC work
8.3 MAA
8.4 Nature of OIML Publications and the *Guide for CIML Members*
8.5 Progress on the revision of the *Directives*
8.6 Training sessions for OIML TC/SC Secretariats

9 Human resource matters
9.1 Dispute related to the dismissal of a BIML Secretary

10 Future meetings
10.1 13th Conference and 43rd CIML Meeting (2008)
10.2 44th CIML Meeting (2009)

11 Decisions and Resolutions

12 Awards

13 Other matters

Shanghai by Night

FORTY-SECOND MEETING
of the
INTERNATIONAL COMMITTEE of LEGAL METROLOGY
Shanghai, 24–26 October 2007

DECISIONS

Opening addresses

The Committee took note of opening addresses given by Mr. Li Chuanqing, Minister, Mr. Zhou Taitong, Deputy Mayor and Mr. Alan E. Johnston, CIML President.

Roll-call – Quorum

48 Member States out of 59 were present or represented at the opening of the 42nd CIML Meeting. The quorum (45 Member States) was therefore reached.

The Committee also noted the participation of a number of OIML Corresponding Members, one Observer Country, Liaison Institutions and Regional Legal Metrology Organizations, as well as the CIML Immediate Past President, CIML Honorary Members, and members of AQSIQ Staff and BIML Staff.

Approval of the agenda

The Committee approved the Draft Agenda with the addition of a report on the Conformity to Type Working Group under Item 6.3.

1 Approval of the minutes of the 41st CIML Meeting

The Committee approved the minutes of the 41st CIML Meeting without modification.

2 Member States and Corresponding Members

2.1 Situation of certain Members

The Committee noted that two additional Corresponding Members (United Arab Emirates and Sudan) had joined the OIML.

3 Financial matters

3.1 Adoption of the Auditor's report for 2006

The Committee approved the Auditor's report for 2006 and requested its President and the BIML Director to submit it to the Thirteenth Conference in 2008.

3.2 Assets and liabilities as at 01/01/2006 and at 01/01/2007 and

3.3 Financial report for 2006 and estimates for 2007

The Committee took note of the report given by the BIML Director.

3.4 Elements for the 2009 – 2012 budget

The Committee approved the orientations presented by the Bureau and instructed the Director to prepare a draft budget on these lines, taking account of the comments expressed and of comments that Member States are invited to send to the Bureau no later than 31 December 2007.

3.5 Pension scheme

The Committee approved the orientations proposed by the Director of the Bureau and instructed him to prepare a draft revision of the OIML Staff Regulations based on these orientations, to be submitted to the CIML for approval at its 43rd Meeting.

4 Presidential Council activities

4.1 Report on Presidential Council activities

The Committee took note of an oral report presented by the CIML President.

4.2 Long Term Strategy and

4.3 Action Plan

The Committee examined the Action Plan and instructed the CIML President to finalize and approve it on its behalf, taking account of the comments made at this Meeting and of any further comments that could be sent in by CIML Members no later than 31 December 2007.

5 Developing Country activities

5.1 Report on PWGDC and JCDCMAS activities

The Committee took note of presentations given by Mr. Dunmill and Dr. Seiler and instructed the Bureau to prepare, with Dr. Seiler, a procedure to identify and reward exemplary actions carried out by Developing Countries for the progress of legal metrology. This procedure will be submitted to the CIML for approval.

5.2 Report on the D 1 Seminar

The Committee took note of a report on the Seminar held on Tuesday 23 and expressed its thanks to Dr. Seiler for organizing and chairing it.

6 Liaisons

6.1 Presentation by the Bureau on liaison activities and joint actions

The Committee took note of a report given by the BIML Director on Liaison activities with other Organizations and instructed the CIML President to sign the extension of the existing ILAC-OIML MoU to also include the IAF.

The Committee asked the CIML President to monitor and update, if necessary, the joint working programs with the BIPM, ILAC and IAF.

6.2 Updates by Liaison Organizations

The Committee took note of a presentation given by Mr. Stoll, CECIP.

6.3 Report on the RLMO Round Table and Conformity to Type Working Group

The Committee took note of a report given by the BIML Director on the RLMO Round Table, noted that presentations given by RLMOs were posted on the OIML web site and agreed to set up a working group on funding resources, chaired by Mr. Carstens.

The Committee instructed the Bureau to:

- draw up a draft MoU between the OIML and RLMOs;
- set up a web based forum to facilitate exchange of information between RLMOs.

The Committee took note of a report given by the BIML Director on the CTT WG and instructed the BIML to draw up draft terms of reference for a study on conformity to type.

These ToR will be submitted to the CIML President for approval.

6.4 MID Tables

The Committee took note of a presentation given by the BIML Director and instructed the Bureau to continue its cooperation with WELMEC on this issue, and requested the European participants of the appropriate TCs/SCs, to draw up the first draft tables of correspondence with the MID requirements as soon as a Recommendation reaches DR status.

7 BIML activities

7.1 Report on BIML activities for 2006-2007

The Committee took note of a report given by the BIML Director.

7.2 Communication, web site

The Committee took note of a presentation given by Mr. Pulham, notably concerning the advancement of joint BIPM-OIML projects, developments in the interactive parts of the web site, and future developments envisaged in this domain.

The Committee reiterated its request to CIML Members to make extensive and timely use of the online facilities for voting and commenting on drafts, and updating information.

8 Technical activities

8.1 Approval of International Recommendations and Documents

The Committee approved the following Publications:

- DR 1 Combined Revision of R 4, R 29, R 45 and R 96 *Vessels for commercial transactions*;
- DR 2 Combined Revision of R 117, R 105 & R 86 *Dynamic measuring systems for liquids other than water*;
- DR 3 New OIML Draft Recommendation *Compressed gaseous fuel measuring systems for vehicles*;
- DR 4 New OIML Draft Recommendation *Measuring systems for gaseous fuel*;
- DR 5 Revision R 21 *Taximeters*;
- DR 6 Revision R 107-1 *Discontinuous totalizing automatic weighing instruments (totalizing hopper weighers). Part 1: Metrological and technical requirements – Tests*;
- DR 7 Revision R 35 *Material measures of length for general use. Part 1: Metrological and technical requirements*;
- DR 8 Revision R 107-2 *Discontinuous totalizing automatic weighing instruments (totalizing hopper weighers). Part 2: Test report format*;
- AM 1 Amendment 2 to D 2 *Legal units of measurement.*

8.2 Proposals regarding TC/SC work

The Committee approved:

- the proposal to merge TC 8/SC 7 *Gas metering* and TC 8/SC 8 *Gas meters* (BIML Note: Secretariat The Netherlands - the resulting SC will be TC 8/SC 7 and will retain the same title);
- the proposal to Revise R 79 *Labelling requirements for pre-packaged products*;
- the proposal to reallocate the responsibility for *Measuring Container Bottles (MCB)* from TC 8 to TC 6;
- the proposal to revise R 81 *Dynamic measuring devices and systems for cryogenic liquids*;
- the proposal to grant dispensation to section 3.4 of B 6-1 (Directives for the technical work) for the revision of R 99;
- the proposal to submit the DR of the revision of R 71 to direct CIML online approval;
- the proposal to submit the DRs of the revisions of R 85-1, R 85-2 and R 85-3 to direct CIML online approval;
- the proposal to submit the DR of the revision of R 80-1 to direct CIML online approval;
- the proposal to submit the DR of the new Recommendation on *Thermographic instruments* to direct CIML online approval;
- the proposal to submit the DR of the new Recommendation on *Automated refractometers* to direct CIML online approval;
- the proposal to withdraw D 4 *Installation and storage conditions for cold water meters*;
- the proposal to approve the revision of R 66 *Length measuring instruments* as a new work item;
- the proposal to re-confirm R 24 *Standard one metre bar for verification officers*;
- the proposal to submit the Draft Amendment to DR 1 Combined Revision of R 4, R 29, R 45 and R 96 *Vessels for commercial transactions* to direct CIML online approval;
- the proposal to revise DR 3 New OIML Draft Recommendation *Compressed gaseous fuel measuring systems for vehicles* as a new work item in (the new) TC 8/SC 7.

8.3 MAA

The Committee took note of a report given by Ms. Gaucher on the progress of the MAA implementation.

It instructed the Bureau to draw up a resolution to be submitted for approval by the CIML at its 43rd Meeting, concerning the transitory period and the intention to maintain the Basic Certificate System for Issuing Participants of the DoMCs.

The Committee strongly encouraged Member States and Corresponding Members to participate in the DoMCs.

The Committee instructed TC 3/SC 5 to take account of comments expressed during the Meeting in the revision of B 3 and B 10.

8.4 Nature of OIML Publications and the Guide for CIML Members

The Committee took note of a presentation given by Mr. Kool concerning the two Guides:

- G 16 *Guide on the categories of OIML Publications and their adoption procedures*;
- G 17 *Guide for CIML Members.*

8.5 Progress on the revision of the Directives

The Committee took note of a report given by Mr. Dunmill on the progress in the revision of the Directives for Technical Work.

8.6 Training sessions for OIML TC/SC Secretariats

The Committee took note of information given by Ms. Gaucher on training sessions for those responsible for TC/SC Secretariats and on the development of training material for one-day training sessions to be organized by CIML Members.

9 Human resource matters

9.1 Dispute related to the dismissal of a BIML Secretary

The Committee took note of a report given by the BIML Director on a dispute concerning a dismissal.

It noted that this affair had now been settled and that there no longer existed any uncertainty as to the applicable jurisdiction.

The Committee instructed the Bureau to undertake a review of the legal aspects of the BIML Staff Regulations with the assistance of a competent legal counsel.

10 Future meetings

10.1 13th Conference and 43rd CIML Meeting (2008)

The Committee thanked Australia for presenting the venue at which the 13th Conference and 43rd CIML Meeting will be held in Sydney in 2008.

10.2 44th CIML Meeting (2009)

The Committee thanked Kenya for its invitation to hold the 44th CIML Meeting in 2009, and accepted.

12 Awards

The Committee made Awards to the following individuals in recognition of their outstanding contribution to legal metrology:

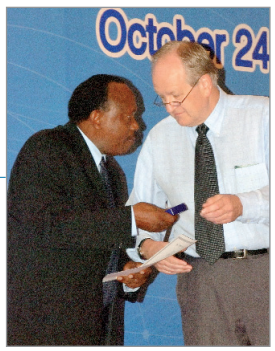
- Mr. Romain Eggermont (Belgium);
- Mr. Gerard Lagauterie (France);
- Mr. Wayne Stiefel (United States);
- Mr. Ali Tukai (Tanzania);
- Mr. Bruno Vaucher (Switzerland).

It also gave Letters of Appreciation to:

- Mr. Peter Brandes (Germany);
- Mr. Charles Ehrlich (United States), and
- Mr. Mikhalchenko Vassily Nikolaevich (Kazakhstan).

SHANGHAI

Awards and Letters of Appreciation



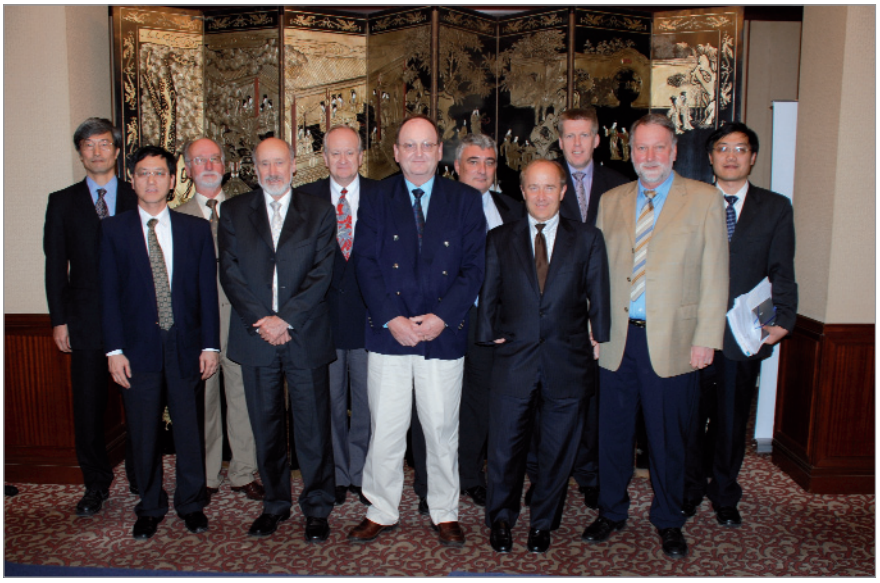
The Committee made Awards to the following individuals in recognition of their outstanding contribution to legal metrology:

- Mr. Romain Eggermont, represented by Mr. Frans Deleu (Belgium);
- Mr. Gerard Lagauterie (France);
- Mr. Wayne Stiefel (United States);
- Mr. Ali Tukai (Tanzania); and
- Mr. Bruno Vaucher (Switzerland).

It also gave Letters of Appreciation to:

- Mr. Peter Brandes (Germany);
- Mr. Charles Ehrlich (United States); and
- Mr. Mikhalchenko Vassily Nikolaevich (Kazakhstan).

The Presidential Council also met in Shanghai:



SHANGHAI

Working Group on Conformity to Type: Report

Dr Grahame Harvey
Working Group Chair

The third meeting of the OIML Working Group on Conformity to Type was held on 22 October 2007 in association with the 42nd CIML Meeting in Shanghai. It was attended by 31 delegates from 19 Member States; a representative from CECIP, Manfred Kochsiek (Observer) and BIML Staff were also present.

Reports of two BIML surveys were provided to the meeting. The first survey was of Member States to investigate their level of surveillance of production instruments for conformity to the approved type. This revealed that few Member States had a competent system to detect non-conformities. Most relied on initial verification that can detect blatant non-conformities but is mostly ineffective for detecting inadvertent or deliberate changes in instrument design that can affect the performance of instruments with respect to environmental influence factors.

The second report concerned a survey of instrument manufacturers to investigate the level of industry support for an international or regional conformity to type program. Responses were received from 26 companies, the majority from the weighing sector. About 20 % claimed to be aware of examples of non-conformity in their sector, although it was not thought to be intentional or systemic. About a third of respondents were opposed to the introduction of an OIML conformity to type program with the remainder either supporting such a program or having no opinion. It was interesting that the possibility of cost recovery made little difference to respondents.

A presentation by a representative of CECIP was strongly supportive of a conformity to type program. The representative expressed disappointment that regulators had not been able to introduce such a program to date and noted that some major European manufacturers were considering the introduction of their own voluntary program.

The Working Group agreed that a strategy paper should be developed but that this should be preceded by a study in the first half of 2008 to test some randomly-sampled production instruments for their level of conformance. Several Member States volunteered to carry out the associated testing. It was agreed that the BIML would develop the terms of reference for this study. ■

CIML Meeting in session

OIML Certificate System:
Certificates registered 2007.08–2007.10
Up to date information (including B 3): www.oiml.org

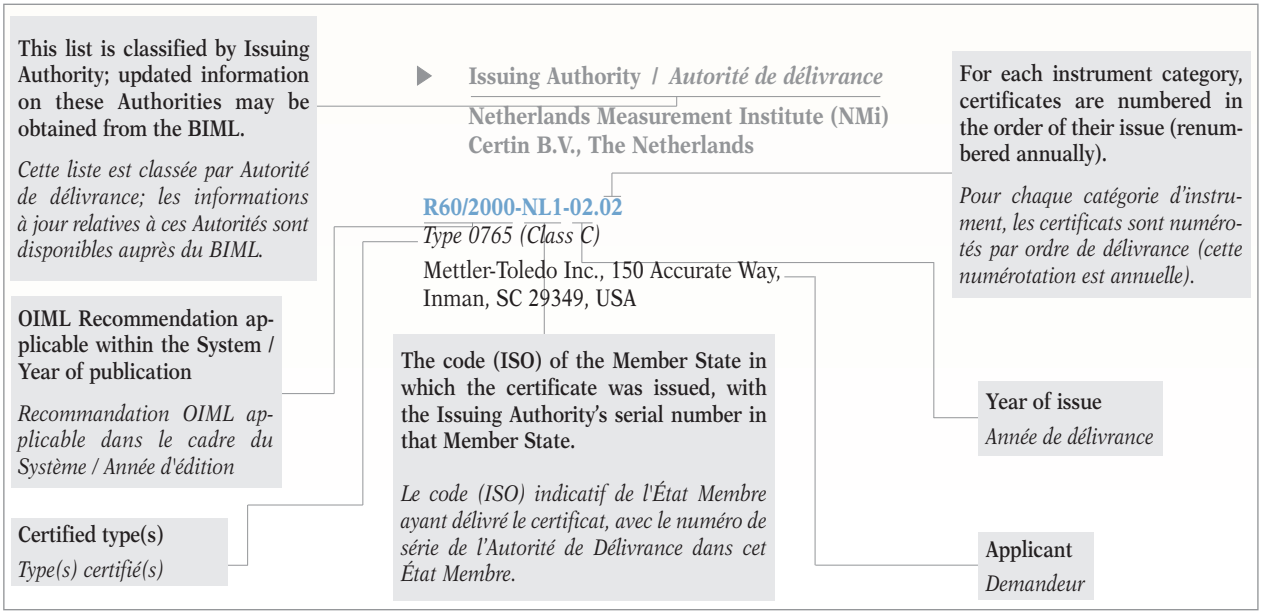
The *OIML Certificate System for Measuring Instruments* was introduced in 1991 to facilitate administrative procedures and lower costs associated with the international trade of measuring instruments subject to legal requirements.

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 2007.08–2007.10
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 (2003)

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

Physikalisch-Technische Bundesanstalt (PTB), Germany

R049/2003-DE1-2006.01 Rev. 1
Water meter intended for the metering of cold potable water – Type: SM 150, SM 250 Series
Severn Trent Metering Services Ltd., Smeckley Wood Close, Chesterfield Trading Estate, Chesterfield S41 9PZ, United Kingdom

R049/2006-DE1-2007.03
Water meter intended for the metering of cold potable water – Type: SM150VR
Severn Trent Metering Services Ltd., Smeckley Wood Close, Chesterfield Trading Estate, Chesterfield S41 9PZ, United Kingdom

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

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

R 51 (1996)

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

Physikalisch-Technische Bundesanstalt (PTB), Germany

R051/2006-DE1-2007.01
Automatic catchweighing instrument - Type: ABC DMS
Mettler-Toledo Garvens GmbH, Kampstr. 7, D-31180 Giesen, Germany

R051/2006-DE1-2007.03
Checkweigher - Type: CWE...
Bizerba GmbH & Co. KG, Wilhelm-Kraut-Straße 65, D-72336 Balingen, Germany

R051/2006-DE1-2007.04
Automatic catchweighing instrument - Type: GLM-I
Bizerba GmbH & Co. KG, Wilhelm-Kraut-Straße 65, D-72336 Balingen, Germany

R051/2006-DE1-2007.05
Checkweigher - Type: CWM...
Bizerba GmbH & Co. KG, Wilhelm-Kraut-Straße 65, D-72336 Balingen, 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-GB1-2007.03
Stainless steel (tension) strain gauge load cell
AEP Technology S.r.l., Via Bottego 33, I-41010 Cognento (Modena), Italy

R060/2000-GB1-2007.04
Steel compression (beam) strain gauge load cell
CAS Corporation, 19 Kanap-ri, Gwangjuk-Myoun, Yangju-Si, 482-841 Gyeonggi-Do, Korea (R.)

R060/2000-GB1-2007.05
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

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

Netherlands Measurement Institute (NMi) Certin B.V., The Netherlands

R060/2000-NL1-2007.04
Tension (S type) load cell - Type: DEE...
Keli Electric Manufacturing (Ningbo) Co. Ltd., 199 Changxing Road, Jiangbei District, Ningbo City, P.R. China

R060/2000-NL1-2007.10
Compression load cell - Family of type: CA40X and CB50X
Scaime S.A., Z.I. de Juvigny, B.P. 501,
F-74105 Annemasse Cedex, France

R060/2000-NL1-2007.12
Single point bending beam load cell - Type: CB004-xxx-NS and CB004-xxx
Minebea Co. Ltd., Kuruizawa Factory Miyota-Machi,
Kitasakugun, 4106-73 Nagano-Ken, Japan

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

R060/2000-CN1-2006.10
Load cell PA06
Beijing True-Tec Co. Ltd., Room B#-303,
No. 10A Long Street, BDA, 100176 Beijing, 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***
National Weights and Measures Laboratory (NWML), United Kingdom

R076/1992-GB1-2007.05
Charder MS-4100 and MS-4200 person weighers
Charder Electronic Co. Ltd., 103 Kuo Chung Road,
Dah Li City, Taichung Hsien 412, Chinese Tapei

R076/1992-GB1-2007.06
Dolphin Series, EB Model non-automatic weighing instrument
CAS Corporation, 19 Kanap-ri, Gwangjuk-Myoun,
Yangju-Si, 482-841 Gyeonggi-Do, Korea (R.)

R076/1992-GB1-2007.06 Rev. 1
Dolphin Series non-automatic weighing instruments
CAS Corporation, 19 Kanap-ri, Gwangjuk-Myoun,
Yangju-Si, 482-841 Gyeonggi-Do, Korea (R.)

R076/1992-GB1-2007.07
Huntleigh Healthcare Enterprise 9000 or Enterprise 9100 hospital bed with weighing facility
Huntleigh Healthcare Ltd., Woden Road West,
Wednesbury WS10 7BL, West Midlands, United Kingdom

R076/1992-GB1-2007.08
IM Series, Models IM 100 and IM 202 non-automatic weighing instruments
Avery Berkel, Foundry Lane, Warley, Smethwick B66 2LP,
West Midlands, United Kingdom

R076/1992-GB1-2007.08 Rev. 1
IM Series, Models IM 100, IM 202, IM 300 and IM 400 non-automatic weighing instruments
Avery Berkel, Foundry Lane, Warley, Smethwick B66 2LP,
West Midlands, United Kingdom

R076/1992-GB1-2007.10
MS-23XX non-automatic weighing instrument
Charder Electronic Co. Ltd., 103 Kuo Chung Road,
Dah Li City, Taichung Hsien 412, Chinese Taipei

▶ **Issuing Authority / *Autorité de délivrance***
Netherlands Measurement Institute (NMi) Certin B.V., The Netherlands

R076/1992-NL1-2005.28
Type: SM-500...
Teraoka Weigh-System PTE Ltd., 4 Leng Kee Road,
#06-01 SIS Building, 159088 Singapore, Singapore

R076/1992-NL1-2006.38 Rev. 1
Non-automatic weighing instrument - Type: bTwin
Mettler-Toledo (Changzhou) Measurement Technology Ltd., No. 10 Kunlan Road, ChangZhou XinBei District,
213125 Jiangsu, P.R. China

R076/1992-NL1-2007.01
Non-automatic weighing instrument - Type: FX, MC, B, G, BK, HL or S series
Avery Berkel, Foundry Lane, Warley, Smethwick B66 2LP,
West Midlands, United Kingdom

R076/1992-NL1-2007.11 Rev. 1
Non-automatic weighing instrument
Mettler-Toledo (Changzhou) Measurement Technology Ltd., No. 10 Kunlan Road, ChangZhou XinBei District,
213125 Jiangsu, P.R. China

R076/1992-NL1-2007.14
Non-automatic weighing instrument - Type: BI-10000 Helios and BI-10000 Atoll
Mettler-Toledo (Changzhou) Measurement Technology Ltd., No. 10 Kunlan Road, ChangZhou XinBei District, 213125 Jiangsu, P.R. China

R076/1992-NL1-2007.24
Non-automatic weighing instrument - Type: DPS-4600...
Teraoka Seiko Co. Ltd., 5-13-12 Kugahara, Ohta-ku, 146-8580 Tokyo, Japan

R076/1992-NL1-2007.25
Non-automatic weighing instrument - Type: AW-4600...
Teraoka Seiko Co. Ltd., 5-13-12 Kugahara, Ohta-ku, 146-8580 Tokyo, Japan

R076/1992-NL1-2007.26
Non-automatic weighing instrument - Type: FD series
Ohaus Corporation, 19A Chapin Road, Pine Brook, NJ 07058 New Jersey, United States

R076/1992-NL1-2007.27 Rev. 1
Non-automatic weighing instrument - Type: 320XR Series
Precisa Gravimetrics A.G., Moosmattstraße 32, CH-8953 Dietikon, Switzerland

R076/1992-NL1-2007.28
Non-automatic weighing instrument - Type: Valor 5000 series
Ohaus Corporation, 19A Chapin Road, Pine Brook, NJ 07058 New Jersey, United States

R076/1992-NL1-2007.29
Non-automatic weighing instrument - Type: RM-50...
Shanghai Teraoka Electronic Co. Ltd., Ting Lin Industry Development Zone, Jinshan District, 201505 Shanghai, P.R. China

R076/1992-NL1-2007.30
Non-automatic weighing instrument - Type: 8300/8400
Datalogic Scanning, Inc., 959 Terry Street, Eugene, Oregon 97402, United States

R076/1992-NL1-2007.30 Rev. 1
Non-automatic weighing instrument - Type: 830x/840x
Datalogic Scanning, Inc., 959 Terry Street, Eugene, Oregon 97402, United States

R076/1992-NL1-2007.31
Non-automatic weighing instrument - Type: DS-500
Shanghai Teraoka Electronic Co. Ltd., Ting Lin Industry Development Zone, Jinshan District, 201505 Shanghai, P.R. China

R076/1992-NL1-2007.32
Non-automatic weighing instrument - Family of type: DS-650...
Tingling Industry Developmental Zone, Jin Shan Country, 201505 Shanghai, P.R. China

R076/1992-NL1-2007.34
Non-automatic weighing instrument - Type: T51xx
Ohaus Corporation, 19A Chapin Road, Pine Brook, NJ 07058 New Jersey, United States

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

R076/1992-DE1-2007.06
Non-automatic electromechanical weighing instrument with or without lever system - Type: 301x
Soehnle-Waagen GmbH + Co., Wilhelm-Soehnle-Straße 2, D-71540 Murrhardt, Germany

R076/1992-DE1-2007.07
Non-automatic electromechanical weighing instrument with or without lever works
Schenk Process GmbH, Landwehrstraße 55, D-64293 Darmstadt, Germany

R076/1992-DE1-2007.08
Nonautomatic electromechanical weighing instrument - Type: BC II...
Bizerba GmbH & Co. KG, Wilhelm-Kraut-Straße 65, D-72336 Balingen, Germany

R076/1992-DE1-2007.09
Non-automatic electromechanical weighing instrument with or without lever system - Type: E200.
ERTE Endustriyel Elektronik Sanayi ve Ticaret Limited Sirketi, Sakarya Cad. 142/A, 35330 Balcova, Turkey

▶ **Issuing Authority / *Autorité de délivrance***
Swedish National Testing and Research Institute AB, Sweden

R076/1992-SE1-2007.02
Graduated, self indicating, electronic, multi-interval non-automatic weighing instrument - Type SR2000a
Ishida Co. Ltd., 44 Sanno-cho, Shogoin, Sakyo-ku, 606-8392 Kyoto-city, Japan

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Automatic level gauges for measuring the level of liquid in fixed storage tanks
Jaugeurs automatiques pour le mesurage des niveaux de liquide dans les réservoirs de stockage fixes

R 85 (1998)

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

Netherlands Measurement Institute (NMi) Certin B.V., The Netherlands

R085/1998-NL1-2007.03
Automatic level gauge for measuring the level of liquid in storage tanks, model Smartradar Flexline, type XP, with antennas F08, W06, H04, S06, S08, S10 and S12

Enraf B.V., Delftechpark 39, NL-2628 XJ Delft, The Netherlands

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Automatic rail-weighbridges
Ponts-bascules ferroviaires à fonctionnement automatique

R 106 (1997)

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

National Weights and Measures Laboratory (NWML), United Kingdom

R106/1997-GB1-2007.01
Automatic rail-weighbridge, Railweight TSR4000

Railweight, Hurstfield Industrial Estate, Hurst Street, Reddish, Stockport SK5 7BB, Cheshire, United Kingdom

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***

Netherlands Measurement Institute (NMi) Certin B.V., The Netherlands

R117/1995-NL1-2007.02
Fuel dispensers for motor vehicles, model "Global vision" with a Q_{max} of 40, 70, 90, or 130 L/min

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

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

Russian Research Institute for Metrological Service (VNIIMS)

R117/1995-RU1-2003.01 Rev. 3
MIDCO Fuel dispensing pump (MEB Series/MPD Series /MMS Series /MIDCO SUREFILL Series)

MIDCO Ltd., Metro Estate, Vidyanagari Marg, Kalina, 400098 Mumbai, India

R117/1995-RU1-2003.02 Rev. 3
MIDCO Flow meter for fuel dispensing pump

MIDCO Ltd., Metro Estate, Vidyanagari Marg, Kalina, 400098 Mumbai, India

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

Multi-dimensional measuring instruments
Instruments de mesure multidimensionnels

R 129 (2000)

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

Netherlands Measurement Institute (NMi) Certin B.V., The Netherlands

R129/2000-NL1-2006.01 Rev. 2
Multi-dimensional measuring instrument for measuring cubic and rectangular, non-irregular shaped, non-reflective and opaque boxes - Type: VMS 510

SICK AG., Nimburger Strasse 11, D-79276 Reute, Germany

R129/2000-NL1-2007.01 Rev. 1
Multi-dimensional measuring instrument for measuring rectangular, non-rectangular, non-irregular shaped, non-reflective and opaque boxes - Type: VMS 520

SICK AG., Nimburger Strasse 11, D-79276 Reute, Germany

R129/2000-NL1-2007.02
Multi-dimensional measuring instrument - Type: DM-3500

Accu-Sort Systems. Inc., 511 School House Road, US-PA 18969 Telford, United States

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. The one change since the October 2007 issue of the Bulletin is 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		

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				

ISO 3930/OIML R 99

Joint ISO TC 22/SC 5 and OIML TC 16/SC 1 Working Group Meeting

GEP ENGLER
OIML TC 16/SC 1 Secretariat
Verispect B.V. – The Netherlands

RÉGINE GAUCHER
Contact person for OIML TC 16/SC 1 (BIML)

OIML TC 16/SC 1 *Air pollution*, together with ISO TC 22/SC 5, is responsible for revising the joint Publication ISO 3930/OIML R 99 *Instruments for measuring vehicle exhaust emissions*.

In order to prepare this revision, a joint Working Group from these two Subcommittees has been established. This Working Group held a one-day meeting in The Netherlands on 14 September 2007 in order to examine the Second Working Draft (2 WD) and the comments received. Verispect B.V. kindly offered to host the meeting.

Eleven delegates from four countries attended the meeting. Participants were legal metrology institutes, manufacturers and testing laboratories. ISO TC 22/SC 5, which was represented by its Secretariat and by the convener of ISO TC 22/SC 5/WG 5, and the BIML contact person also attended.

Conclusions of the discussions led to the following main resolutions (changes compared to the 2WD):

- An additional accuracy class 00 will be specified to define smaller maximum permissible errors (MPE) on CO, CO_2 and HC. The MPE's on O_2 will be kept identical to those of the existing class 0 since O_2 is not a critical quantity for the environment (it is to do with the capability of the engine);
- Measurement of NO_x will not be included in this Standard/Recommendation;
- Diesel engines will not be included in the scope of ISO 3930/OIML R 99. The United States made a proposal for a new work item on this issue to ISO TC 22/SC 5, which examined it at its meeting in October 2007. Particulate matters will be also addressed through this proposal;
- No requirement concerning oil temperature transducers and tachometers will be introduced in ISO 3930/OIML R 99 as these quantities are not related to the primary indication of the measuring instrument. In addition, ISO 3929 (which defines the measurement method during inspection or maintenance) already provides requirements for oil temperature transducers and tachometers;
- The requirements related to printers (i.e. whether to render them mandatory or not) will be re-examined, considering the requirements of the Measuring Instrument Directive (MID) which does require durable storage means;
- The modular approach to be able to issue an OIML Certificate for the bench alone will be developed at a later stage based on the existing experience of France, Germany and The Netherlands;
- Guidance on gas mixtures to be used in initial and subsequent verifications will be included;
- The Requirements and the tests will be combined in Part 1 (being one publication, as usual in the OIML) and this will be divided into two Sections: Section 1 *Metrological and technical requirements* and Section 2 *Metrological controls and test methods*. So there will be a clear separation between the requirements for the instruments and the metrological control; and
- The meaning of "motor vehicles" will be clarified by adding an appropriate definition. Some countries may have regulations for, for instance, small boat engines, lawn mowers, etc., but currently the scope does not allow for determining whether such engines are addressed in this publication.

A third Working Draft (3 WD) will be drawn up based on the above-mentioned conclusions.

In 2000, a 1 WD for a Test Report Format was distributed. However, this work was interrupted pending the revision of the requirements and the tests. Part 1 now being in an advanced stage, the work on the Test Report Format (Part 2) will be resumed, and a 2WD will be circulated together with (or as soon as possible after) the distribution of the 3 WD of Part 1. This Test Report Format will be an OIML Publication only.

The BIML is responsible for drawing up the corresponding table between the future revision of ISO 3930/OIML 99 and the relevant MID requirements.

Considering this joint work and the differences between the rules for approval within ISO and the OIML, CIML Members were requested to approve the possibility to organize a vote within OIML TC 16/SC 1 on the 1 CD which should be circulated in April or May 2008. This 1 CD will in fact correspond to the 4 CD, since the 1 WD and the 2 WD were already circulated among all OIML TC 16/SC 1 Members and the 3 WD will be too. This proposal was approved at the 42nd CIML Meeting in Shanghai by dispensation from 3.4.1 and 3.4.2 of OIML B 6-1 *Directives for the Technical Work*. ■

TC 17/SC 1 AND SC 8

OIML TC 17/SC 1 and TC 17/SC 8 Meetings

Gaithersburg, USA

20–25 September 2007

RÉGINE GAUCHER
BIML Contact Person
OIML TC 17/SC 1 and TC 17/SC8

OIML TC 17/SC 1, which is responsible for the revision of OIML R 59 *Moisture meters for cereal grains and oilseeds*, held a two-day meeting on 24 and 25 September 2007.

OIML TC 17/SC 8, which is responsible for the development of an OIML Recommendation on protein measuring instruments for cereal grains and oilseeds, held a two-day meeting on 20 and 21 September 2007.

Considering the fact that some measuring instruments are able to determine both the moisture and the protein contents, the BIML and the Secretariats of OIML TC 17/SC 1 and TC 17/SC 8 felt it appropriate to combine the two meetings together. In addition, the membership of the two SCs is almost identical.

These two meetings were kindly hosted by NIST in Gaithersburg, USA.

Discussions were based on the comments received on the fourth Committee Draft (4CD) for OIML TC 17/SC 1 and on the first Committee Draft (1CD) for OIML TC 17/SC 8.

Twelve delegates from six countries attended the meetings. Participants were legal metrology institutes, manufacturers, users and testing laboratories.

Before discussions started, the BIML reminded participants of the aim of drawing up OIML Recommendations:

- Technical support to OIML Members to develop national regulations; and
- Support to manufacturers to obtain type approval of measuring instruments, in particular through the *OIML Certificate System* and the OIML MAA.

Considering the fact that the main concern for most of the participants was in-field verifications, the BIML reiterated that the main goal of OIML Recommendations was to define the technical and metrological requirements, type approval testing procedures and a Type Evaluation Report Format. Additional information could be included concerning initial and subsequent verifications.

Following this recap, the requirements related to maximum permissible errors and associated errors were intensively discussed.

Maximum permissible errors and associated errors

It appeared that the maximum permissible errors defined in the 1CD (protein) and in the 4CD (moisture) were related to in-field verifications. The values were revised during the meeting to introduce different types of tolerances:

- Maximum permissible errors for type approval (accuracy test) according to the classical OIML approach. The values were fixed at half those previously defined for in-field verification. For moisture, the values were defined according to families of grains and for protein, they were defined for each type of grains.
- An error shift was defined under rated operating conditions (influence factor tests). This position does not fully conform to the classical OIML approach which recommends using maximum permissible errors under rated operating conditions. Nevertheless, we have to take into account the specificities of moisture and protein meters which do not give a direct measurement result. The measurement result is calculated through calibration curves which are determined using appropriate reference methods. Using the classical OIML approach in this case would lead to:
  - Expensive influence tests to determine the reference moisture and/or protein content prior to each influence test; and
  - Difficulties in conducting influence tests since grains could be affected by temperature, humidity, etc.
- A repeatability criteria defined as a standard deviation.
- A reproducibility criteria (between two instruments) defined as a standard deviation difference.

Consequently, for these influence tests it was decided to define an authorized error shift from the error

determined under reference conditions. Two instruments will be available, one of which will be maintained at reference conditions and used for confirming the grain stability.

For disturbance tests, the classical OIML approach (significant fault) was retained. The value was fixed as being equal to the MPEs at type approval.

Explanatory note

The BIML recommended that the Secretariats draw up an explanatory note to be included in OIML Recommendations in order to explain the reason why the classical OIML approach has not always been followed (see above).

In addition, this explanatory note could explain that it is reasonable for such instruments to split what shall be considered as a type approval of the instrument (using for instance a well known stable grain for testing) and the validation of the calibration curves which require regular updating to take account of the variation in the grain varieties.

It should be clear to manufacturers that having a Test Report issued in one country will never prevent accuracy, repeatability and reproducibility tests from being repeated in other countries in order to validate the appropriate curves in those countries in which the instruments are intended to be used.

A further proposal to reduce these tests could be to implement an international database which could be based on data from the various countries in order to define calibration curves which could better fit all the grain varieties in the world.

Testing procedures

Detailed procedures were discussed and it was agreed to clearly define for each test:

- The number of instruments to be tested;
- The grain type(s) to be used;
- The number of error determinations to be performed; and
- The calculation of errors (e.g. the mean value of several measurement results).

Follow up

Considering the conclusions of the meetings, the OIML TC 17/SC 1 Secretariat will prepare a 5CD and OIML TC 17/SC 8 a 2 CD. These CDs will be circulated for comments and votes among OIML TC 17/SC 1 and OIML TC 17/SC 8 members.

The appropriate Test Report Formats will be developed in separate documents by the respective Subcommittees.

Depending on the comments received and on voting results, a further joint meeting of OIML TC 17/SC 1 and OIML TC 17/SC 8 could be organized. ■

The OIML is pleased to welcome the following new

CIML Members

- **Algeria:**
  Mr Sid-Ali Réda Ben El-Khaznadji
- **Cameroon:**
  Mr Hans Ela Essi
- **United Kingdom:**
  Mr. Peter Mason

Corresponding Members

- **Montenegro**
- **Sudan**

OIML Meetings

20 February 2008 - Pfäffikon SZ, Switzerland

TC 8/SC 5 Water meters

8–11 April 2008 - Douai, France (Ecole des Mines)

Training Seminar (first session) for OIML TC/SC Secretariats

27–30 May 2008 - BIPM, Sèvres, France

TC 3/SC 5 Conformity assessment

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Committee Drafts

Received by the BIML, 2007.08 – 2007.10

Revision R 85: Automatic level gauges for measuring the level of liquid in stationary storage tanks				
Part 1: Metrological and technical requirements	E	4 CD	TC 8/SC 1	AT
Part 2: Metrological control and tests	E	4 CD	TC 8/SC 1	AT
Part 3: Test report format	E	1 CD	TC 8/SC 1	AT
Revision R 126: Breath alcohol analyzers	E	3 CD	TC 17/SC 7	FR
Guidelines for the application of ISO/IEC Guide 65 in the field of legal metrology	E	2 CD	TC 3/SC 5	US+BIML

Call for papers

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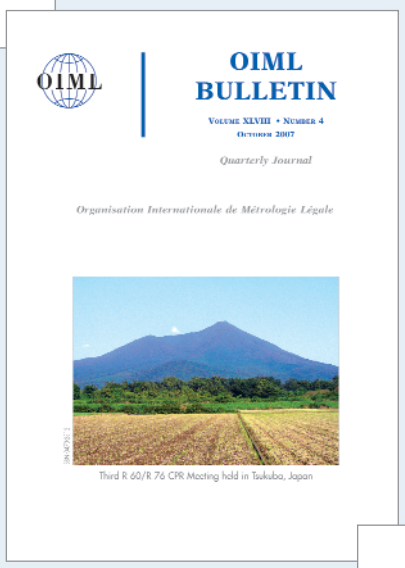
Consumers' & Users' Groups, etc.



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- Announcements of forthcoming events, etc.

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- the paper originals of any relevant photos, illustrations, diagrams, etc.;
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