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Editorial

Peter Mason
CIML President

Perspectives
2011 ◀ ▶ 2012

January is the traditional time for looking forward. But in thinking about the challenges facing us in 2012, I find myself looking back to the excellent symposium APMP and APLMF organised in Beijing last month. At that symposium we found ourselves discussing all the big questions facing metrologists today: What is the proper relationship between legal metrology, industrial metrology and scientific metrology? What issues need to be tackled globally, what is best handled by regional groupings and what should be left to national authorities? How can the interests of the richest and most developed economies be reconciled with the needs and expectations of developing countries? And perhaps most important of all, what contribution can all of us, in all the various metrology communities, make to promoting stable economic growth while tackling the various sustainability challenges we face?

In Beijing I was impressed by positive approach of all the speakers. No-one claimed to have all the answers, but everyone showed themselves ready to tackle these questions and to work with colleagues from other parts of the world in doing so. The same spirit was evident at the CIML Meeting in Prague, where we were able to make important progress on a number of issues which we had been debating for some time. The big questions I have already mentioned can all be identified in the new OIML Strategy adopted in Prague and the immediate task for the Bureau going into the New Year is to begin implementing that Strategy through a structured work programme. I am very confident, on the basis of my first two engagements as CIML President, about the enthusiasm and expertise which we can draw on in taking matters forward, and so I find myself looking forward into 2012 with real optimism. I hope you do too. ■

Janvier est traditionnellement l'époque où l'on regarde vers l'avenir. Quoiqu'en réfléchissant aux défis qui nous attendent pour 2012, je repense à l'excellent symposium APMP et APLMF organisé à Pékin le mois dernier. Lors de ce symposium, nous nous sommes retrouvés sur toutes les grandes questions qui se posent aujourd'hui aux métrologues : Quelle est la relation à entretenir entre la métrologie légale, la métrologie industrielle et la métrologie scientifique ? Quels problèmes doivent être pris en considération au niveau mondial, qu'est-ce qui est mieux géré par des groupements régionaux et que doit-on laisser aux autorités nationales ? Comment réconcilier les intérêts des économies les plus riches et les plus développées avec les besoins et attentes des pays en développement ? Et peut-être la plus importante : Quelle contribution pouvons-nous apporter, au sein de tous les divers groupes métrologues, afin de promouvoir une croissance économique stable tout en s'attaquant aux différents défis liés au développement durable ?

À Pékin, j'ai été impressionné par l'approche positive de tous les orateurs. Personne n'a déclaré détenir toutes les réponses mais tout le monde s'est montré près à traiter ces questions et à travailler avec des collègues du monde entier pour y répondre. Le même esprit était manifeste à la Réunion du CIML à Prague, où nous avons pu faire d'importants progrès sur nombre de questions débattues depuis un certain temps. Les grandes questions que j'ai déjà évoquées peuvent toutes être trouvées dans la nouvelle Stratégie OIML adoptée à Prague et la première tâche du Bureau en entrant dans cette Nouvelle Année est de commencer à mettre en œuvre cette Stratégie grâce à un programme de travail structuré. Sur la base de mes deux premiers engagements en tant que Président du CIML, j'ai confiance en l'enthousiasme et l'expertise que nous pouvons retirer en faisant avancer les choses, et ainsi, je porte un regard sur l'année 2012 avec un réel optimisme, comme vous je l'espère. ■

GAS MEASUREMENT

Natural gas metrology in Bolivia and Peru

José Dajes, INDECOPI-Peru
Juan Carlos Castillo, IBMETRO-Bolivia

In Latin America, the use of natural gas as an energy resource is of growing importance in both domestic and industrial applications.

Natural gas is an export product and a main source of income for Bolivia today and will be in the future, because of the large natural gas reserves. The graph in Figure 1 shows figures from 2010. The oil and gas sector is the most noteworthy economic activity with the largest contribution to the exports: almost 95 % of the 3 000 million USD comes from natural gas exports, which represents 6 % of the gross domestic product.

The increasing large-scale consumption in the areas of energy, transport and industry still has great potential for further development in gas production, distribution and measurement.

In Peru, the use of gas is more recent than in Bolivia and there have been great advances in gas pipeline installations, vehicular service stations, nets for industrial, commercial and domestic use. Moreover, Peru expects to supply the world market demand of nearly 53 liquefied natural gas shipments (a total of 165 000 metric tons) in 2011.

The Bolivian Metrology Institute (IBMETRO) and the National Metrology Service (SNM) - INDECOPI - in Peru responded to this development and are now offering new services related to the measurement of natural gas. These activities are part of the Trilateral Cooperation Project - Natural Gas Metrology in Latin America. The objectives of the project are to contribute to market transparency, the harmonization of the natural gas market regulations and the improvement of consumer protection through correct measurements by increased regional cooperation and by strengthening the technical competence of the National Metrology Institutes (NMIs).

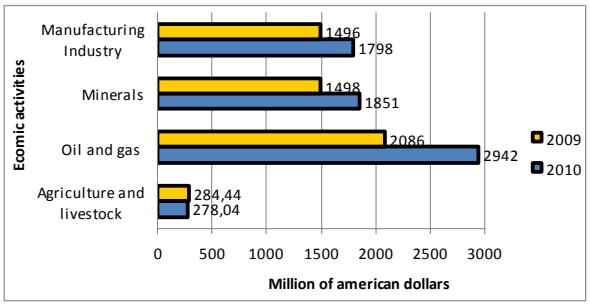

Figure 1 Exportation according to economic activities (Source: National Statistic Institute of Bolivia)

To achieve this, extensive use was made of the know-how that already existed in the region (especially within CENAM of Mexico and INMETRO of Brazil). Both NMIs have recognized expertise in metrology, and contribute to enhancing regional cooperation in Latin America. The NMIs of both Bolivia and Peru participate as direct beneficiaries.

The triangle in this scheme (see Figure 2) is completed by the Physikalisch-Technische Bundesanstalt (PTB) and the Organization of American States (OAS) which both also contribute short-term consultancies by international experts and by organizing activities such as seminars and training. So the project has permitted a regional cooperation mechanism to be established in an area of high economic importance.

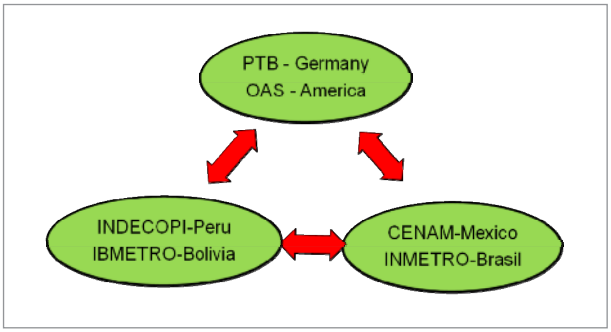

Figure 2 The triangle of cooperation

The project aims to improve the competence for measuring natural gas, both for flow and gas composition. The priorities of the first phase of the project have been the establishment of capacities of natural gas composition measurement in Bolivia and flow measurement in Peru.

A flow measurement area has now been established in Peru with the installation of a critical flow nozzle bench and a pipeline with rotary gas meters of the highest accuracy in flow measurement.

The critical flow nozzle bench works at flow rates up to 6 m^3/h and in another pipeline for industrial gas meters up to 1 000 m^3/h. In both cases air is used as the fluid.

Gas meters shall be designed and manufactured such that their errors do not exceed the limits of the applicable maximum permissible error according to OIML R 137-1:2006 *Gas meters. Part 1: Requirements*.

Laboratory professionals received training in Peru, Germany and Mexico. Thanks to this, gas meter calibra-

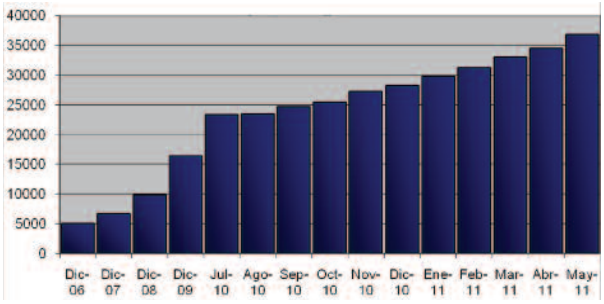

Figure 3 Domestic and commercial users in Lima and Callao (Peru)

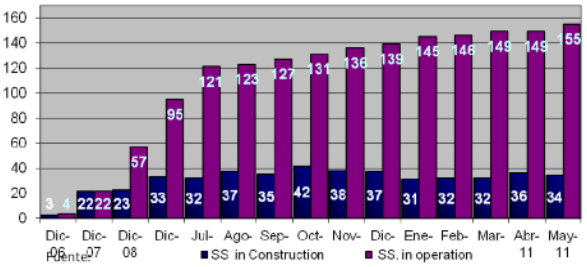

Figure 4 Natural gas vehicle stations in Lima and Callao (Peru)

Figure 5 Gas meter

Figure 6 Facilities for industrial gas meter verification in Peru

Figure 7 Critical flow nozzle bench in Peru

tion in the domestic sector will be covered in addition to the industrial sector.

A laboratory for natural gas composition measurement was also implemented in the Bolivian NMI, in order to determine the energy content based on traceable measurements. Professionals of this laboratory received training at the Brazilian NMI, INMETRO.

Marketing of natural gas is based on the calorific value per unit of volume. This value can be determined by two methods: calorimetry or gas chromatography. The latter method is used most often because it permits the determination of the gas composition, whereby the calorific value is calculated. The gas composition is also required for the determination of other parameters such as density, relative density and the Wobbe Index which characterizes the gas interchangeability.

The determination of the natural gas composition is carried out by means of gas chromatographs which must be calibrated regularly with certified reference material consisting of natural gas mixtures prepared gravimetrically by specialized gas laboratories, meeting the international standard ISO 6142:2001 *Preparation of calibration gas mixtures – Gravimetric method*. Laboratories commonly acquire these mixtures from commercial companies accompanied by certificates of the nominal composition of the mixtures without evidence of traceability of measurements to SI units through an NMI.

The IBMETRO Laboratory has the capacity for natural gas calibration in a wide range of different compositions that allows the requirements of this sector to be met for the calibration of instruments in the field. For this purpose IBMETRO has acquired a set of natural gas mixtures, which were calibrated at INMETRO and which cover the entire composition range in Bolivia (see Table 1).

The calibration of natural gas mixtures is based on ISO 6143:2001 *Gas analysis – Comparison methods for determining and checking the composition of calibration gas mixtures*. The relationship between the fraction of the component and the instrument response is found by regression analysis, using the Generalized Least Squares (GLS) technique in accordance with ISO 6143. Several alternatives can be tested for the response function: linear, polynomial, cubic, etc. This procedure takes into account the uncertainties of both the independent and the dependent variables, and allows the overall uncertainty to be calculated, including contributions from the uncertainties of the reference gas compositions, the analyzer response and the parameters of the response functions resulting from the regression procedure.

The use of Ordinary Least Square is also possible but the results are less accurate than the GLS method. As an example a summary is presented in Table 2 using some results from the laboratory. The results are compared

with a Certified Reference Material. Calculations are done using OLS and GLS, the use of GLS results in a small uncertainty and also the normalized error (*En*) is smaller.

The testing laboratories in Bolivia, especially those of the transport companies, are obliged to comply with the metrological requirements laid down in contracts for export. To ensure compliance with these requirements they must go to calibration laboratories abroad, which entails many logistics difficulties and high costs. It is therefore very important that IBMETRO continues to improve its capabilities.

In order to promote the quality of the current and future services and to raise awareness of the importance of correct measurement, some key activities have already been carried out. One of these was the *International Seminar on Natural Gas* which was held in September 2010 in Santa Cruz, Bolivia. Experts from the various NMIs in the region (México, Brazil, Argentina, and Peru) were invited to present their experiences in the measurement of flow and composition and in traceability. It was possible to discuss various aspects with the participants of almost all the companies of the oil and gas sector and to hear from them the main demands on measurement topics.

The other activity was to carry out a proficiency test in gas composition measurement in which five companies from Bolivia and three from Peru participated (19 chromatographs). The participants were able to evaluate the status of their measurements. The graph in Figure 10 shows the results obtained for the parameter methane, which is the most important because of its high percentage in the composition, and therefore the parameter which contributes the most to the calorific value. The results were evaluated by the z-score; this is a parameter that allows the performance of laboratories to be known, according to the following statement given by ISO/IEC 17043:2010 *Conformity assessment – General requirements for proficiency testing*:

- if the z-score is between +2 and –2 the result is accepted as "satisfactory";
- if the z-score is in the range –2 to –3 or +2 to +3 the result is "questionable";
- if the z-score is < –3 or > +3 the result is "unsatisfactory".

Companies have realized how small errors in the determination of the calorific value will be magnified when large volumes are involved in commercial transactions and thus resulting in negative economic impact either for the customer or the supplier.

This is illustrated taking the following example under the assumption that the error in determining the calorific value is as small as 0.1 %. But, consider what the results would be when millions of BTU are exported

Component	Ranges % (mol/mol)
Methane	66 – 98
Ethane	1 – 12
Propane	0 – 5.5
Butane	0 – 1.5
i-Butane	0 – 0.8
Pentane	0 – 0.35
i-Pentane	0 – 0.55
Hexane	0 – 0.4
Nitrogen	0.04 – 2.5
Carbon dioxide	0 – 3.2

Table 1 Composition range of natural gas in Bolivia

Figure 8 On line chromatographs

	Concentration % (mol/mol)	U % mol/mol)
Reference value	86.6900	0.67
OLS	87.5943	1.686
GLS (BLEAST)	87.2930	0.4242
En OLS	0.4984	
En BLEAST	0.3324	

Table 2 OLS/GLS methods comparison

Figure 9 Natural gas calibration

monthly: 40 000 000 BTU*/day which is equivalent to USD 280 000 000. Considering that 1MM BTU = USD 7.00, if the determination of the calorific value has an error of just ± 0.1 % then:

USD 280 000 000 × 0.001
= USD 280 000/day,

USD 280 000 × 30
= USD 8 400 000/month,

USD 8 400 000 × 12
= USD 100 800 000/year.

**Note:* 1 MM BTU = 1 054 615 GJ.

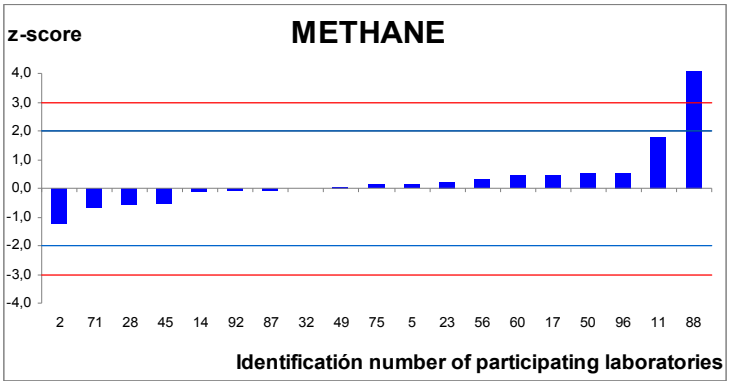

Figure 10 Results of the Bolivia proficiency test for methane

Conclusions

The newly installed metrological infrastructure provides correct measurements for the distribution and use of natural gas in both countries. The laboratories of IBMETRO and INDECOPI can now offer traceability to the SI in their respective countries, guaranteeing reliable measurements for the consumer and statutory authorities.

Once the laboratories have been established it is necessary to continue with investments to ensure the sustainability of the services. Perhaps the most important is the continued acquisition of reference gas mixtures which are expensive and difficult to transport due to the customs clearance procedures and logistics involved in air transportation. Finally but no less important is the necessary and continuous training of personnel as well as the participation in international comparisons.

The fact that two neighboring countries faced the same problems and expressed their wish to cooperate and that other more advanced NMIs were willing to support the project convinced the OAS and PTB to sponsor the project.

As the second step of the Project, both Institutes are going to implement a second laboratory, a composition laboratory for Peru and a flow laboratory for Bolivia. During this phase, Peruvian technicians from INDECOPI will offer technical support to IBMETRO in flow measurements and Bolivian technicians will offer support in gas analysis to INDECOPI. ■

About the Authors

José Dajes is Head of the National Metrology Service at INDECOPI - Peru. Juan Carlos Castillo is Executive Director at IBMETRO - Bolivia.

In recognition of their work at their respective National Institutes, Dr. Eberhard Seiler nominated them to receive the 2011 *OIML Award for Excellent Achievements in Legal Metrology in Developing Countries*.

During the SIM General Assembly in November 2011, the BIML presented special trophies and certificates to José Dajes and Juan Carlos Castillo.

The OIML extends its deep appreciation to the 2011 Award Winners for their excellent work in legal metrology and wishes them every continued success in their future projects.

José Dajes, INDECOPI-Peru

Juan Carlos Castillo, IBMETRO-Bolivia

METRICATION AND THE SI

Adoption of the International System of Units (SI) in a Small Island Developing State

ANSELM GITTENS
Saint Lucia Bureau of Standards

Background

Saint Lucia is a Small Island Developing State located in the Caribbean region of the Americas. The island has an area of 616 km^2, a population of about 167 000 and gained its independence from England in 1979. Saint Lucia changed hands fourteen times over two centuries as France and Britain fought over her and the island is called the Helen of the West Indies (after Helen of Troy). English is the official language and many St. Lucians also speak a French-based Creole language. It has a democratic parliamentary system of government and is a member of the Commonwealth and the Caribbean Community (CARICOM) which is a regional economic organization.

The Saint Lucia Bureau of Standards (SLBS) was established in 1991 and is the national metrology institute and national standards body of Saint Lucia.

CARICOM Initiative

The Commonwealth Caribbean took its first steps towards metrication when it was agreed at a Caribbean Free Trade Association (CARIFTA) Heads of Government Conference, in the early 1970s, that all member countries would adopt the metric system of measurement. A few years later, acting on the advice of the Caribbean Community (CARICOM), the more developed countries in the CARICOM, namely Trinidad & Tobago, Jamaica and Barbados took steps to metricate. Barbados was the only country, which successfully metricated in the 1970s, out of the three. Jamaica officially metricated in 1996 and Trinidad is in the process of promulgating a Metrology Act to formally metricate.

Saint Lucia established a Metrication Committee in 1978 to advise the government on a date when the country should change over to the metric system and to establish the machinery to facilitate education of the entire country to the transition. The major achievement of this Committee was that the British imperial measurement system was phased out of the curricula and the metric system was introduced into the schools' education programme in 1980. It was stated that we had metricated in 1980 but the commercial sector continued to use the imperial system because the existing law, Weights & Measures Ordinance of 1911, made it illegal for businesses to trade in the metric system! It should be noted that under the 1911 law the Police were responsible for weights and measures.

Regional and global trade

The use of the metric system has become an economic necessity as most countries of the world export and import goods in metric units. Most of Europe, Asia, Latin America, and the industrialized world have been metric since the 19th Century. The United Kingdom, from which St. Lucia inherited British imperial measurements, eventually metricated in January, 2000. The United States uses a dual system of measurement for its international trade as prepackaged goods from the USA are labelled in metric units and US customary units, for example litres (L) and US gallons (US gal).

The metric measurement system avoids the confusion of the imperial system such as the use of ounces to measure both weight and volume and multiple units or symbols for the same quantity. An example of this occurs when gallons, fluid ounces, quarts (see Table 1) and also teaspoons, tablespoons, cups and pints are all used to express volume.

Table 1 Various units of volume

British/US Units	*Metric equivalent*
1 US gallon (US gal)	3.785412 L
1 UK gallon (UK gal)	4.546092 L
1 US fluid ounce (fl oz)	29.57353 mL
1 UK fluid ounce (fl oz)	28.41306 mL
1 US quart	0.946353 L
1 UK quart	1.1365225 L

The emergence of the global economy requires that products must be metric compatible to ensure that they move easily across national and international borders. These products must be compatible with the design, fabrication, maintenance, repair and disposal systems that are used during their life cycles, as specified in international standards set by the International Organization for Standardization (ISO), the International Electrotechnical Commission (IEC) and the International Telecommunication Union (ITU). The metric system of measurement is used for technical specifications in ISO, IEC and ITU standards and creates confidence in regional and global trade.

A harmonized measurement system is extremely important in order to facilitate the CARICOM Single Market and Economy. It should be noted that in October 2005, CARICOM became an Associate of the CGPM and this provides the technical basis of acceptance among countries of metric measurements used to support trade and services. There are 55 Member States of the BIPM and 34 Associate States and Economies of the CGPM as of August 1, 2011 including all major industrialized countries.

Why should Saint Lucia adopt the SI?

The adoption of the metric system can improve the competitiveness of the private sector and our ability to sell products in regional and international markets. Industries that choose to remain imperial may lose an opportunity to export and expand their markets as they shut out the rest of the world from becoming their customers. We will impose a trade barrier on ourselves if we resist the change to the metric system.

It is worthy of mention that for almost thirty years our young people have been educated in metric but encounter a different measurement system, i.e., the imperial system, in their daily lives. We owe it to the next generation to complete our transition to metric thereby ensuring that the education system remains relevant to the local economy.

Saint Lucia is poised to complete the process started almost three decades ago as our Metrology Act No. 17 of 2000 (which repealed the archaic 1911 Weights & Measures Ordinance) makes provision for the metric system to be our legal system of measurement. Our Metrology Act and Regulations, being derived from OIML Recommendations and Documents, are compliant with the WTO Agreement on Technical Barriers to Trade (WTO TBT). Incidentally our Metrology Act has been circulated to other CARICOM countries (including Barbados, Trinidad & Tobago and Jamaica) and has been utilized as the template to replace existing Weights and Measures Acts with modern Metrology Acts.

Cabinet Conclusion No. 49 of 2006 approved a new structure for St Lucia's Metrication Board and this Board was launched in April 2008. The Board, in conjunction with the Saint Lucia Metrication Secretariat, is coordinating our transition to the International System of Units (SI). The Board and Secretariat advises the Minister of Commerce on the readiness of various sectors of the economy for metrication. The Minister of Commerce may, by Order (s), prohibit the use of imperial units in various sectors in the economy. The Saint Lucia Bureau of Standards (SLBS), which is represented on the Metrication Board, would be responsible for enforcement of the Order(s), as declared by the Minister.

Several sectors of the economy have been partially or totally metricated prior to the establishment of the Metrication Board and this augurs well for our metrication drive. The sectors which have not metricated will require technical support (for training and retooling) to complete the transition and this is being facilitated by the Board.

Fuel being sold in litres

Let's Go Metric!

Annou Ale Metric!

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NOTIFIED BODIES

NoBoMet: A European platform for Notified Bodies working in Legal Metrology

Cock Oosterman
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Paul Dixon
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Introduction

National Authorities, National Accreditation Bodies, the OIML and WELMEC form a well established European legal metrology infrastructure.

With the extension of European notifications in the field of legal metrology, more non-governmental bodies have obtained notification for conformity assessment activities on measuring instruments covered by the European Measuring Instruments Directive (MID) and the Non-automatic Weighing Instruments Directive (NAWI).

A consortium of Notified Bodies felt that with the running developments and new players in the MID and the NAWI, there is a need for a cooperation platform for Notified Bodies. At present this platform has established a code of conduct to develop and maintain a good quality level of services.

European legal metrology

Up to the nineties the European countries maintained their national legislation for measuring instruments used for trade. National approvals were issued by the national authority before the manufacturer could place its instruments on the national market. The European harmonization of conformity assessment for non-automatic weighing instruments in 1992 marked a significant change. National Authorities designated competent bodies to perform conformity assessment on this type of instrument and to issue EC Type Approval Certificates after compliance was demonstrated. These certificates enable manufacturers to place their non-automatic weighing instruments on the European market. In line with other directives, the competent bodies that are designated by their national authorities are also notified to the European Commission.

Every Notified Body receives a unique identification number. This number is affixed to the instrument to maintain tracking to the Notified Body that performed the unit verification. According to the Directives the manufacturer may also perform self verification after approval of its quality system by the Notified Body. In this case the manufacturer affixes the identification number of the Notified Body to the instrument.

With the introduction of the European Directive on Measuring Instruments in 2006, the European countries changed their metrology laws to implement the new requirements for measuring instruments to be placed on the EU market. Although the European Directive on non-automatic weighing instruments (NAWI) was already in force from 1992, the Measuring Instruments Directive, known as the MID, had a much higher impact on how designated bodies apply conformity assessment in practice.

The first main difference with the introduction of the NAWI Directive is the number of measuring instruments covered by the MID. Whereas the NAWI Directive only comprises non-automatic weighing instruments, the MID covers water meters, gas meters, electricity meters, heat meters, fuel meters, automatic weighing instruments, taxi meters, tapes, multidimensional machines and exhaust gas analyzers. Where Notified Bodies built up a harmonized conformity assessment system for non-automatic weighing instruments, the MID requires harmonized approaches on an additional ten categories of measuring instruments, whereas the specific technical area also covers sub-assemblies such as conversion devices. And all these instruments have their specific requirements and applications.

Another impact is that the number of designated bodies for both Directives has increased with time. Not only governmental institutions are designated for the conformity assessment task, but more and more private and/or commercial bodies applied for notification, while at the time of the introduction of the NAWI Directive the majority of the designated bodies were primarily governmental bodies. At present the semi-government and private bodies outnumber governmental bodies.

NoBoMet

European legal metrology coordination

In the same period as the NAWI Directive was established, the European organization for cooperation in legal metrology was founded, known as WELMEC. What initially started as a western European cooperation, representing those countries, grew fast with the enlargement of the European Union. These new countries joined WELMEC and adopted the Directives in their national legislation.

The principal aim of WELMEC is to establish a harmonized and consistent approach to European legal metrology. And although WELMEC is a cooperation of national legal metrology authorities, it was common that Notified Bodies participated in the WELMEC working groups as expert representatives of the governments of those countries.

In the past few years the number of designated bodies for both Directives increased significantly and is still increasing. At present 256 bodies are designated for the NAWI Directive and 145 bodies are designated for the MID Directive. It is obvious that the number of private bodies is increasing, and that a majority of these bodies do not participate in WELMEC meetings.

In 2008 the European Parliament and Council decided on a common framework for the marketing of products (decision No 768/2008/EC). This included the marketing of measuring instruments covered by the NAWI and MID Directives. The decision outlines the conformity assessment procedure of these products and obliges the European Commission to provide for the organization of exchange of experience between the Member States' national authorities responsible for notification policy. And, "the Commission shall ensure that appropriate coordination and cooperation between bodies notified under the relevant act or other Community legislation are put in place and properly operated in the form of a sector or cross sector group or groups of notified bodies".

This organization of experience exchange is arranged by the EU working group Measuring Instruments, led by Mr. Daniel Hanekuyk, EC Directorate General for Enterprise and Industry. This working group meets approximately twice a year and is open for representatives of national authorities, CEN/CENELEC, CECIP, CECOD and Notified Bodies.

European platform for Notified Bodies

With the increasing number of notified bodies in the EU and in line with the EC decision to establish coordination between the Notified Bodies, NMi took the initiative to establish a European platform for Notified Bodies working in legal metrology.

In April 2010 the Notified Bodies CMI (Czech Republic), LNE (France), NMO (UK), METAS (Switzerland) and NMi (The Netherlands) resolved to contact all Notified Bodies to establish a European platform on this issue. Initially the consortium started to invite the bodies designated for type approval and quality management system approval. On 18 February 2011, 44 participants representing 29 Notified Bodies from 18 EU/EFTA countries participated in the meeting. It was apparent from the participants that there was a need to exchange information and experience between Notified Bodies working in this field. Except for one abstention, all participants voted in favor of establishing this cooperation platform, called NoBoMet.

NoBoMet platform

NoBoMet is a European platform for Notified Bodies working in Legal Metrology and designated for conformity assessment activities on measuring instruments. On 6 October 2011 the participants agreed on the final amendments to the Memorandum of Understanding (MoU) so that formal membership can be obtained for bodies performing type evaluation, quality management system approval and verification.

The purpose of the platform is to optimize the circumstances and conditions under which the Notified Bodies operate and to make this transparent for the manufacturers of measuring instruments for which conformity assessment is regulated. The platform encourages a uniform way of working for the Notified Bodies where this is necessary. The aim of the platform is to be recognized as the official representative of the Notified Bodies in Europe to strengthen a consistent legal metrology infrastructure. As such the platform strives to participate as a valuable interlocutor in internationally recognized committees such as the EU, WELMEC and the OIML. Notified Bodies apply OIML Recommendations as normative documents in the type examination of measuring instruments, e.g. R 49 for water meters or R 117 for fuel dispensers.

It is obvious for the members that NoBoMet does not intend to establish requirements or regulations. The members respect the work done by the EU, WELMEC and the OIML working groups. The amount of regulations, standards and guidelines encourages the members of NoBoMet to exchange experiences for the applications of these requirements in practice. In addition the Notified Bodies come across solutions of manufacturers that are not covered by the requirements, where Notified Bodies can exchange their experiences.

And if required, NoBoMet can indicate subjects for discussion to the EU, WELMEC or to the OIML.

According to the decision of the EU Parliament and Council the Member States shall ensure that the designated bodies, or representatives, participate in the work of that group. Having a few hundred bodies exchanging their experiences is a challenging task. Participating in the existing meetings would be inappropriate and will lead to a "*numerus clausus*" for the meetings. In order to establish optimal communication between the Notified Bodies and interested parties, NoBoMet follows the examples of other platforms by using internet applications.

Communication

Having full agendas due to numerous meetings in Europe and abroad, the Bodies agreed to also use other communication channels to ensure transparent and adequate communication. The web site www.nobomet.org includes a public area and a restricted area for members. The public area provides information that might be of interest for public authorities and manufacturers. Members discuss topical issues in the discussion forum such as the development of new harmonized standards or additional requirements due to new demands.

Next steps

NoBoMet will represent the participating bodies in the EU working group on measuring instruments. Contacts have been established with WELMEC to establish cooperation between both platforms. And because the Notified Bodies provide manufacturers with certifications, NoBoMet considers cooperation with other branch organizations such as CECIP and CECOD.

Also, steps will be taken to establish cooperation with the OIML. Although NoBoMet is a new platform in legal metrology, a number of bodies have extended experience in OIML Technical Committees and the Committee on Participation Review (CPR) for the OIML Mutual Acceptance Arrangement (MAA). With this experience in the network of legal metrology, NoBoMet strives to be recognized as a respected interlocutor with established organizations such as the OIML to interexchange knowledge and experiences. ■

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PRAGUE 2011

46th CIML Meeting and Associated Events

Prague, Czech Republic

10–14 October 2011

The following meetings took place at the Clarion Congress Hotel, Prague (Czech Republic) from Monday 10 through Friday 14 October 2011:

- **46th Meeting of the International Committee of Legal Metrology,**
- **Regional Legal Metrology Organization Round Table,**
- **OIML Seminar on Conformity to Type (CTT).**

On Thursday 13 October a tour was organized to the Pilsner Urquell Brewery (photos).

PRAGUE 2011

46th CIML Meeting: Opening Remarks

Mr. Alan E. Johnston
CIML President

Ladies and Gentlemen,

Good afternoon, everybody. I would like to call the 46th CIML Meeting to order. I would first like to thank our Czech colleagues for hosting this meeting in the beautiful city of Prague. Judging by the number of delegates and accompanying persons, it appears everybody shares my opinion of the city, so again thank you to them.

It is now my great pleasure to introduce our opening speaker for this year's Meeting, Mr. Jiri Jirka. Mr. Jirka is the Deputy Minister for Economy in the Ministry of Industry and Trade in the Czech Republic. He has had a varied career, beginning in the Stansky Olomouc Land Company in 1979. He then became bursar at Palacky University from 1990 to 2007, before joining the Ministry of the Interior, where he served as Deputy Minister for Economy in Operations from July 2008 to June 2009. He then returned to the academic world, where he served as Secretary of the IT Faculty at the Czech Technical University in Prague, prior to his current appointment as Deputy Minister in September 2010. Mr. Jirka, please. ■

PRAGUE 2011

46th CIML Meeting: Opening Address

Mr. Jiri Jirka, Deputy Minister for Economy in the Ministry of Industry and Trade, Czech Republic

Dear Mr. President,
Dear CIML Members and Corresponding Members,
Ladies and Gentlemen,
Dear Guests,

It is my great pleasure to welcome you all, on behalf of the Ministry of Industry and Trade of the Czech Republic, to Prague, our capital, on the occasion of the 46th Meeting of the International Committee of Legal Metrology. I must apologize for the absence of the Minister, who is currently on a business trip abroad.

After meeting in several world capitals and cities, this year you are finally meeting in the capital of the Czech Republic, one of the founding signatories of the Convention establishing an International Organization of Legal Metrology. It is a great honor for us that the International Committee of Legal Metrology has chosen our country and its capital to host its annual meeting, organized jointly by our Ministry, the Czech Office for Standards, Metrology and Testing (in Czech its abbreviation is UNMZ) and the Czech Metrology Institute (CMI).

Let me say a couple of words about our country. The Czech Republic, as it is known now, was established in 1993 as a result of a split of the Czechoslovak Federation. It is a landlocked Mid-European country with a population of roughly 10 million. It is a country of colorful history originating in the 10th Century as the Czech, or Bohemian knighthood, later kingdom. In the 13th century it became a regional powerhouse; unfortunately for a relatively short time – about 200 years only. The nation is one of the family of Western Slavs, with Latinate alphabet. It has always been in a strong relationship with its neighbors, especially Germany. In modern times the Czech Republic has become a highly industrialized country. It was an industrial workhorse in the former Austro-Hungarian Empire, and thanks to a recent wave of foreign direct investment it has preserved this characteristic still now.

It is the most industrialized EU Member State in terms of share of GDP. Industry therefore creates a large demand for various metrological services, and metrology is an important element in the business environment. It follows from here that legal metrology has a long history and tradition in our country. We can say that legal metrology in the Czech Republic can be dated back to the year 1269, when King Ottokar II of Bohemia issued the ordinance, the first regulation of weights and measures, called the Royal Measures. The scope of legal metrology has recently been reduced and is comparable with that of neighboring countries.

In 2004 our country, after years of preparation, became a full Member of the European Union and therefore has transposed all the relevant Eurolegal acts into our legislation. In the areas unharmonized with the EU, Czech legislation is quite liberal, and recognition of certificates from abroad is broadly used. In laying down the structure of legal metrology in our country, effective protection of consumers plays a very significant role.

As already mentioned, there are three bodies in our country involved in legal metrology activities. Our Ministry is authorized by law to have supreme responsibility for metrology here. It has transferred some of those ministerial responsibilities, such as strategy, preparation of draft legislation and partially financing to the UNMZ, a governmental body. From that, the UNMZ has a number of competences of its own, for instance, general responsibility across all the governmental transposition of European legislation concerning technical requirements for products, and authorization of private bodies for verification of legally controlled measuring instruments.

The CMI plays the role of national metrological institute in fundamental and legal metrology and, among others, this institute of fundamental and legal metrology is authorized by law to make national type approvals of legally controlled measuring instruments and their verification. Apart from the CMI, over 250 private sector authorized metrology centers are active in the framework of the metrological new approach of area of verification. CMI is also Notified Body no. 1383 in the framework of the metrological new approach of the NAWI and the MID Directive. They serve a growing number of local manufacturers and CMI is quite active abroad. It has customers ranging from China over the whole of Europe up to the USA.

In relation to the OIML, our country has always fully supported OIML activities and used its Recommendations in preparation of national legislation. These worldwide harmonized technical requirements for measuring instruments are especially important for a small, export oriented country. Among others, we were responsible for preparing OIML documents on metrological control and supervision, which forms a core of legal metrology business. We have also supported the decision of the European Commission to use OIML Recommendations and the MID as an important step to harmonization in the spirit of WTO Technical Barriers to Trade. We are active in the OIML Certificate System, notably in the area of water meters and gauge levels, and in future we might also join the OIML Mutual Acceptance Arrangement.

I believe that apart from the work at the Meeting and its associated events you will have time to see a little of our city and its cultural life. I will also use this opportunity to extend our invitation once again to join us at the Czech Republic Reception on Thursday. I hope all of you will acquire a lot of information, and that you have a successful meeting, interesting discussions and enjoyable days in Prague. Thank you for your attention. ■

PRAGUE 2011

46th CIML Meeting: Opening Address

Mr. Alan E. Johnston
CIML President

Good afternoon everyone. At this time this is usually my opening speech but it is also my closing speech as President. I would like to thank you all for allowing me to make a few remarks as my term as President draws to an end. I must say that the last six years have passed very quickly. The time has been filled with a number of great experiences and interesting people. I enjoyed working directly with many of you and visiting Member

legal metrology organizations in many countries. What has always impressed me when I make these visits is the professionalism, enthusiasm and commitment I have witnessed during these travels. It is probably the most enjoyable part of my role as President. The world today is undergoing a significant period of development and transformation. The field of legal metrology is changing and expanding as the boundaries between legal metrology and scientific metrology lower. Measurement applications in non traditional areas such as renewable and non-renewable resources, road safety and environmental protection are increasing. The demands on Member legal metrology organizations have probably never been greater than they are today. At the same time, many legal metrology organizations are faced with reductions in funding, demands to demonstrate the value of their participation in international forums and increasing pressure to continue to provide the same or better consumer protection while at the same time reducing barriers to trade and competitiveness.

During my term as President, I believe I have improved the accountability of the OIML for the expenditure of the financial resources and the management of human resources. With the CIML's approval, I approved a management audit of the BIML and took steps to address concerns identified as a result of the audit. The actions taken to resolve these concerns were not easy, but I believe the result is stronger corporate governance and accountability. This was an important asset, given the pressure that Members are increasingly under pressure to justify their budgets and participation in the OIML.

One of the other goals I set myself was to encourage Member countries to express their positions and concerns during the CIML Meetings and the decisions regarding the OIML. World events continue to demonstrate how closely Members' economies are interrelated and it is more important today than ever before that Member countries feel their positions are heard and considered. I believe my efforts in this area will serve the OIML in the future. But I must admit that sometimes that little voice in the back of my head says, "be careful what you wish for!"

During my term as President I have worked with you to develop a closer working relationship with other standard-setting organizations. Over the past six years, a number of MoUs have been signed, or renewed, with UNIDO and ILAC/IAF, and progress has been made in strengthening the working relationship between the OIML and the Metre Convention. It will be interesting to see how this relationship progresses in the future. Progress has also been made in relation to the MAA. Although it has not moved as quickly as I had hoped, I believe it has a good foundation for the future and that it will continue to expand and be an asset to the OIML.

I would now like to "return to the future". I know the CIML is in good hands. Since last year's Meeting in Orlando I have worked with Peter Mason and I have appreciated his approach on a number of issues that we have worked on over the course of the year. In many cases our positions on these issues were very similar, making the transition to the new Presidency that much easier. I also believe Peter's representation within both the OIML and the Metre Convention will serve the OIML extremely well.

I would now like to mention Stephen Patoray, who is still called the "new Director" of the BIML. I believe he has thoroughly demonstrated the type of leadership we were looking for in managing the BIML, and I am sure he will continue to provide this type of accountability. I would ask you to provide Stephen and his Staff with the support they need to continue the important work of the Organization.

In closing, I would like to say thank you for the encouragement and support you have given me during my term as President, and, with the leadership provided by Peter and the Presidential Council, you have a great team to lead the Organization forward. It has been a pleasure; thank you very much; merci beaucoup. I would now like to invite Peter Mason up to the front to take over the Meeting. ■

PRAGUE 2011

46th CIML Meeting: Opening Address

Mr. Peter Mason,
CIML President-elect

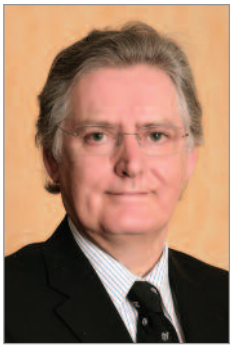
Thank you, ladies and gentlemen. I think it is fitting that my first task as President should be to express on behalf of the whole Committee our thanks to Alan Johnston for the contribution he has made over the last six years. I have seen that the burden of being a President is a heavy one, and I would like to record my admiration for the good humor and the professionalism with which he has carried that burden. I would also like to express my own very great appreciation for the support Alan has provided during the year's transfer. The transfer has indeed been a smooth one and Alan has been generous in introducing me gently. I am pleased to say that I will

continue to be able to draw on that support since Alan has agreed to remain on the Presidential Council. So I would just like to thank you once again, Alan. Thank you.

Before we go on to the roll call I believe it is appropriate to mention the new Members of the Committee that have joined us over the last year:

- Mr. Gledjon Rehovica of Albania,
- Mrs. Dimka Ivanova of Bulgaria,
- Mr. Fernando Antonio Arruza Rodriguez of Cuba,
- Mr. Christodoulos Christodoulou of Cyprus,
- Madame Corinne Lagauterie of France,
- Mr. B.N. Dixit of India,
- Mr. Ryskeldy Satbayev Akhmetkaliyevich of Kazakhstan,
- Mr. Dongho Kim of the Republic of Korea,
- Dr. Sergei Kononogov of the Russian Federation, and
- Mr. Samo Kopac of Slovenia.

We wish them all a warm welcome to the Committee. I would also like to announce that we have two new Corresponding Members, Zimbabwe and Georgia, and that we are in the process of dealing with requests for Corresponding Membership from Gambia, Liberia, Nigeria, Mauritania, Sierra Leone and also from Namibia. So I think now we may proceed to the formal roll call. Thank you very much. ■



PRAGUE 2011

46th CIML Meeting

Agenda

Left to right:
Pavel Klenovský, Jiri Jirka, Milan Holeček

Opening speeches
Changing of the President
Roll call
Approval of the Agenda

1 Approval of the minutes of the 45th CIML Meeting

2 Report by the CIML President

3 BIML activities

- 3.1 General report
- 3.2 Director's report on BIML Staff matters
- 3.3 CIML vote on the renewal of the contract of Willem Kool, BIML Assistant Director

4 Financial matters

- 4.1 Director's comments on the 2010 accounts
- 4.2 Director's comments on the management audit
- 4.3 CIML approval of the 2010 accounts
- 4.4 OIML Pension System
- 4.5 BIML Translation Center

5 Member States and Corresponding Members

- 5.1 New Member States and Corresponding Members and perspectives
- 5.2 Outstanding arrears of Member States and Corresponding Members

6 Developing countries

- 6.1 Report by the Facilitator on Developing Country matters
- 6.2 Report by the BIML on Developing Countries

7 Liaisons

- 7.1 Report by the BIML
- 7.2 Presentations by liaison organizations
- 7.3 Report on the Round Table with Regional Bodies

8 Report on cooperation between the BIML and the BIPM

9 Discussion of the future strategic direction of the OIML

10 Technical activities

- 10.1 Items for information
- 10.2 Items for approval
- 10.3 OIML Certificate System, MAA, and other future Systems
- 10.4 Conformity to Type (CTT)
- 10.5 Revision of the Directives for Technical Work
- 10.6 Use of the VIM and the GUM in OIML technical publications
- 10.7 The new SI and the impact on legal metrology

11 Awards

12 Preparations for the 13th Conference (2012)

- 12.1 CIML interpretation of the OIML Convention (OIML B 1) – Article XVII - use of the term "colleague"
- 12.2 CIML interpretation of the OIML Convention (OIML B 1) - Article XXIX - Member States' non-payment of subscriptions
- 12.3 Preparation of the 2013-2016 budget

13 Other matters

- 13.1 Proposal to render the OIML Bulletin free of charge
- 13.2 Terms of Reference for the Presidential Council

14 CIML vote on Resolutions

15 Future meetings

- 15.1 2012 CIML Meeting and 14th OIML Conference
- 15.2 2013 CIML Meeting

FORTY-SIXTH MEETING
of the INTERNATIONAL COMMITTEE of LEGAL METROLOGY

Prague, 11–14 October 2011

RESOLUTIONS

Resolution no. 1

The Committee approves the minutes of the 45th CIML Meeting with the following modifications:

- In 3.1.1, third paragraph on page 28 ("Mr. Issaev agreed ..."), fourth line: replace "Seville" with "Sèvres";
- In 3.1.2.5 (page 33), first line, delete "was";
- Under the heading of 8.1 (page 72), insert a sub-heading "8.1.1 – 8.1.3 Confirmation of publications" and in the first line, replace "8.1.1 to 8.1.4" with "8.1.1 to 8.1.3";
- 8.1.3 (page 73) to be renumbered "8.1.4".

Resolution no. 2

The Committee notes the report given by its President.

Resolution no. 3

The Committee notes the general report given by the BIML Director and his report on BIML staff matters and expresses its appreciation for the full and clear explanation of the improvements introduced in the operation of the Bureau since he took up his post.

Resolution no. 4

The Committee decides to renew the contract of Willem Kool, BIML Assistant Director, for a five-year term from 1 January 2012.

Resolution no. 5

The Committee,

Noting the report by its President and the BIML Director on the actions taken following the Management Audit conducted in February 2010,

Recognizing that considerable improvements in the management of the BIML and of the OIML budget have already been made,

Instructs its President and the BIML Director to continue to work diligently to resolve all items contained in the audit, to conduct a new audit in 2012 and to report progress at the 47th CIML Meeting.

Resolution no. 6

The Committee,

Noting the accounts for the year 2010 and the BIML Director's comments,

Considering the external auditor's approval of the 2010 accounts,

Approves the 2010 accounts, and

Instructs its President to present them to the 14th OIML Conference.

Resolution no. 7

The Committee,

Recalling its Resolution "CIML 1975-IXc" establishing the BIML Translation Center,

Considering

a) the original purpose of the BIML Translation Center, i.e. to make information, contained in certain working documents and publications, available to non-French speaking Members,

b) that the BIML Translation Center is funded by voluntary subsidies made by certain Member States and that the use of these funds is restricted to the translation of documents **from French to English**,

c) the increased use of English as the working language of the Organization and, consequently, the decrease in demand for translations into English, resulting in ever growing funds in the special account of the BIML Translation Center,

d) that it is considered necessary to make certain OIML Publications available in both English and French,

e) that, to increase the efficiency and effectiveness of the BIML, in particular regarding the dissemination of information to Members, it is desirable to make (historical) documents (Conference and Committee minutes and resolutions, OIML Bulletins, etc.) available in electronic format,

Resolves

a) that the funds in the special account of the BIML Translation Center may be used, as necessary, for

translation and interpretation activities that are not currently part of the normal operation of the Bureau, in particular:

- the translation of documents (with particular priority to translating from English to French to reduce the backlog of Publications into French);
- interpretation on an experimental basis at Conferences and Committee Meetings;
- converting existing documents of interest to the work of the Organization (minutes and resolutions of past Conferences and Committee Meetings and other relevant documents) into a suitable electronic format;

b) to decrease the base contribution for the BIML Translation Center to EUR 200,

Instructs the Bureau to

a) continue to manage the BIML Translation Center, taking this Resolution into account,
b) make translated and converted documents available to the Members in a suitable electronic format,
c) report annually to the Committee on the functioning of the BIML Translation Center.

Resolution no. 8

The Committee welcomes Zimbabwe and Georgia as new Corresponding Members.

Resolution no. 9

The Committee,

Notes the report of Eberhard Seiler as the Facilitator on Developing Country matters and his recommendation that this role is fundamentally changed,

Expresses its appreciation for all the work he has done since his appointment in 2008, and

Invites him, in the light of the new OIML Strategy, to continue his contribution to OIML activities related to developing countries.

Resolution no. 10

The Committee,

Approves the Memorandum of Understanding with the IEC,

Instructs the Bureau to draw up a joint work program with the IEC and report on the progress at the 47th CIML Meeting.

Resolution no. 11

The Committee,

Welcomes the prospective establishment of a liaison with the Consumer Policy Committee of ISO (ISO/COPOLCO),

Instructs the Bureau to identify possible liaison activities, to encourage such activities at the TC and SC level and to report on the progress at the 47th CIML Meeting.

Resolution no. 12

The Committee notes the reports of the BIPM, of ILAC and the IAF, and of CECIP on their liaison with the OIML and thanks their respective representatives for their presentations.

Resolution no. 13

The Committee,

Noting the oral report and presentation given by Dr. Pavel Neyezhmakov, Head of the secretariat of COOMET, on the RLMO Round Table held on 11 October 2011,

Accepts the recommendations of the Round Table addressed to the OIML,

Instructs the Bureau to pursue those recommendations and report on the progress at its 47th Meeting, and

Invites the RLMOs to take up the recommendations of the Round Table addressed to them.

Resolution no. 14

The Committee,

Acknowledges the new collaboration era at all levels between the OIML and the BIPM and thanks both its President and the BIML Director for their initiatives,

Approves the interim report prepared by its immediate Past-President with the assistance of certain CIML Members in compliance with Resolution no. 3 of its 45th Meeting, and

Requests its President and the BIML Director to intensify the cooperation with the BIPM in operational activities and to pursue further discussions and studies with the BIPM concerning a possible collocation.

Resolution no. 15

The Committee approves the revision of publication OIML B 15 *OIML Strategy*, with the following modifications:

- in the mission statement, after "recognized" replace "and will" by "for all areas for which governments take responsibility, such as those which";
- in the second line under "objective 5" delete "developing", and

Instructs the BIML Director to begin the preparation of a detailed work program to implement the Strategy, using the framework of OIML B 15.

Resolution no. 16

The Committee approves the following Recommendation:

- OIML R 35-2 *Material measures of length for general use - Part 2: Test methods*.

Resolution no. 17

The Committee instructs the BIML to submit the following Draft Recommendations to direct CIML online approval after they have received sufficient support in the preliminary ballot:

- Draft Revision of OIML R 126 *Evidential breath analyzers*;
- Draft Revision of OIML R 137 (Parts 1 and 2) *Gas meters*.

Resolution no. 18

The Committee reassigns the responsibility for the secretariat of TC 8 *Measurement of quantities of fluids* to Japan.

Resolution no. 19

The Committee,
Approves the following Draft Basic Publications:

- Revision of OIML B 3 *OIML Basic Certificate System for OIML Type Evaluation of Measuring Instruments*;
- Revision of OIML B 10-1 and OIML B 10-2 *Framework for a Mutual Acceptance Arrangement on OIML Type Evaluations*.

Resolution no. 20

The Committee,
Noting the report of TC 3/SC 5 on the issue of the acceptance of manufacturers' test results within a DoMC under the MAA,
Recalling its Resolution no. 20 at the 43rd CIML Meeting,
Decides that Issuing Participants may request the registration of Manufacturers' Testing Laboratories (MTLs) under a DoMC, provided that the conditions agreed by TC 3/SC 5 and laid down in a respective amendment to, or revision of, OIML B 10 are met, and that after this amendment to, or revision of, OIML B 10, MAA Type Evaluation Reports that contain test results from MTLs may be accepted by Participants on a voluntary basis.

Resolution no. 21

The Committee,
Recalling its Resolution no. 20,
Approves as a new work item for OIML TC 3/SC 5:

- the amendment to, or the revision of, OIML B 10 *Framework for a Mutual Acceptance Arrangement on OIML Type Evaluations (MAA)* to include appropriate conditions for the registration of Manufacturers' Testing Laboratories (MTLs) under a DoMC,

Decides

- that the registration of MTLs under a DoMC remains excluded from the scope of the MAA, until this amendment to, or revision of, OIML B 10 is approved.

Resolution no. 22

The Committee,
Recalling its Resolutions no. 15 and no. 19 of its 45th Meeting,
Noting the written report of the seminar on "Conformity to Type" held in Utrecht, the Netherlands, on 29 and 30 June 2011,
Noting the oral report and presentation by the CIML Member for New Zealand, Mr. Stephen O'Brien, on the outcome of the follow-up CTT Seminar held in Prague on 10 October 2011,
Approves the establishment of a new Subcommittee of TC 3, to be titled "Conformity to type", which shall undertake as a work item the development of a guidance document on the *"scope for pre-market surveillance activities focused on the conformity assessment of measuring instruments to give assurance that manufactured (or production) instruments meet their approved type"*,
Assigns the responsibility for the Secretariat of the new Subcommittee jointly to New Zealand and the Bureau,
Invites the new Subcommittee to take into account:

- the information provided at the seminars held in June and October 2011; and
- the current programs in the USA and the EU and any best practices identified elsewhere,

Thanks the electronic working group, chaired by the CIML Member for New Zealand, for preparing the program for the Seminars.

Resolution no. 23

The Committee,
Approves, subject to re-titling the proposed "working groups" as "Project Groups" and other necessary editorial changes, the revision of:

- OIML B 6-1 *Directives for OIML technical work. Part 1: Structures and procedures for the development of OIML publications*; and
- OIML B 6-2 *Directives for OIML technical work. Part 2: Guide to the drafting and presentation of OIML publications*,

Instructs the Bureau to produce a guidance document no later than 1 December 2011 setting out the arrangements for implementation and to introduce the new arrangements from 1 January 2012 in an orderly way,

Establishes an ad-hoc working group, chaired by the Second Vice-President, to consider improvements to OIML B 6-1 and OIML B 6-2, suggested by CIML Members in the light of the experience of operating the new procedures, and

Instructs the ad-hoc working group to present proposals for the amendment of OIML B 6-1 and OIML B 6-2 for consideration at its 47th Meeting.

Resolution no. 24

The Committee,

Noting the development of the 3rd edition of the *International Vocabulary of Metrology - Basic and General Concepts and Associated Terms (VIM)* by the Joint Committee for Guides in Metrology (JCGM) of which the OIML is a Member Organization,

Noting the publication of the 3rd edition of the VIM as an OIML Vocabulary (OIML V 2-200:2010),

Recalling the requirements for the drafting and presentation of terms and definitions in OIML Recommendations and Documents as laid down in Annex B of OIML B 6-2:1993, and in particular paragraph B.1.2 "Avoidance of duplications and contradictions",

Considering the imminent completion of the revision of the *International Vocabulary of Legal Metrology (VIML)* by OIML TC 1,

Resolves

a) that new, and revisions of existing OIML Recommendations and Documents should apply the terminology and definitions of the VIM and the VIML without amendment,
b) that terms and definitions from international vocabularies from other fields (for instance statistics) may be adapted when the concept that they pertain to in legal metrology is different and that such conceptual differences should be explained in a note,
c) that when, in OIML Publications other than Recommendations and Documents, terms and definitions are used that differ from those in the VIM and the VIML, these differences should be indicated in notes, as appropriate,

Instructs the BIML to monitor the correct implementation of this Resolution at all stages of the preparation of OIML Publications.

Resolution no. 25

The Committee,

Expresses its appreciation to Dr. Philippe Richard and to Dr. Arnold Leitner for their presentation about the proposed changes to the SI (International System of Units), currently discussed by the BIPM and the impact of those changes on legal metrology,

Encourages all its Members and relevant Technical Committees, in particular TC 2, TC 9, TC 9/SC 3 and TC 11, to actively participate in the discussion and provide comments to the ad-hoc OIML Working Group "New SI" before 24 February 2012,

Thanks Dr. Arnold Leitner for representing the OIML in the CCU (Consultative Committee of Units of the BIPM) over many years, and,

Welcomes the nomination by TC 2 of Dr. Philippe Richard as the new OIML representative in the CCU.

Resolution no. 26

The Committee,

Considering

a) that, when the OIML was established in 1955, its Organization was modeled after the BIPM, established by the Metre Convention in 1875,
b) that, in view of the history of the text of the OIML Convention, it is likely that the term 'colleague' used in Article XVII of the OIML Convention refers to another CIML Member,
c) the role of the OIML as an international standard-setting organization, and the evolution of the functioning of the CIML in the light of that role, namely that CIML decisions are increasingly viewed as decisions of the OIML Members,

Noting that Article XIII of the OIML Convention was amended in 1968, changing the composition of the CIML from a maximum of 20 members elected by the Conference to one representative per OIML Member, designated by his/her government,

Is of the opinion that it may sometimes be more appropriate for a CIML Member who is unable to attend a CIML Meeting, to delegate his/her vote to someone from his/her own government or administration, instead of to another CIML Member,

Resolves to request the 14th OIML Conference to approve the following interpretation, applicable to the first paragraph of Article XVII of the OIML Convention:

"A 'colleague' may be: either another CIML Member or someone designated by the absent CIML Member to represent him/her. In the latter case, the representative shall be from the same government or administration as the absent CIML Member and may not represent other CIML Members, i.e. may not receive proxies from other CIML Members".

Resolution no. 27

The Committee,

Considering that there appears to be no comprehensive policy on the implementation of Article XXIX of the OIML Convention concerning Member States which have not paid their subscriptions for a number of years,

Instructs the BIML Director to review relevant past decisions and to draft a proposal for a comprehensive policy for dealing with Member States which have not fulfilled their obligation to pay their subscription fees for a number of years,

Requests its President to present the proposal, after consultation of the CIML Members, to the 14th Conference for approval.

Resolution no. 28

Considering

- that the net revenue from the paid subscriptions for the OIML Bulletin is relatively small;
- that the OIML Bulletin is still an indispensible means of communication to the Members and other interested parties; and
- that the OIML Bulletin should be circulated to as wide an audience as possible,

Of the opinion that

- the OIML Bulletin should be rendered free of charge;
- electronic versions of all issues of the OIML Bulletin should be available for download on the OIML web site without restriction;
- printed copies of the OIML Bulletin should be provided only to OIML Member States and Corresponding Members,

Requests the 14th Conference to take account of this opinion in the budget for the 2013–2016 budget period.

Resolution no. 29

The Committee approves the Terms of Reference for the Presidential Council and their publication as OIML Basic Publication B 16, with the following amendments:

- in the second bullet under "Composition of the Council", replace "represent" with "reflect"; and
- after "appointed" insert "in a personal capacity".

Resolution no. 30

The Committee decides to award Prof. Dr. Lev Issaev, its former Member for the Russian Federation, the title of Member of Honor, in recognition of his work for the OIML over a period of more than 30 years.

Resolution no. 31

The Committee thanks Romania for its presentation on the venue for the 14th OIML Conference and the 47th CIML Meeting in 2012. ■

PRAGUE 2011

OIML Medals and the 2011 Award for *Excellent Achievements in Legal Metrology*

The OIML made two Awards in Prague and extends its appreciation to the 2011 winners of the OIML Medals

A Gold Medal was presented to **Prof. Dr. Lev Issaev** for his outstanding contribution to the development of international legal metrology. Prof Dr. Issaev had begun in legal metrological control of measuring instruments in 1960, then worked in one of his country's major institutions for technical regulation and standardization, as Deputy Chief, then Chief of the Metrology Department, Vice President and, from 1997 to 1998, Acting President. Since 1992 he had been Vice President of the Metrological Academy and member of the editorial board of several journals in the field of metrology. Since 1993 he had been Professor in Legal Metrology in the Legal Metrology Chair of the Academy for Training in Standardization, Metrology and Conformity Assessment. He had been active in the OIML for more than 30 years, starting in 1977.

In 1980 and again in 1986 and 2000 he had been elected CIML Vice President. He had been a member of the Presidential Council since 1992 and his contributions had included work on reference materials, bio-mechanical measurement, bio-medical measurements, measuring systems, physical and chemical measurements, personnel training, development of terminology, accreditation work and much else.

A Bronze Medal was presented to **Mr. Jacques Bourgeois**, who had served at the BIML as Archivist and subsequently Office Clerk. Mr Bourgeois retired in June 2011 after 33 years of loyal service - see the July 2011 OIML Bulletin for more details.

The 2011 Award for Excellent Achievements in Legal Metrology was made to Juan Carlos Castillo (IBMETRO, Bolivia) and José Antonio Dajes (INDECOPI, Peru).

The Editors of the Bulletin are pleased to publish an article (see p. 5) co-written by the 2011 Award Winners entitled "Natural Gas Metrology in Bolivia and Peru".

CONFORMITY TO TYPE

A new OIML Technical Subcommittee on CTT

WILLEM KOOL, BIML Assistant Director

Generally, measuring instruments under legal control are subjected to conformity assessment before they may be legally used. Traditionally, such conformity assessment is in two stages: type approval and verification.

At **type approval**, one or more instruments are subjected to a wide range of tests (temperature, electromagnetic compatibility, etc.) that often require specialized and expensive test facilities and can only be meaningfully performed in a laboratory. The instruments submitted for type approval testing should be representative of the final production of the type of instrument, but very often they are still prototypes, or, at best, well prepared samples.

At **verification**, each individual instrument from the production is then subjected to limited testing, typically at ambient temperature only, to verify whether the instrument performs within maximum permissible errors. Verification includes an assessment of the compliance of the design of the instrument with the approved type, as described in the type approval certificate.

When this system of conformity assessment was developed, measuring instruments under legal control were relatively simple compared to modern electronic instruments. They were mainly mechanical, while the first electrical and electronic instruments had components that were more easily recognizable and software could not be changed without breaking a physical sealing. Moreover, manufacturers operated primarily in a national market and the national (or local) legal metrology inspectors were familiar with the manufacturers and their production processes. Under these circumstances, the system of type approval and verification worked quite well to ensure that instruments under legal control complied with applicable technical and metrological requirements.

Some developments that took place over the last decades have put the reliability of this system of conformity assessment in legal metrology into question, for instance:

- New technologies make it difficult and often impossible to verify whether hardware components in production instruments have the same function or the same specifications as those in the samples that were tested for type approval.
- Software can be easily modified, often without having to break any physical sealing.
- As a result of globalization, instruments may be type approved in one country, produced in another country, and verified and used in yet another country.

Nowadays, it is very difficult for the verification officer to ascertain that the instrument he is verifying is actually in conformance with the design as described in the type approval certificate, or in compliance with all applicable technical and metrological legal requirements.

The problem may be formulated in the following way: "Traditional conformity assessment in legal metrology (i.e. type approval followed by verification) no longer provides sufficient assurance that verified instruments comply with all applicable requirements".

This issue has been discussed within the OIML for several years in a more or less informal way: in conjunction with a number of CIML Meetings, an ad-hoc group of CIML Members would discuss the issue. These exchanges were useful to learn about the problem and about the steps that individual countries were taking to tackle it. However, the discussions in the ad-hoc group did not yield any tangible result. Finally, in 2010, the CIML Member for Australia, Dr. Grahame Harvey, submitted a proposal to establish a new OIML technical committee that should be allocated the task of developing a certification system under which measuring instruments would be certified to be in conformity with their approved type.

This proposal was discussed by the CIML at its 45th Meeting in Orlando in 2010, but no consensus was reached. There was disagreement over whether or not the OIML should develop such a certification system at all, and whether such a project should be allocated to an existing technical (sub-)committee or to a new (sub-) committee. The CIML decided[1] to postpone making any decision and instructed the BIML to organize a seminar on Conformity To Type (CTT) with the objective of further studying the issue and drafting proposals for further OIML activities in this field.

[1] See Resolutions 15 and 19 of the 45th CIML Meeting (Orlando, USA, 2010) available on the OIML web site at: http://www.oiml.org/download/docs/ciml/45_ciml_resolutions_english.pdf

An electronic working group, chaired by the CIML Member for New Zealand, Mr. Stephen O'Brien, and facilitated by the BIML, was established to prepare the program for the seminar.

The seminar[2], with some 50 participants, was held on 29 and 30 June 2010 in Utrecht, the Netherlands. The program for the first day included presentations about standards on conformity assessment in general (ISO/CASCO "toolkit"), conformity assessment systems in the IEC (for electro-technical products), existing CTT systems and initiatives in the USA, Europe and Australia and the perspectives of developing and utilizing economies. On the second day, two panel discussions were held: to identify critical issues for the OIML, and to discuss elements for a possible OIML CTT project.

The conclusions of the Utrecht seminar may be summarized as follows:

- The issue of CTT is of strategic importance for the OIML.
- The support of instrument manufacturers is critical for the success of any CTT activity.
- The CIML should formally assign responsibility for CTT to a (new or existing) OIML technical (sub-) committee.
- The OIML should develop a publication (OIML Document) with "best practices" for CTT.

It was also concluded that a follow-up seminar should further discuss two specific issues relating to the CTT issue:

- information included in the type approval certificate, and
- how a certification system could be used in a regulatory environment.

A follow-up seminar had already been scheduled to allow CIML Members to further discuss the CTT issue and to draft a resolution for the CIML. This seminar (CTT-II)[3] took place on 10 October 2011, immediately preceding the 46th CIML Meeting in Prague.

The CTT-II seminar showed that there was consensus among CIML Members that the OIML should develop a guidance document on Conformity to Type, as had been recommended in the conclusions of the Utrecht seminar. But the issue of in what way such a new work project should be allocated was not resolved until the CIML Meeting following the CTT-II seminar took a resolution[4] which:

- approved the establishment of a new subcommittee (TC 3/SC 6 "Conformity to type"), which shall undertake as a project the development of a guidance document on the "*scope for pre-market surveillance activities focused on the conformity assessment of measuring instruments to give assurance that manufactured (or production) instruments meet their approved type*",
- assigned the responsibility for the Secretariat of the new subcommittee jointly to New Zealand and the BIML,
- invited the new subcommittee to take into account:
  - the information provided at the seminars held in June and October 2011, and
  - the current programs in the USA and the EU and any best practices identified elsewhere.

The co-secretariats of the new TC 3/SC 6 will start their activities in early 2012. First, CIML Members will be invited to become P- or O-members of TC 3/SC 6 and asked whether they wish to be registered as a P-member for the project. At the same time, OIML Corresponding Members and Liaison Organizations will also be invited to collaborate as observers. ■

[2] For full information about the Utrecht CTT seminar, see: http://www.oiml.org/seminars/2011_CTT/

[3] Information about the CTT-II seminar is available on the OIML web site at: http://www.oiml.org/seminars/2011_CTT-II/

[4] Resolution 22 of the 46th CIML Meeting (Prague, 2010), see: http://www.oiml.org/download/docs/ciml/46_ciml_resolutions_english.pdf

MEETING REPORT

OIML TC 8/SC 5 *Water meters* and the Joint ISO/CEN/OIML Working Group

8–10 November 2011 NIST, Gaithersburg, Maryland, USA

Morayo Awosola,
OIML TC 8/SC 5 Secretariat, NMO, United Kingdom

Dr. Michael Reader-Harris,
OIML TC 8/SC 5 Chairman and JWG Convenor
National Engineering Laboratory, United Kingdom

Background

The reasons for the harmonisation of CEN/ISO 4064 / OIML R 49 and for the revision of OIML R 49 are as follows:

- It is inconvenient to have minor differences between different water meter standards/regulations; the differences arose because each document was revised separately, so an improvement in one was not necessarily included in the others.
- From an EU point of view it is particularly inconvenient to have differences between CEN and OIML publications when meeting the MID requirements.
- Harmonisation between CEN and ISO is essential; BSI votes on the ISO document, but cannot implement it. If CEN and ISO are to harmonise their work, then it seemed appropriate that the OIML should also participate.

OIML TC 8/SC 5 had voted in favour of harmonisation by 10-0 (with 1 abstention).

Joint ISO/TC 30/SC 7, OIML TC 8/SC 5 and CEN/TC 92 water meters meeting

Meetings of the Joint Working Group (JWG) comprising members of the water meters technical committees of ISO/TC 30/SC 7, OIML TC 8/SC 5 and CEN/TC 92 were held at the Advanced Measurement Institute building at the NIST campus in Gaithersburg, Maryland, USA on 8–10 November 2011, courtesy of the USA OIML contact Ralph Richter, who welcomed the delegation to the NIST campus.

The Joint Working Group meeting was chaired by its Convenor Dr. Michael Reader-Harris of the National Engineering Laboratory (NEL).

Separate meetings of ISO/TC 30/SC 7 and OIML TC 8/SC 5 were held on Thursday 10 November, the former led by the ISO/TC 30 Chairman Dr. Michael Reader-Harris and Secretary Dr. David Michael, and the latter by the TC 8/SC 5 Chairman Dr. Michael Reader-Harris and Secretary Morayo Awosola.

In attendance were 22 ISO and OIML Member States, four water meter manufacturers and three liaison organisations.

The meetings were convened to discuss the revision and harmonisation of Parts 1 to 5[1] of the harmonised ISO 4064 and OIML R 49 water meter standards.

The JWG discussed and accepted the majority of the comments received from the last ISO and OIML second Committee Drafts (2 CD) consultation exercise. The concerns of OIML members France, Denmark and Japan who had rejected the 2 CD were partially accepted. However, agreement was not reached on one of the French comments as it proved difficult to find the right text to implement the Measuring Instruments Directive (MID) requirement "*The meter shall not exploit the MPE or systematically favour any party*". It was decided that a further consultation of the wider ISO/OIML committee members was necessary to move forward on this requirement.

Although the harmonised 2 CD drafts had achieved majority technical committee approval at ISO/TC30/SC 7, OIML TC 8/SC 5 and CEN/TC 92 to proceed to the ISO Final Draft International Standard (FDIS) and OIML Draft Recommendation stage, it became clear that many of the changes agreed at the meeting were technical in nature. The JWG decided that in view of the substantial technical changes made to the harmonised 2 CD drafts since the last ISO/CEN/OIML technical votes it would be more appropriate to return the harmonised drafts back to technical committee voting stage as a 3 CD to give committee members an opportunity to review the JWG decisions and review the

[1] Water meters intended for the metering of cold potable water and hot water.

Part 1: Metrological and technical requirements
Part 2: Test methods
Part 3: Test Report Format
Part 4: Non-metrological requirements not covered in Part 1
Part 5: Installation requirements

3 CD drafts before submission for ISO FDIS and CIML votes.

The meeting resolutions and the JWG detailed responses to the 2 CD comments will be circulated when the JWG Secretary Dr. David Michael issues the meeting report.

TC 8/SC 5 meeting

The meeting of OIML TC 8/SC 5 held on 10 November discussed the OIML contribution to the JWG activities.

There was unanimous agreement that most of the OIML 2 CD comments had been discussed satisfactorily in the JWG meeting and that it was necessary to reissue the 2 CD as a 3 CD so that the OIML community can review the technical changes made to the 2CD since the last TC 8/SC 5 vote.

It was also agreed at the meeting that the TC 8/SC 5 Secretariat would approach those TC 8/SC 5 members that had voted against the 2 CD to assess their response to the JWG decisions.

The current timetable is to issue the 3 CD drafts early in 2012 and for the drafts to be processed and ready for submission to the 2012 CIML Meeting.

OIML TC 8/SC 5 supported the JWG decisions, including the following:

a) Change document title to *Water meters for cold potable water and hot water*.
b) Scope of document in Clause 1.2 amended to suit both OIML Recommendations and ISO standards.
c) Agreement to change the number of meters submitted for test from 5/3/2 to 3/2/1 (Denmark and Sweden comments).
d) The word 'endurance' to be replaced with "durability" throughout the drafts.
e) Drafts to be edited to remove the potential for inconsistency between "type approval" and "initial verification".
f) TC 8/SC 5 Secretariat to review the drafts for consistency with the VIML and OIML D 11.

BIML Director Stephen Patoray gave an update of BIML activities that might have an impact on the work of the JWG.

He mentioned that the revision of the OIML B 6 *Directives for Technical Work* had been finalised and was about to be published. He explained that changes in the *Directives* included the amendment of the TC/SC voting system which now requires a majority of the votes cast rather than a majority of the total TC/SC members as previously required. This means that non-voters and abstentions will be excluded from the final vote count.

Mr. Patoray supported the JWG decision to submit the drafts as a 3 CD for TC/SC voting because of the technical changes and inconsistencies indentified in the 2 CD.

TC 8/SC 5 meeting resolutions

- OIML TC 8/SC 5 agreed to reissue the 2 CD Parts 1, 2 and 3 as a 3 CD in view of the technical changes made to the 2 CD at the JWG meeting.
- The BIML and ISO editors are to be approached to liaise regarding the final structure and format of the harmonised drafts.

OIML TC 8/SC 5 expresses its thanks to NIST, Ralph Richter and the US water meter manufacturers for their support in making the meeting a successful event. ■

MEETING REPORT

OIML TC 9
Instruments for measuring mass and density

19–20 September 2011

PTB, Braunschweig, Germany

JOHN BARTON, NIST, USA

Revision of OIML R 60

This meeting of OIML TC 9 *Instruments for measuring mass and density* was hosted by the Physikalisch-Technische Bundesanstalt (PTB) and was held in the newly constructed conference center, the Kohlrausch Building located at the PTB's Braunschweig facilities. It was convened by TC 9 Secretariat John Barton (USA) and was attended by representatives from ten Member States/liaisons.

This meeting was convened primarily to allow OIML TC 9 members to consider the appropriate limits for the scope of the next draft (1 CD) of OIML R 60 *Metrological regulation for load cells*.

A number of comments and suggestions submitted to the Secretariat by TC 9 members would have a significant effect on the scope of the current edition of R 60 (2000). These comments pertained to requirements applicable to elements that fall outside the traditional concept of a load cell.

Comments received prior to the meeting included statements that questioned the need for (and use of) certain requirements and test procedures in OIML R 60. Included in these comments were concerns regarding:

- the effects of load transmission imparted by mounting hardware and the amount of torque used to secure the load cell;
- the effects of the seating of the load cell over a period of time;
- the effects that eccentric loading may have on load cell performance; and
- the regulation of software that is associated with digital type load cells.

These and other fundamental aspects regarding the evaluation of load cells must be considered by TC 9 prior to any further revision of R 60.

An additional item on the meeting agenda was to secure the opinions of TC 9 members regarding the use of a template recommended by the BIML. This template was created to provide a uniform format for all OIML Recommendations. The current R 60 Working Draft has

(to the greatest extent possible) followed the prescribed structure of this template. It was critical to determine whether the use of this template would be sanctioned by TC 9.

The following summary includes the notable points of discussion and also the conclusions expressed at the meeting.

- Because load cells are not complete weighing instruments, it was recognized that R 60 will not easily conform to the BIML template that has been suggested for use in the revision of all Recommendations. It was decided however, to follow the BIML template wherever possible for the formatting of R 60 during this revision.
- A guide (such as the one found in Part A of the European Cooperation in Legal Metrology [WELMEC] *Guide for Load Cells*) to provide examples for load transmission and load receptors will be included in the revision in the form of an informative annex.
- There should not be any requirements included in R 60 regarding the effects of eccentric loading, and that any testing to verify the performance of the load cell under these conditions would be best placed in those Recommendations that are applicable to complete weighing instruments.
- If software associated with a load cell influences no more than the two processes of: (1) analog to digital conversion and (2) the linearization of the load cell output, then the software should be evaluated using R 60. If the function of the software results in an indication of mass, then that function should be evaluated under other Recommendations (e.g. R 76). This evaluation of the software should include the identification of the software used and the method used to secure the software.
- Further definition of a "family" is needed to use as the basis for classifying load cells.
- A draft in the form of an annex to R 60, including examples of required information needed on OIML Certificates, will be developed by a working group. This draft will then be included in the 1 CD at which time it may be commented on by all TC 9 members. ■

MEETING REPORT

MAA: Meeting of the CPRs

22–23 September 2011

PTB, Braunschweig, Germany

Luis Mussio, BIML

As part of the renewal process of the DoMCs for OIML R 49 *Water meters intended for the metering of cold potable water and hot water*, R 60 *Metrological regulation for load cells* and R 76 *Non-automatic weighing instruments*, a joint meeting of the three CPRs was held in Braunschweig, Germany, on 21–23 September 2011. The location and facilities for the meeting were provided by the Physikalisch-Technische Bundesanstalt (PTB).

Although there were not enough participants to reach a quorum (18 participants from 11 countries), some important discussions took place and the proposals should now be approved by correspondence.

On the second day of the meeting, CPR members visited the Sartorius facilities in Göttingen, one of the main manufacturers of weighing instruments in Germany. The visit included the manufacturing plant and the calibration and testing laboratories of the company.

The main points discussed during the meeting were the following.

1 Review and approval of the DoMCs

The information submitted by the Issuing Participants in the DoMCs was reviewed during the meeting and approved by the participants. Voting by those members who were not present at the meeting was done by correspondence and the new version of the DoMCs is now available on the MAA web site.

Because some problems were detected due to the use of different languages, the need to have a common format for the submission of information for review was also discussed. A format for an Executive Summary to be submitted together with the information for renewal will be drawn up by the BIML and submitted to the CPRs for approval.

Finally, it was proposed that for full reviews (every four years) Issuing Participants should also make an oral presentation to the CPR to allow other participants to ask questions.

2 Presentation of the new versions of OIML B 3 and B 10

The co-secretariats of TC 3/SC 5, along with Roman Schwartz, made a presentation of the new versions of OIML B 3 *OIML Basic Certificate System for OIML Type Evaluation of Measuring Instruments* and OIML B 10 *Framework for a Mutual Acceptance Arrangement on OIML Type Evaluations*, and explained the respective draft CIML Resolution[1].

A fruitful discussion was held on the subject of the use of MTL (Manufacturer Testing Laboratory) test results for MAA Certificates, based on the two respective draft CIML Resolutions[2]. The output of this discussion will be presented to TC 3/SC 5 in anticipation of future work on B 10, most notably, discussions to facilitate the use of MTL results for MAA Certificates and MAA Evaluation Reports.

3 Review of MAA 01 and MAA 03

The need to review MAA 01 *Operating rules of the Committee on Participation Review and Declarations of Mutual Confidence* and MAA 03 *Peer assessment process* was discussed during the meeting. One of the main conclusions was that there was a need to review the DoMC renewal procedure in order to reduce the workload involved in all participants having to review the information submitted by all the other participants.

It was also suggested to ask TC 3/SC 5 to study which part of these documents should be included in a future revision of B 10 and which should remain as operational documents (and hence under the control of the BIML).

The role of the BIML in the peer review process was discussed, and the conclusion was that the BIML should act as a coordinator of the on-site assessments rather than being the organizer.

Finally, the need for a "fast track" procedure for the approval of small changes in the DoMCs was discussed.

[1] Resolution No. 19 was adopted at the 46th CIML Meeting.

[2] Resolutions Nos. 20 and 21 were adopted at the 46th CIML Meeting.

4 Need for training of experts performing on-site reviews

It was highlighted during the meeting that there is a need to continue training activities for technical experts who perform on-site peer reviews or who participate in accreditation assessment visits. The BIML will organize a workshop for technical experts during 2012.

5 MAA Certificates issued for testing performed at testing facilities other than those listed in the DoMC

The interpretation of section 4 of B 10 was discussed:

> 4. *Range of evaluation capability*
>
> …
>
> *The use of external testing facilities (e.g. by subcontracting) may lead to higher capabilities.*

It was concluded that in the case of using external facilities, the scope of the Issuing Participant in the DoMC shall include the external laboratory and information shall be provided concerning the procedures used to support the results (e.g. witnessing of the test, audits, etc.). It was also concluded that, as long as the use of MTL test results is not yet approved for MAA Certificates, the tests should always have a witnessing process, making it necessary to draw up a document with the "minimum criteria for witnessing tests in external facilities".

The meeting was very successful and many useful discussions took place. The BIML is grateful to the PTB for making their facilities available for the meeting, and for their excellent hospitality during the three days. ■

BIML STRUCTURE

Staff changes at the BIML

STEPHEN PATORAY, BIML DIRECTOR

During the 46th CIML Meeting I mentioned some upcoming staff changes at the BIML. One of these is the retirement at the end of 2012 of Philippe Leclercq, BIML Administrator.

During his 47 years of service a great deal has changed at the BIML. Throughout his career, Philippe has provided a steady hand to guide the administrative work but we must now plan for this significant change and make the necessary preparations to continue the work after he retires.

Over the past year I closely observed the work of all the staff members at the BIML. I also observed the processes in place, many of which we must continue to work on and complete. Based on this analysis, the direction we need to take and the changes we need to make have become clear.

I am very pleased to announce two internal promotions: Florence Martinie has been appointed as *Administrator, Finance* and Patricia Saint-Germain has been appointed as *Administrator, Members*. In addition, a number of tasks have been reassigned. With these internal promotions, it will be possible for Philippe to work with Florence, Patricia and myself over the next year to transfer the great deal of experience and knowledge he now possesses. We will also be more able to focus on the tasks at hand and improve our efficiency and effectiveness.

- **Florence** will focus mainly on the financial matters of the BIML. She will work with Philippe over the next year to become fully aware of all the various details related to the financial dealings of the OIML. She will also work with both the financial auditor and me to ensure that all of the IPSAS requirements are fully implemented and clearly understood. In 2012 she will also prepare the budget for 2013–2016 which will be presented to the 14th Conference for approval.
- **Patricia** will focus mainly on the Members of the OIML. She will work with me and several others to improve the information we have regarding our Members' needs and thus allow us to improve our ability to better serve them. Patricia will continue to plan and oversee the Conference, CIML and Presidential Council Meetings.

Philippe will pass on to Florence and Patricia the steps and processes necessary for a seamless transition in liaisons with the French Ministry of Foreign and European Affairs and other government authorities.

Florence and Patricia will form the core of a team that will focus on the projects necessary to improve and update the infrastructure of the Bureau at 11 rue Turgot. This will include a number of major renovation projects to bring the Bureau up to current standards and ensure the investment Members have in the Bureau remains sound. Florence and Patricia will also be major contributors to defining the work of the Database Management staff member who will be recruited to the BIML.

We will also be clarifying and making some changes in our technical work management at the BIML. Willem Kool will continue to organize and implement the technical schedule for the CIML Meeting. Ian Dunmill will take on the responsibility of gathering the information on the status of Technical Committees, Subcommittees and Project Groups. This is in conjunction with his work on B 6 *Directives for OIML technical work*. Luis Mussio will begin to review all the Certificates submitted to the BIML for registration, in conjunction with his work on the MAA.

Some other notable events are the initial stages of installation of the new server by Jean-Christophe Esmiol. This will replace the ten year old outdated server currently still in place at the BIML. Also in a project led by Chris Pulham we will be taking delivery in January of a newly leased Xerox copier/printer. The lease negotiated on this new and much improved copier/printer will save the BIML about 25 % compared to the current service contract on the old (purchased) machine.

We will provide regular updates and progress reports concerning these and other future changes. ■

COMPOSITION DU BIML

Changement de Personnel au BIML

STEPHEN PATORAY, DIRECTEUR DU BIML

Lors de la 46ème Réunion du CIML, j'ai évoqué quelques changements de Personnel à venir au sein du BIML. Parmi ceux-ci, le départ en retraite, fin 2012, de Philippe Leclercq, Administrateur du BIML.

Au cours de ses 47 années de fonctions, nombre de choses ont changé au BIML. Durant toute sa carrière, Philippe a fourni une aide constante pour mener à bien la charge administrative. Nous devons à présent prévoir cet important changement et effectuer les préparations nécessaires pour continuer le travail après sa retraite.

Pendant l'année qui s'est écoulée, j'ai observé de près le travail de tous les membres du Personnel au BIML. J'ai également observé les processus en place, et nombreux sont ceux qui doivent être conservés et enrichis. En se basant sur cette analyse, la direction que nous devons prendre et les changements que nous devons adopter sont devenus évidents.

J'ai le plaisir d'annoncer deux promotions internes : Florence Martinie a été nommée *Administrateur, Finance* et Patricia Saint-Germain a été nommée *Administrateur, Membres*. De surcroît, un certain nombre de tâches ont été réattribuées. Grâce à ces promotions internes, Philippe pourra travailler avec Florence, Patricia et moi-même au cours de l'année à venir afin de transmettre sa grande expérience et sa connaissance, acquises tout au long de son parcours. Nous serons également capables de mieux nous concentrer sur les tâches en cours et améliorer notre efficacité.

- Le travail de **Florence** portera essentiellement sur les affaires financières du BIML. Elle travaillera avec Philippe pendant toute l'année afin d'acquérir toutes les connaissances des divers détails relatifs aux opérations financières à l'OIML. Elle travaillera également avec le Commissaire aux comptes et moi-même afin de s'assurer que toutes les exigences IPSAS soient réalisées exécutées et comprises clairement. En 2012, elle préparera également le Budget 2013–2016 qui sera présenté à l'approbation de la 14ème Conférence.
- Le travail de **Patricia** portera essentiellement sur les Membres de l'OIML. Elle travaillera avec moi-même et plusieurs autres collègues afin d'améliorer nos informations concernant les besoins de nos Membres et de permettre ainsi le développement de notre capacité pour mieux les servir. Patricia continuera de planifier et superviser l'organisation de la Conférence, des Réunions du CIML et du Conseil de la Présidence.

Philippe transmettra à Florence et Patricia les étapes et processus nécessaires à une transition en douceur des liaisons avec le Ministère des Affaires Etrangères et Européennes français et d'autres Autorités gouvernementales.

Florence et Patricia seront le cœur d'une équipe dont le travail sera axé sur les projets nécessaires à l'amélioration et la modernisation des infrastructures au Bureau, 11 rue Turgot. Cela comprend un certain nombre de projets de rénovation afin que le Bureau soit aux normes actuelles pour veiller à ce que l'investissement des Membres au sein du Bureau se déroule dans de bonnes conditions. Florence et Patricia sont également des participants majeurs dans la définition du travail du futur membre du personnel responsable de la gestion de la base de données, qui sera recruté au BIML.

Nous ferons aussi des clarifications et opérerons quelques changements dans la gestion de notre travail technique au BIML. Willem Kool continuera d'organiser et de mettre en œuvre le programme technique des Réunions du CIML. Ian Dunmill reprendra la responsabilité de la collecte des informations sur le statut des Comités techniques, Sous-comités et Groupes de Projets. Cela se fera en conjonction avec son travail sur le B 6 *Directives pour les travaux techniques de l'OIML*. Luis Mussio commencera à examiner tous les Certificats présentés au BIML pour enregistrement, ce en conjonction avec son travail sur le MAA.

Parmi d'autres événements à noter, Jean-Christophe Esmiol entreprendra l'installation du nouveau serveur. Ce dernier remplacera le serveur obsolète qui est en place au BIML depuis dix ans. D'autre part, un projet dirigé par Chris Pulham se concrétisera par l'installation en janvier d'une nouvelle photocopieuse imprimante en location. Le contrat que nous avons négocié pour cette nouvelle photocopieuse plus moderne permettra au BIML de faire environ 25 % d'économie comparé au contrat de service actuel pour l'ancienne machine (achetée).

Nous ferons régulièrement des mises à jour et rapports d'étape au sujet de ces changements et ceux à venir. ■

www.oiml.org/about/biml.html

OIML Systems

Basic and MAA Certificates registered 2011.10–2011.12

Information: www.oiml.org section "OIML Systems"

The OIML Basic Certificate System

The *OIML Basic Certificate System for Measuring Instruments* was introduced in 1991 to facilitate administrative procedures and lower the costs associated with the international trade of measuring instruments subject to legal requirements. The System, which was initially called "OIML Certificate System", is now called the "OIML Basic Certificate System". The aim is for "OIML Basic Certificates of Conformity" to be clearly distinguished from "OIML MAA Certificates".

The System provides the possibility for manufacturers to obtain an OIML Basic Certificate and an OIML Basic Evaluation Report (called "Test Report" in the appropriate OIML Recommendations) indicating that a given instrument type complies with the requirements of the relevant OIML International Recommendation.

An OIML Recommendation can automatically be included within the System as soon as all the parts - including the Evaluation Report Format - have been published. Consequently, OIML Issuing Authorities may issue OIML Certificates for the relevant category from the date on which the Evaluation Report Format was published; this date is now given in the column entitled "Uploaded" on the Publications Page.

Other information on the System, particularly concerning the rules and conditions for the application, issue, and use of OIML Certificates, may be found in OIML Publication B 3 *OIML Basic Certificate System for OIML Type Evaluation of Measuring Instruments* (Edition 2011) which may be downloaded from the Publications page of the OIML web site. ■

The OIML MAA

In addition to the Basic System, the OIML has developed a *Mutual Acceptance Arrangement* (MAA) which is related to OIML Type Evaluations. This Arrangement - and its framework - are defined in OIML B 10 (Edition 2011) *Framework for a Mutual Acceptance Arrangement on OIML Type Evaluations*.

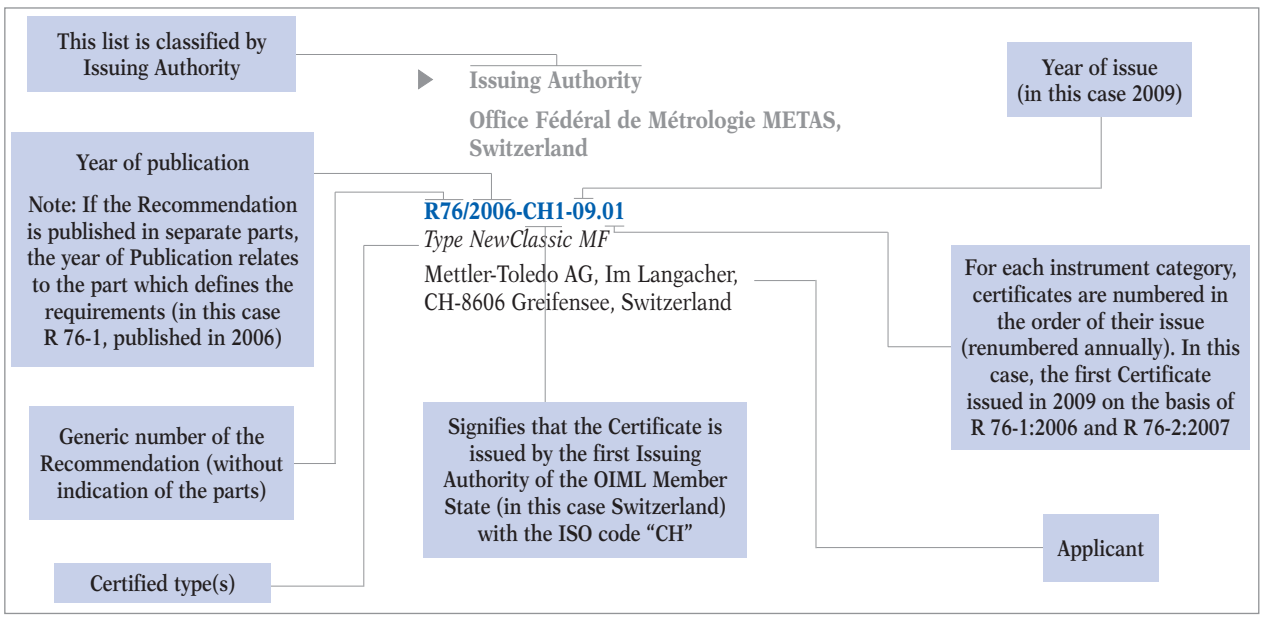
The OIML MAA is an additional tool to the OIML Basic Certificate System in particular to increase the existing mutual confidence through the System. It is still a voluntary system but with the following specific aspects:

- Increase in confidence by setting up an evaluation of the Testing Laboratories involved in type testing;
- Assistance to Member States who do not have their own test facilities;
- Possibility to take into account (in a Declaration of Mutual Confidence, or DoMC) additional national requirements (to those of the relevant OIML Recommendation).

The aim of the MAA is for the participants to accept and utilize MAA Evaluation Reports validated by an OIML MAA Certificate of Conformity. To this end, participants in the MAA are either Issuing Participants or Utilizing Participants.

For manufacturers, it avoids duplication of tests for type approval in different countries.

Participants (Issuing and Utilizing) declare their participation by signing a Declaration of Mutual Confidence (Signed DoMCs). ■



INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

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

R 49 (2006)

Issuing Authority / *Autorité de délivrance*

NMi Certin B.V.,
The Netherlands

R049/2006-NL1-2011.02
Water meter - Type: Sharpflow SWB7 + CWB7

Itron France, 11, Boulevard Pasteur, FR-67500 Haguenau, France

R049/2006-NL1-2011.03
Water meter - Type: Sharpflow SOPX+CXP3

Itron France, 11, Boulevard Pasteur, FR-67500 Haguenau, France

Issuing Authority / *Autorité de délivrance*
National Measurement Office (NMO),
United Kingdom

R049/2006-GB1-2009.01 Rev. 2 (MAA)
Family of cold water meters utilising a common, volumetric measuring element, with a nominal capacity of 16.5 revs/litre and having a rated permanent flowrate Q_3 of 2.5m^3/h (R250) or 4.0m^3/h (R400)

Elster Metering Ltd., 130 Camford Way, Sundon Park, Luton, Bedfordshire LU3 3AN, United Kingdom

R049/2006-GB1-2010.01 Rev. 1
Family of cold-water meters named WaterMaster, utilising a common, electromagnetic principle, FEV1 & FET1

ABB Limited, Oldends Lane, Stonehouse, Gloucestershire GL10 3TA, United Kingdom

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

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

R 51 (2006)

Issuing Authority / *Autorité de délivrance*

NMi Certin B.V.,
The Netherlands

R051/2006-NL1-2011.03
Automatic catchweighing instrument - Type: LI-4600

Teraoka Seiko Co. Ltd., 13-12 Kugahara, 5-Chome, Ohta-ku, JP-146-8580 Tokyo, Japan

Issuing Authority / *Autorité de délivrance*
National Measurement Office (NMO),
United Kingdom

R051/2006-GB1-2011.01
Connect+

Pitney Bowes Ltd., The Pinnacles, Elizabeth Way, Harlow, Essex CM19 5BD, United Kingdom

R051/2006-GB1-2011.02
HSC350

Nemesis srl, Via Giului Benassi 31, IT-41122 Modena, Italy

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*

Centro Español de Metrologia, Spain

R060/2000-ES1-2011.01
Compression Load Cell

Tecnicas de Electronica Y Automatismos, S.A., C/Espronceda 176, ES-Barcelona, Spain

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

R060/2000-NL1-2011.39 (MAA)
Shear beam Load Cell - Type: SB-XX-SA
Griffith Elder and Company Ltd., Oaklands Park, Bury St. Edmunds, Suffolk IP33 2RE, United Kingdom

Issuing Authority / *Autorité de délivrance*
National Measurement Office (NMO), United Kingdom

R060/2000-GB1-2011.03 (MAA)
ZL109 Digital high tension alloy steel load cell
Avery Weigh-Tronix, Foundry Lane, Smethwick, West Midlands B66 2LP, United Kingdom

R060/2000-GB1-2011.04 (MAA)
GF-11 stainless steel compression load cell
Zhejiang South-Ocean Sensor Manufacturing Co. Ltd., No. 58, Nanyang Road, Qianyuan Town, Deqing County, CN-313216 Huzhou City, Zhejiang Province, P.R. China

R060/2000-GB1-2011.07
Streamline Beam (bending) alloy steel load cell
Avery Weigh-Tronix, Foundry Lane, Smethwick, West Midlands B66 2LP, United Kingdom

R060/2000-GB1-2011.08
ZSF-A, ZSFY-A and ZSFYB-A Alloy steel compression load cell
Olçsan Elektronik Sistemleri Iml.San Ve Tic Ltd., Bursa Karayolu 17 km, TR-Eskisehir, Turkey

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

R060/2000-DE1-2006.03 Rev. 2
D1, 3, C3 Mi 7.5, C4, C4 Mi 7.5, C5
Hottinger Baldwin Messtechnik GmbH, Im Tiefen See 45, DE-64293 Darmstadt, Germany

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*
Dansk Elektronik, Lys & Akustik (DELTA), Denmark

R076/1992-DK3-2011.04
Non-automatic weighing instrument - Type: E220 / E220i / E220p
Societa Cooperativa Bilanciai Campogalliano a.r.l, Via S. Ferrari, 16, IT-41011 Campogalliano (Modena), Italy

R076/1992-DK3-2011.07
Non-automatic weighing instrument - Type: S29 / SW
TScale Electronics Mfg (Kunshan). Co. Ltd., 99 Shunchang Road, Zhoushi Town, Kunshan City, CN-215300 Suzhou Jiangsu Province, P.R. China

R076/1992-DK3-2011.08
Non-automatic weighing instrument - Type: NHB / EHB
TScale Electronics Mfg (Kunshan). Co. Ltd., 99 Shunchang Road, Zhoushi Town, Kunshan City, CN-215300 Suzhou Jiangsu Province, P.R. China

Issuing Authority / *Autorité de délivrance*
International Metrology Cooperation Office, National Metrology Institute of Japan (NMIJ) National Institute of Advanced Industrial Science and Technology (AIST), Japan

R076/1992-JP1-2003.01 Rev. 2
Non-automatic weighing instruments. Electronic Balance UW/UX/XB series
Shimadzu Corporation, 1, Nishinokyo-Kuwabara-cho, Nakagyo-ku, JP-604-8511 Kyoto, Japan

R076/1992-JP1-2004.01 Rev. 2
Non-automatic weighing instruments. Electronic Balance AUW-D/AUW/AUX/AUY series
Shimadzu Corporation, 1, Nishinokyo-Kuwabara-cho, Nakagyo-ku, JP-604-8511 Kyoto, Japan

Issuing Authority / *Autorité de délivrance*

NMi Certin B.V.,
The Netherlands

R076/1992-NL1-2011.18 Rev. 1 (MAA)
Non-automatic weighing instrument - Type: SW-Series
A & D Scales Co. Ltd., 162-4 Insan-Ni, Deogsan-Myeon, Jincheon-Gun, KR-365-842 Chungcheongbuk-Do, Korea (R.)

R076/1992-NL1-2011.31 (MAA)
Non-automatic weighing instrument - Type: ATX.../ATY...
Shimadzu Corporation, 1, Nishinokyo-Kuwabara-cho, Nakagyo-ku, JP-604-8511 Kyoto, Japan

Non-automatic weighing instruments
Instruments de pesage à fonctionnement non automatique

R 76-1 (2006), R 76-2 (2007)

Issuing Authority / *Autorité de délivrance*

NMi Certin B.V.,
The Netherlands

R076/2006-NL1-2011.32 (MAA)
Indicator, as part of a non-automatic weighing instrument - Type: 500 or 500-SW Series
Dibal S.A., Astintze Kalea, 24 Pol. Ind. Neinver, ES-48160 Derio Vizcaya, Spain

Issuing Authority / *Autorité de délivrance*
National Measurement Office (NMO),
United Kingdom

R076/2006-GB1-2011.02
3590EXPC, 3590EXT, CPWE and CPWET
Dini Argeo Srl, Via Della Fisica, 20, IT-41042 Spezzano di Fiorano (MO), Italy

R076/2006-GB1-2011.03 (MAA)
9010
Marel Ltd., Wyncolls Road, Severalls Industrial Park, Colchester CO4 9HW, United Kingdom

Issuing Authority / *Autorité de délivrance*

Physikalisch-Technische Bundesanstalt (PTB),
Germany

R076/2006-DE1-2011.05
Non-automatic electromechanical upper shell precision and analysis weighing instrument
Precisa Gravimetrics AG, Moosmattstrasse, 32, D-8953 Dietikon, Schweiss, Germany

INSTRUMENT CATEGORY
CATÉGORIE D'INSTRUMENT

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

R 117 (1995) + R 118 (1995)

Issuing Authority / *Autorité de délivrance*

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

R117/1995-JP1-2011.02
Fuel dispenser for motor vehicles, Tatsuno Sunny-XE Ultra-High Speed series
Tatsuno Corporation, 2-12-13, Shibaura Minato-ku, JP-108-8520 Tokyo, Japan

Issuing Authority / *Autorité de délivrance*
National Measurement Office (NMO),
United Kingdom

R117/1995-GB1-2011.01
Liquids other than water dispenser, designation 397G
Gilbarco Veeder Root, Crompton Close, Basildon, Essex SS14 3BA, United Kingdom

Issuing Authority / *Autorité de délivrance*

Slovak Legal Metrology (Banska Bystrica), Slovakia

R117/1995-SK1-2011.01 Rev. 1
Measurement transducer (to be used as a part of a LPG dispenser) - Type: PRIMA
2 A Mühendislik A.S., Kagithane Cad. No. 2 Kagithane, 34400 Istanbul, Turkey

OIML CERTIFICATE SYSTEM

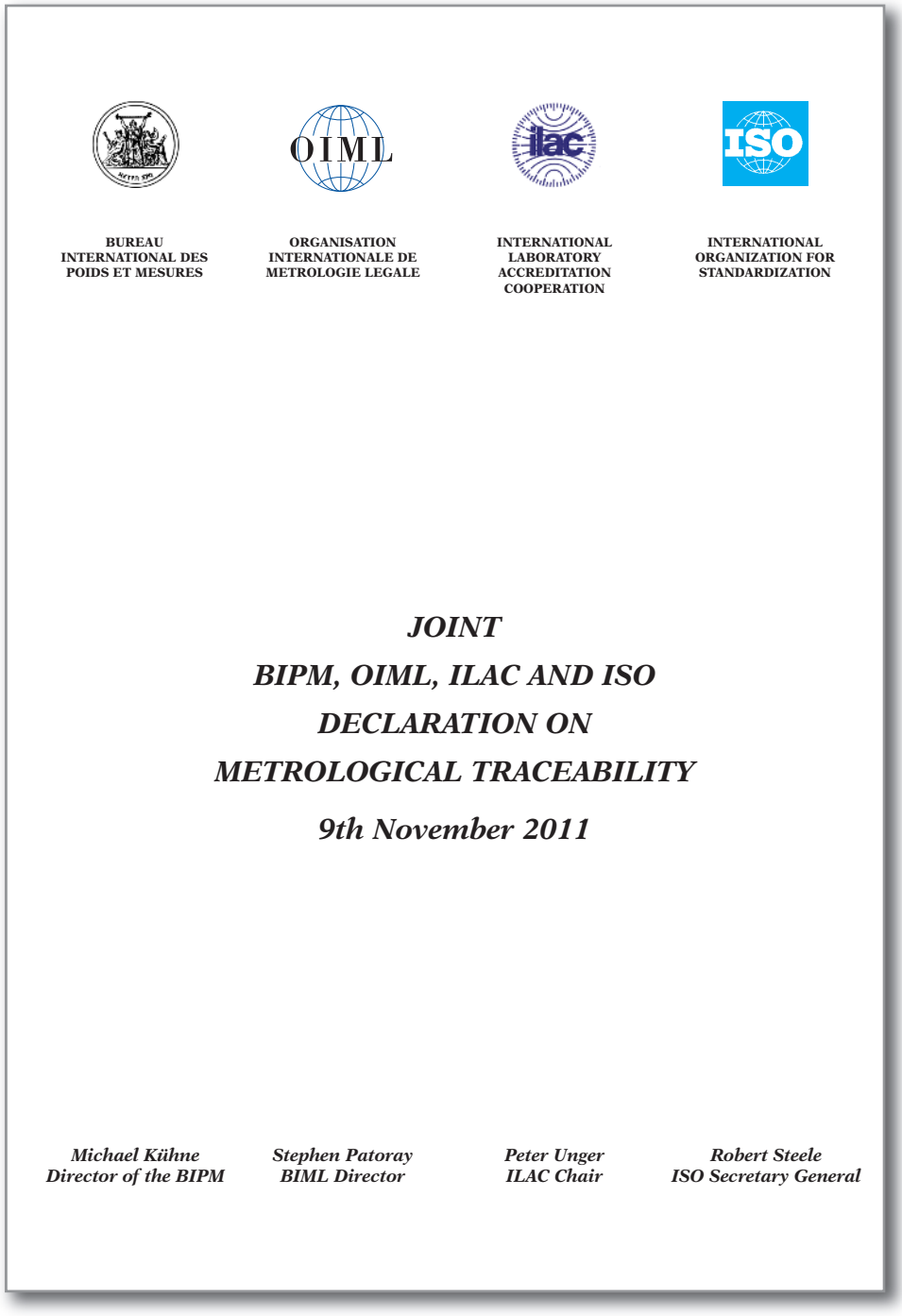
List of OIML Issuing Authorities

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. Changes since the last issue of the Bulletin are marked in red.

		R 16	R 21	R 31	R 49	R 50	R 51	R 58	R 60	R 61	R 75	R 76	R 81	R 85	R 88	R 93	R 97	R 98	R 99	R 102	R 104	R 105	R 106	R 107	R 110	R 112	R 113	R 114	R 115	R 117/118	R 122	R 126	R 128	R 129	R 133	R 134	R 136
AT1	Bundesamt für Eich- und Vermessungswesen (BEV)					■	■	■		■		■		■	■		■	■		■	■		■	■	■			■	■	■							
AU1	National Measurement Institute (NMI)				■	■	■		■			■		■									■	■						■		■		■			
BE1	SPF Economie, PME, Classes Moyennes et Energie											■					■	■																		
BG1	State Agency for Metrology and Technical Surveillance (SAMTS)											■						■																		
BR1	Instituto Nacional de Metrologia, Normalização e Qualidade Industrial (INMETRO)											■																								
CH1	Office Fédéral de Métrologie (METAS)	■		■	■	■	■		■	■		■					■	■				■	■	■						■						
CN1	General Administration of Quality Supervision, Inspection and Quarantine of P. R. China (AQSIQ)								■			■					■	■																		
CZ1	Czech Metrology Institute (CMI)				■							■	■	■								■								■					■	
DE1	Physikalisch-Technische Bundesanstalt (PTB)	■		■	■	■	■	■	■	■		■		■	■		■	■	■	■	■	■	■	■	■			■	■	■		■	■	■	■		■
DK1	The Danish Accreditation and Metrology Fund (DANAK)					■	■		■	■		■						■				■	■	■						■				■		■	
DK2	FORCE Certification A/S				■																																
DK3	Dansk Elektronik, Lys & Akustik (DELTA)					■	■		■	■		■											■	■										■		■	
ES1	Centro Español de Metrología (CEM)				■		■		■	■		■					■	■															■				
FI1	Inspecta Oy					■	■		■	■		■		■									■	■						■							
FR1	Ministère de l'Economie, de l'Industrie et de l'Emploi (MEIE)	*All activities and responsibilities were transferred to FR2 in 2003*																																		
FR2	Laboratoire National de Métrologie et d'Essais (LNE)		■	■	■	■	■	■	■	■		■	■	■	■		■	■	■	■		■	■	■	■			■	■	■		■		■		■	
GB1	National Measurement Office (NMO) - Formerly NWML		■		■	■	■		■	■	■	■		■				■				■	■	■						■				■		■	
GB2	National Physical Laboratory (NPL)																■																			
HU1	Hungarian Trade Licensing Office (MKEH)											■																								
JP1	National Metrology Institute of Japan / National Institute of Advanced Industrial Science and Technology (NMIJ / AIST)								■			■																	■	■						
KR1	Metrology and Measurement Division (KATS)											■																								
NL1	NMi Certin B.V.		■	■	■	■	■		■	■		■	■	■			■		■			■	■	■						■		■	■	■		■	
NL2	KIWA Nederland B.V.				■																																
NO1	Norwegian Metrology Service (Justervesenet)					■	■			■		■										■	■	■						■				■			
NZ1	Measurement and Product Safety Service (MAPSS Wellington)											■																								
PL1	Central Office of Measures (GUM)											■						■		■																
RO1	Bureau Roumain de Métrologie Légale (B.R.M.L.)																■	■							■			■	■							
RU1	Russian Research Institute for Metrological Service (VNIIMS)			■	■	■	■	■	■	■		■		■	■	■	■	■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	
SE1	Swedish National Testing and Research Institute AB (S.P.)					■	■		■	■		■		■				■					■	■						■							
SI1	Metrology Institute of the Republic of Slovenia (MIRS)											■																								
SK1	Slovak Legal Metrology				■							■																		■						
US1	NCWM, Inc.								■			■																								
VN1	Directorate for Standards and Quality (STAMEQ)											■																								

INTERNATIONAL COOPERATION

Joint BIPM, OIML, ILAC and ISO Declaration on Metrological Traceability



BUREAU INTERNATIONAL DES POIDS ET MESURES

ORGANISATION INTERNATIONALE DE METROLOGIE LEGALE

INTERNATIONAL LABORATORY ACCREDITATION COOPERATION

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION

JOINT

BIPM, OIML, ILAC AND ISO

DECLARATION ON

METROLOGICAL TRACEABILITY

9th November 2011

Michael Kühne
Director of the BIPM

Stephen Patoray
BIML Director

Peter Unger
ILAC Chair

Robert Steele
ISO Secretary General

JOINT BIPM, OIML, ILAC and ISO DECLARATION ON METROLOGICAL TRACEABILITY

1. Background

The International Bureau of Weights and Measures (BIPM), the International Organization of Legal Metrology (OIML), the International Laboratory Accreditation Cooperation (ILAC) and the International Organization for Standardization (ISO) are four internationally recognized bodies which are responsible for metrology, accreditation and standardization world-wide.

Recognizing the importance of metrologically traceable measurement results to the core missions of our Organizations, we have drawn up this policy document which we encourage our Members, as well as others for whom traceability is important, to adopt. We also encourage other bodies to declare their support for the principles and practices embodied in this Declaration wherever possible.

This document builds on the tripartite statement[1] issued by the BIPM, the OIML, and the ILAC on 23 January 2006 on the relevance of various international agreements on metrology to trade, legislation and standardization.

2. The importance of metrological traceability

We assert that international consistency and comparability of measurements are required if the missions of our Organizations are to be achieved. In particular, measurement comparability is an essential characteristic of an international measurement system within which measurement results can be universally accepted. This international consistency and comparability can only be guaranteed if measurement results are traceable to internationally recognized references. In general, these references are the International System of Units (SI), but where such traceability is not yet feasible, measurement results should be traceable to other internationally agreed references (for example, hardness scales, and reference standards established by the World Health Organization).

All four intergovernmental or international bodies collaborate in the Joint Committee for Guides in Metrology, (JCGM) which develops common documents. Two JCGM documents are key to this Declaration: *Uncertainty in Measurement - Part 3 - Guide to the Expression of Uncertainty in Measurement (GUM) – JCGM 100, OIML G 1-100 and ISO Guide 98-3* which promotes a consistent and common approach to the evaluation of measurement uncertainty in a variety of metrological situations; and the "*International vocabulary of metrology - Basic and general concepts and associated terms (VIM) – JCGM 200 V2, OIML V 2-200 and ISO/IEC Guide 99*. In particular, the VIM defines metrological traceability as:

> "property of a measurement result whereby the result can be related to a reference through a documented unbroken chain of calibrations, each contributing to the measurement uncertainty".

Metrological traceability therefore embodies the concepts of measurement uncertainty and calibrations against a hierarchy of reference standards.

The establishment and application of these concepts require the involvement of a number of parties:

- The **International Bureau of Weights and Measures (BIPM)** has the mission of establishing world-wide uniformity of measurement and the General Conference on Weights and Measures (CGPM) has the authority of approving the definitions of the SI. The BIPM, under the responsibility of the International Committee for Weights and Measures (CIPM) publishes the "SI brochure", which is an essential reference document for the application and correct use of the SI units.
- The **National Metrology Institutes (NMIs)** are tasked with the realization, maintenance, improvement and dissemination of the SI units via traceable calibration and measurement services based on their Calibration and Measurement Capabilities (CMCs).
- The **International Committee for Weights and Measures** (**CIPM**), recognizing the need to demonstrate, unambiguously, the equivalence of such national realizations, and therefore of the calibration certificates issued by NMIs, drew up a Mutual Recognition Arrangement. This "CIPM MRA" provides a framework within which all participants validate and recognize the CMCs of other participants. These peer-reviewed CMCs are listed in the BIPM's key comparison data base (KCDB). To provide the technical basis for this listing, participating NMIs are required to take part in regular "key comparisons" of national measurement standards and have their CMC claims validated through the peer review process of the CIPM MRA. This process includes the approval of a reviewed quality system (accredited or self declared) which conforms to appropriate internationally recognized standards, usually ISO/IEC 17025 and ISO Guide 34 for the production and certification of reference materials.
- The **International Organisation of Legal Metrology (OIML)** promotes the global harmonization of legal metrology laws and procedures and provides its Members with guidance with respect to their national legislation, including that measurements used for trade and regulatory purposes should be made using standards legally traceable to the SI[2]. It has developed a world-

[1] http://www.bipm.org/cc/CIPM/Allowed/95/BIPM_ILAC_OIML_300106.pdf

[2] In the case that this is not possible, or not yet possible, to other internationally agreed references

wide technical infrastructure that provides its Members with metrological guidelines for the alignment of national requirements concerning the manufacture and use of regulated measuring instruments. This infrastructure supports the legal traceability of measurements used in regulated activities such as trade, health care, monitoring the environment, etc. OIML has also introduced a Mutual Acceptance Arrangement (MAA) within which Declarations of Mutual Confidence (DoMCs) can be signed under which signatories declare mutual confidence in the type evaluation data underpinning certificates of conformity with an OIML Recommendation. Participants who issue OIML Certificates under the MAA shall have their quality system evaluated either by accreditation bodies or by peer review.

- The **International Laboratory Accreditation Cooperation (ILAC)** aims to promote the mutual recognition of test and measurement certificates issued by laboratories accredited by national accreditation bodies to internationally accepted standards for technical competence. ILAC members are peer evaluated and become signatories to the ILAC Arrangement. The ultimate aim of the Arrangement is increased use and acceptance by industry as well as governments of the results from accredited laboratories, including results from laboratories in other countries. In standards such as ISO/IEC 17025, metrological traceability of measurement results to primary realizations of the SI (often referred to as national measurement standards) is required, and in other similar standards traceability should either be to the SI or to other agreed international references where SI traceability is not, or not yet, possible.
- The **International Organization for Standardization (ISO)**, as the world's major standardization body, is responsible for the publication of a range of written standards and guides that apply to manufacture and testing of various products, and the provision of various services. In many cases, calibration and testing form an integral part of the requirements of the standards, and or guides. ISO harmonizes its terminology with the VIM and frequently incorporates measurement-related clauses in these standards. As ISO is responsible, together with the International Electrotechnical Commission, IEC, for ISO/IEC 17025 it endorses the principle of traceable measurement to the SI. Moreover, ISO participates in GUM activities that set out a common approach to the evaluation and estimation of measurement uncertainty. The concept of measurement uncertainty may be applied when deciding on conformity with a specified requirement (often in the form of tolerance limits). This concept may be applied in legal metrology. ISO works closely with the International Electrotechnical Commission (IEC), which has general responsibility for electrical standards, and the International Telecommunications Union (ITU), which has general responsibility for telecommunication standards. ISO, IEC and ITU work cooperatively through the World Standards Cooperation (WSC).

Metrological traceability is therefore one of the elements that establishes international confidence in the world-wide equivalence of measurements. At the same time, the framework described above enables legislators, regulators and exporters/importers to take advantage of an international set of mutually supportive systems which demonstrate equivalence of measurements and therefore can significantly reduce technical barriers to trade (TBTs) which might result from lack of equivalence.

The BIPM, OIML, ILAC, and ISO endorse the following recommendations:

- in order to be able to rely on their international acceptability, calibrations should be performed
  - in National Metrology Institutes who should normally be signatories to the CIPM MRA[3] and have CMCs published in the relevant areas of the KCDB[4] or
  - in laboratories accredited by accreditation bodies which are signatories to the ILAC Arrangement[5];
- measurement uncertainty should follow the principles established in the GUM;
- the results of the measurements made in accredited laboratories should be traceable to the SI[2];
- NMIs providing traceability for accredited laboratories should normally be signatories to the CIPM MRA and have CMCs published in the relevant areas of the KCDB;
- within the OIML's MAA, accreditation should be provided by bodies which are signatories to the ILAC Arrangement and the above policies on traceability to the SI should be followed;

The above principles should be used whenever there is a need to demonstrate metrological traceability for international acceptability.

3. Use of this Declaration

These principles underpin a world measurement system which provides a robust, internationally accepted framework within which users can have confidence in the validity and acceptability of measurements results. BIPM, OIML, ILAC and ISO strongly urge legislators and regulators to refer to the Arrangements described earlier in this Declaration and also to accept measurement results made within this system, thereby helping avoid technical barriers to trade. We also invite interested parties to endorse these principles and to make use of them in their own work. ■

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[3] http://www.bipm.org/en/cipm-mra/mra_online.html

[4] http://kcdb.bipm.org/

[5] Signatories are listed on ILAC website – www.ilac.org

COOMET

12th COOMET TC2 Annual Meeting and Seminar "Experiences and Developments in Legal Metrology"

6–8 September 2011 Tsakhkadzor, Armenia

Olaf Kühn, Chairman, COOMET TC2

The 12th Annual Meeting of COOMET TC2 *Legal Metrology* took place on 6–7 September 2011 in Tsakhkadzor, Armenia, with the support of the National Metrology Institute of Armenia. Representatives of 11 countries participated: Armenia, Belarus, Georgia, Germany, Kyrgyzstan, Moldova, Russian Federation, Slovenia, Tadzhikistan, Ukraine and Uzbekistan.

The meeting was followed by an international Seminar *Experiences and Developments in Legal Metrology*, actively supported by experts from the Physikalisch-Technische Bundesanstalt (PTB), Germany and organized by COOMET TC2 and SC4.5. The objective was to exchange experience of the basic principles regarding installing legal metrology systems and to strengthen the possibilities of harmonization within COOMET countries and also with the European Union. The program focused on general aspects of implementing legal metrology systems and also showed possibilities for adapting to country-specific conditions.

The seminar was split into four sections:

- Opening Session and Impact of the Participants
- Fundamentals of Legal Metrology
- Practical Examples of Legal Metrology
- Elements of Metrological Systems

Based on OIML International Recommendations and European experiences, the basic elements, principles and frameworks in establishing legal metrology systems were presented by Peter Ulbig from the PTB and Olaf Kühn from the Thuringian State Authority of Metrology and Verification LMET (Germany). An example of building a new metrology system in Slovenia was presented by Natasha Mejak-Vukovic (Slovenia), which participants found to be of great interest.

Fourteen experts and a number of young metrology staff attended the meeting. Two experts from the EU-advisory group took notes on the seminar and attended the session on information exchange, in order to become familiar with developments in legal metrology in COOMET member countries and to make new contacts.

The participants contributed actively and discussed the features of several possible implementation variants.

Two main concepts for legal metrology systems were identified: one was based on established systems which have been adapted to cater for recent changes in national circumstances and which are related to preserving competence in the authorities, and the other was based on a completely new metrological infrastructure without constraints and also with the necessity to build up staff and competence in legal metrology in corresponding bodies. This could be related to the accreditation of such bodies.

Legal metrology experts from both the COOMET community and also from Europe (especially Germany) contributed their specific experience. In general the workshop audience was very receptive, and a number of specific topics for further seminars and practically oriented workshops were identified:

- experiences of conformity assessment in the case of the Measuring Instruments Directive (MID);
- how can accreditation support legal metrology? and
- experiences of pre-package control.

It was decided that as a result of the annual TC2 meeting a workshop regarding the specific topic of "pre-package control" should be organized as a first priority.

Tsakhhadzor was an excellent meeting venue and all the participants were very happy with the whole event. Special thanks go to Vahan Sahakyan and Narine Oganyan from the National Metrology Institute of Armenia for their excellent organization of the event.

CECIP

General Assembly

3 June 2011
Bratislava, Slovak Republic

Valentina Mauri, CECIP Permanent Secretary

CECIP is the European Association for National Trade Organisations representing the European Manufacturers of Weighing Instruments. It is presently composed of 15 associations from the following countries: Austria, Czech Republic, France, Germany, Hungary, Ireland, Italy, the Netherlands, Poland, Romania, Russian Federation, Slovak Republic, Spain, Switzerland, and the United Kingdom.

At the CECIP General Assembly held in June 2011 in Bratislava, almost all the countries present reported a modest increase in economic output in 2010 in the wake of the very significant decrease in 2009. On average, industry growth corresponded to 3.6 % in terms of production. A similar situation is expected in 2011.

In his opening speech, CECIP President Vincent van der Wel welcomed this encouraging news and spoke of the slow recovery of the European weighing industry, but stressed that there were a number of challenges still to be faced in the future - notably how the industry could continue to be competitive in Europe.

A number of key speakers from the research world, including Ing. Peter Farar from the Slovenian Metrology Institute and Dr. Peter Becker from the PTB, gave lectures to discuss respectively the calibration and mass measurement of non-automatic electronic weighing instruments and the new definition of the unit of mass.

In addition Mr. Stephen Patoray, Director of the BIML, attended the General Assembly and gave an informative presentation on how to improve harmonization at the international level in metrology.

Mr. Van der Wel reported that the weighing industry was also currently faced with a significant challenge that was worrying its main representatives. The industry constantly invested in innovation, new technology and research in order to improve the products it offers to its customers and to comply with all relevant Community legislation. However, he noted that too often there were still cases of non-compliant scales in the EU, the sale and use of which represented not only a problem for users, but also for manufacturers who play according to the rules. Mr. Van der Wel saw this as a tremendous economic disadvantage, but stressed to the audience that in a time of economic crisis the weighing industry had decided to take the initiative to cooperate with other industry sectors affected by the same problem.

As a result, Mr. Van der Wel explained that an industry support platform had been launched on the occasion of a one-day conference on market surveillance of machinery hosted by the European Commission in Brussels, and which had gathered 250 people from authorities, EU institutions and economic operators.

Aimed at market surveillance authorities and market operators, the platform (http://machinery-surveillance.eu) was designed specifically for machinery (the 'capital goods' market) and consisted in a resource database to assess compliance of machinery equipment with relevant EU regulatory requirements.

The platform was a joint initiative of seven European trade associations from the machinery industry, including CECIP. It reflected the industry's commitment to play an active role in improving market surveillance for machinery. A manifesto was signed during the conference, putting forward ten key recommendations for effective market surveillance.

Speakers from a variety of machinery sectors, including Urs Widmer, President of CECIP's Business and Trade working group, explained during the conference how a deficient market surveillance system has a negative impact on competition, environmental protection, innovation, jobs and, probably most importantly, on the health and safety of the workers using the machinery - an area in which industry and trade unions are clearly in step.

The conference also provided an opportunity to consider solutions to improve the situation. The European Commission showed, for instance, the central role that customs authorities must play to prevent imports of non-compliant products. A Member of the European Parliament, MEP Creutzmann, insisted on the need to take action on this matter at European level.

In concluding his report on the conference to the CECIP GA, Mr. Van der Wel said that CECIP believes it is only by working together that Member States, the EU and industry will achieve effective market surveillance and therefore both a high degree of safety and also a level playing field in the EU.

For pictures and to read more about the presentations please visit the EC web site:

http://ec.europa.eu/enterprise/sectors/mechanical/machinery/market-surveillance/index_en.htm

Milestones in Metrology IV: Program online

The program for Milestones in Metrology IV (to be held on 9–11 May 2012 in Venice, Italy) is now available online. A variety of topics will be presented and discussed covering the world of (legal) metrology, presented by speakers who have, in many cases, often been involved since the very beginning.

MILESTONES MOVING METROLOGY

4TH EDITION 9–11 MAY 2012 VENICE

This fourth edition of the Conference includes four complete programs for the markets of Weighing, Oil & Gas, Traffic and Energy. The specific Legal Metrology program is composed of the legal metrology topics of these four markets.

Milestones in Metrology IV includes four complete programs for the markets of Weighing, Oil & Gas, Traffic and Energy and a 'Legal Metrology' program that is composed of the legal metrology topics of these four markets.

Speakers will represent regulators, metrological institutes, manufacturers and end users from an impressive list of institutes including NMO, PTB, NIST, Cecip, Kema, NoBoMet, National metrology institute of China, Emerson, Endress+Hauser, MeterSit, Elster-Instromet, Cofely-Kalibra, Enel, Adriatic LNG, Maersk and Enexis amongst others.

Venice and Padova have been centers of renewal for generations, not only in art and architecture, but also in the field of science. Celebrities such as Galileo Galilei and Leonardo DaVinci spent important parts of their lives in these cities. A guest speaker from Padova University will explain the link between Padova/Venice and metrology in the presentation "The history of Weights and Measures – From Galileo to 2012". This will be followed by topical presentations such as "Data security and privacy (alcolocks)", "The backstage of a smart metering roll out", "Exploitation of internationally accepted IT security standards for legal metrology" and "Small Scale LNG measurement standard", to name just a few.

OIML and Milestones in Metrology IV

As one of the leading organizations in the world of legal metrology, the OIML will also be giving presentations at the conference. Peter Mason, CIML President, will give a key note presentation on OIML environmental issues. Luis Mussio will give an update on the MAA and experiences. Recent discussions, such as the low frequency range 2–150 kHz for electricity meters and the update status of OIML R 117-1-2 and -3 are also included in the program.

Early bird registration

To ensure that you do not miss this unique opportunity to enter into contact with other key players in the world of legal and industrial metrology, you may register before 31 January 2012 and thus benefit from a reduction of €300 on the registration fee, which includes the three day-conference, evening networking events and all food and beverages.

For further information: www.milestonesinmetrology.com

The OIML is pleased to welcome the following new

Corresponding Members

- Gambia
- Liberia
- Mauritania
- Nigeria
- Sierra Leone

OIML Meetings

TC 17/SC 7 (Breath testers)
14 February (LNE, Paris, France)

47th CIML Meeting, 14th Conference & Associated Events
1–5 October (Bucharest, Romania)

TC 6 (Prepackaged products)
22–26 October (Tokyo, Japan)

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Committee Drafts

Received by the BIML, 2011.10 – 2011.12

International system for the certification of prepackages as complying with requirements for the quantity of product and associated labelling (Provisional title - New Draft OIML Basic Publication)	E	3 CD	TC 6	ZA
Revision of OIML R 79: Labelling requirements for prepackaged products	E	2 CD	TC 6	ZA

Hartmut Apel

It is with deep regret that we inform the international legal metrology community of the passing away of Hartmut Apel on 2 October 2011 shortly before his 69th birthday. Hartmut Apel joined the PTB in 1975 and became a dedicated promoter of legal metrology. In the context of his responsibility for international cooperation he visited many countries and made many friends around the world. He strongly supported the OIML and its activities and even after his retirement in 2004 he continued as Secretary of OIML TC 3/SC 4 *Application of statistical methods*. Hartmut will be missed by many, and we extend our deepest sympathy to his family and friends.

Call for papers

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

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

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

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

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

Technical articles selected for publication will be remunerated at the rate of 23 € per printed page, provided that they have not already been published in other journals. The Editors reserve the right to edit contributions for style, space and linguistic reasons and author approval is always obtained prior to publication. The Editors decline responsibility for any claims made in articles, which are the sole responsibility of the authors concerned. Please send submissions to:

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