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CIML meets in Orlando, Florida (USA)

## ORLANDO 2010

# 2010 OIML Award for *Excellent Achievements in Legal Metrology*

**EBERHARD SEILER**

OIML Facilitator for Developing Country Matters

During the 45th CIML Meeting the winner of the 2010 *Award for Excellent Contributions in Developing Countries for Legal Metrology* was announced by the CIML President: The Thai Legal Metrology Service.

Eberhard Seiler, *OIML Facilitator for Developing Country Matters*, presented some key facts and highlighted the results achieved over many years by the Thai Legal Metrology Service; these outstanding achievements had led the OIML to decide to acknowledge and honor the work directed and supervised by the Department of Internal Trade, implemented predominantly through the Central Bureau of Weights and Measures in Bangkok.

The description of the Thai system in this issue of the Bulletin provides a good overview of the scope of the work and the results achieved. Since Thailand was not represented at the meeting, the Award Certificate was sent by special courier service together with a letter from the CIML President (see opposite).

This recognition of Thailand's achievements will hopefully stimulate applications for the 2011 Award. Details about the selection criteria and the selection procedure were published in the April 2009 edition of the Bulletin and applications should be submitted before 1 July 2011.



Above: The Thai Legal Metrology Service carrying out checks on site.  
Opposite: The letter sent to the Thai Legal Metrology Service by CIML President Mr. Alan Johnston



Organisation Internationale de Métrologie Légale

International Organization of Legal Metrology

Le Président - The President

The Director-General, Department of Internal Trade, Mrs. Vatchari Vimooktayon, and  
The Deputy Director-General, Mr. Veerasak Visutthatham  
Department of Internal Trade  
Ministry of Commerce  
44/100 Moo 1, Nonthaburi 1 Road  
T. Bangkrasor, A. Muang, Nonthaburi  
Thailand 11000

October 20, 2010

Dear Madam, Sir:

As you may know, to highlight the importance of metrology activities in Developing Countries, and to provide an incentive for their improvement, the OIML has established an annual Award for "*Excellent Achievements in Legal Metrology in Developing Countries*".

This Award is intended to raise the awareness of, and create a more favourable environment for legal metrology and to promote the work of the OIML. The Award intends:

*"to acknowledge and honor new and outstanding activities achieved by individuals, national services or regional legal metrology organizations contributing significantly to legal metrology objectives on national or regional levels."*

The continuous efforts of your Department, together with the successful work of the Central Bureau of Weights and Measures are very much appreciated among the international legal metrology community and I therefore have the pleasure of informing you that the OIML has honoured this success by selecting the Thai Legal Metrology Service for the

*2010 Award for Excellent Achievements in Legal Metrology in Developing Countries.*

This decision was announced during the 45th Meeting of the International Committee of Legal Metrology, held in Orlando, USA. A presentation of your achievements, based on information provided by Mr. Sakchai of the CBWM was made to the CIML Meeting's participants by the OIML's Facilitator for Developing Country Matters, Mr. Eberhard Seiler.

This presentation has since been placed on the OIML website, *CIML Meeting 2010*. You will also find this award to the Thai Legal Metrology Service mentioned on the *Award Winners* under *VIP Pages*.

Since unfortunately neither you nor another legal metrology representative was able to participate in this year's CIML meeting, the Award Certificate is being sent by mail with this letter.

I would like to take this opportunity to convey my congratulations, as well as those of the OIML. I am convinced that your achievements are, and will be of high significance to the country. In addition, your experience will also be of importance to the work of the OIML. I therefore hope that Thailand will be able to become a Member State of our Organization in due course and thus be able to contribute to and influence our work for the benefit of legal metrology at the international level. As part of the Award, one representative of the Thai Legal Metrology System, will be invited to participate in the next CIML Meeting in Prague, Czech Republic in October 2011. The flight ticket and accommodation will be paid by the OIML. I hope, you will accept this offer and I look forward to meeting you in Prague.

Yours sincerely,  
Alan Johnston



## INFRASTRUCTURES

### Legal metrology in Thailand

SAKCHAI HASAMIN  
Central Bureau of Weights and Measures,  
Thailand

#### History

Many hundreds of years ago Thailand implemented its first weights and measures system. In addition to its own traditional Siamese system, many foreign systems were also used for trade between Thailand and overseas countries.

In 1897, King Chulalongkorn (King Rama V) expressed a desire to establish a uniform weights and measures system for Thailand, and so a study to find a suitable system was carried out. In 1905, a committee was set up to determine which of the existing weights and measures systems should be adopted as the legal system, and the committee finally concluded that the metric system should be adopted.

Up until 1912, in the era of King Rama VI, Thailand subscribed to the Metre Convention as a member state. Then, a committee was set up to draft the Weights and Measures Act based on the metric system. The act was approved and enacted in 1923, entitled the "Weights and Measures Act B.E. 2466". The Central Bureau of Weights and Measures was founded in the same year with the objective of implementing the Act.

Then in 1995, Thailand joined the OIML as a Corresponding Member.

#### Law on Metrology

The Weights and Measures Act B.E. 2466 and the ministerial regulation issued under the Act were enacted in 1923 and revised many times over the years in order to fulfill social needs, follow economic growth, and keep pace with the development of measuring instruments. But OIML Recommendations were not adopted until 1995, when Thailand joined the OIML. A new Weights and Measures Act was enacted in 1999, entitled the "Weights and Measures Act B.E. 2542". The first

ministerial regulation under the new act was enacted in 2003, and the provisions of the regulation are in alignment with OIML Recommendations. After that, many subsequent ministerial regulations were issued in order to extend the scope of legal control to cover measuring instruments such as rice moisture meters, CNG dispensers, etc.

#### Legal Metrology Authority

The Central Bureau of Weights and Measures (CBWM) is responsible for legal metrology; its head office is located in the Nonthaburi Province, about 30 km from Bangkok.

It carries out its activities under the supervision of the Department of Internal Trade (DIT), Ministry of Commerce. The functions of the CBWM are as follows:

- supervision of the manufacturers, importers, repairers and sellers of measuring instruments;
- verification of measuring instruments used for the purpose of selling or purchasing commodities and calculating remuneration, taxes and fees;
- inspection of such measuring instruments;
- checking the declaration and the net content of prepackaged products;
- providing calibration services in the fields of mass, volume and length measurements.

#### Regional/Branch offices

There are four regional Weights and Measures centers and 23 Weights and Measures branch offices across the country. Each regional center and branch office is able to perform supervision, verification and inspection of measuring instruments and is able to check pre-packaged products. In addition, each regional center is able to provide calibration services for branch offices and for private sector companies in its region. This is the direct result of the improvement of the capabilities of the regional centers by providing well equipped laboratories, well trained personnel, etc. The CBWM started to improve the capabilities of four regional centers in 1995:

- the first center, the Northern Center, is located in the Chiang Mai province and was officially opened on November 2, 1998;
- the second center, the North-Eastern Center, is located in the Khon Kaen province and was officially opened on November 22, 2000;

- the third center, the Eastern Center, is located in the Chonburi province and was officially opened on December 15, 2004;
- the fourth center, the Southern Center, is located in the Surat Thani province and will be officially opened at the end of 2010. At the time of writing this article (November 2010) the construction of the building is finished and the equipment is being installed.

### Measuring instruments under legal metrology control

All measuring instruments used for the purpose of selling or purchasing commodities and calculating remuneration, taxes and fees must be verified. All the following measuring instruments are subjected to initial verification:

- non-automatic weighting instruments;
- belt-conveyor scale systems;
- automatic bulk weighing systems;
- weights;
- liquid measures;
- dry measures;
- measuring tapes;
- straight rules;
- fabric measuring devices;
- petrol dispensers;
- flow meters;
- mass flow meters;
- water meters;
- LPG dispensers;
- NGV dispensers;
- rice moisture meters.

The regulation prescribes the term of validity of verification, which is two years, for some types of measuring instruments such as weighbridges, petrol dispensers, flow meters, mass flow meters and rice moisture meters. These measuring instruments must be re-verified every two years.

Some types of measuring instruments are subjected to control under other authorities, for example taximeters are under the control of the Department of Land Transport, electricity meters are under the control of the Metropolitan Electricity Authority and the Provincial Electricity Authority.

The number of measuring instruments verified each year is shown in Table 1:

Year	No. of verified items
2006	2 925 834
2007	3 382 338
2008	3 920 421
2009	2 323 866

### Control of prepackaged products

The Weights and Measures Act empowers the Minister of the Ministry of Commerce to issue Ministerial Notifications to prescribe:

- types of prepackaged products for which the net quantity must be declared;
- rules and procedures for the declaration;
- maximum permissible errors.

In the past, many Ministerial Notifications have been issued - however, the provisions of the Notification were not aligned with the relevant OIML Recommendations. In 2004, the CBWM had the intention of adopting OIML Recommendations R 79 and R 87. At the same time, the ASEAN Working Group on Legal Metrology developed the ASEAN Common requirements of prepackaged products based on R 79 and R 87, so in the event the Central Bureau drafted the new Ministerial Notification based on the ASEAN Common Requirements. The new Ministerial Notification was issued on August 17, 2007 and became effective on February 13, 2008.

The checking of prepackaged products is normally carried out on site using checking procedures which are in conformity with R 87 and the EU Directive. The number of prepackaged products which were sampled for checking the net quantity is shown in Table 2:

Year	No. of prepackaged products
2006	299 913
2007	484 814
2008	539 818
2009	434 775



## Legal metrology personnel

152 officials are involved in legal metrology activities; 53 work in the central Bureau and 99 in the regional centers and branch offices (normally seven in each center and three in each branch).

Most weights and measures officials graduated in the field of physics or engineering. When they take up employment they must be trained (on the job) in the Central Bureau for six months, following which they undergo several courses conducted by the Central Bureau.

## Training courses

The CBWM provides and organizes two to three training courses for its staff every year. Especially during the years 1999–2003, when the new Act and the new Regulations were enacted, the Central Bureau organized six to eight courses each year, as follows:

- verification of non-automatic weighing instruments;
- verification of petrol dispensers;
- checking the net content of prepackaged goods;
- verification of weighbridges;
- verification of LPG dispensers;
- verification of CNG dispensers;
- verification of rice moisture meters;
- calibration of mass standards;
- calibration of volume standards;
- weights and measures inspector;
- etc.



## Designated verification bodies

Due to its increasing work load, The CBWM had to designate certain manufacturers of measuring instruments to carry out initial verification. These manufacturers must have the capabilities that conform to the rules and regulations. Up to the present time, there are:

- 6 designated manufacturers for water meters;
- 1 designated manufacturers for petrol dispensers;
- 2 designated manufacturers for measuring tapes;
- 1 designated manufacturer for spring scales.

The number of measuring instruments verified by designated manufacturers is shown in Table 3.

## Cooperation with Regional Legal Metrology Organizations

The CBWM, as the representative of Thailand, joined the Asia-Pacific Legal Metrology Forum (APLMF) in 1994 and has actively participated in its activities, especially helping the APLMF to organize a large number of training courses and workshops, e.g.:

- Training course on rice moisture meters - 2002 - Khon Kaen province;
- Training course on rice moisture meters - 2004 - Chiang Mai province;
- Training course on fuel dispensers and LPG dispensers - 2005 - Chonburi province;
- Workshop on measuring instruments for agricultural products and foods safety - 2007 - Chiang Mai province;
- Training course on mechanical weighing instruments - 2008 - Chonburi province;
- Workshop on software controlled measuring instruments - 2010 - Bangkok.

The Central Bureau also cooperated with the Legal Metrology Authorities in ASEAN countries to establish the ASEAN Working Group on Legal Metrology under the ASEAN Consultative Committee for Standards and Conformance (ACCSQ). In the working group, Thailand is the lead country in the field of prepackaged products. The Central Bureau, as the representative of Thailand, encouraged member countries to harmonize the requirements for prepackaged products among ASEAN countries, and then the ASEAN Common Requirements of Prepackaged Products was finished and endorsed in 2004.



Year	Water meters	Tapes	Spring scales	Petrol dispensers
2006	586 754	-	-	-
2007	1 257 859	452 988	-	-
2008	73 000	635 233	8 000	1 007
2009	854 545	-	7 400	2 593

Table 3: Number of measuring instruments verified by designated manufacturers

### Activities planned for the future

1. The CBWM has made a proposal to revise the Weights and Measures Act. One objective of the revision is to develop a type approval system. The revised Act is now under the consideration of the Office of the Council of State; once it has been approved it will be submitted to the Cabinet and then to the Parliament. Meanwhile, the Central Bureau has to develop its capabilities to carry out type evaluation.
2. The Central Bureau also plans to improve its capabilities to carry out:
  - conformity assessment and audit of designated manufacturers;
  - software examination/verification.
3. The Central Bureau would like to set up a training coordinator team to take the responsibility of organizing various training courses for Weights and Measures Officials, staff of designated manufacturers, and staff of local administration authorities.
4. The Central Bureau would like to apply to become an OIML Member State, and the CBWM will submit this proposal to the Cabinet next year.

The CBWM is proud to have been given the 2010 Award for Developing Country Activities and extends its most sincere thanks to the OIML, to the CIML President and to Dr. Seiler for granting the Award. Thailand looks forward to continuing to play a role in the OIML, and to further developing its legal metrology infrastructure in the years to come. ■

