



The latest development on legal metrology in Chinese Taipei

I. Weights and Measures Legislation

Chinese Taipei keeps improving its legislation infrastructure on legal metrology. During the past year several metrology-related regulations, technical specifications and standards have been reviewed, amended and enacted. Meanwhile, the Weights and Measures Act has been reviewed for years and the review procedure is expected to be completed by the very end of 2015. All these efforts are aiming to ensure the accuracy of measuring instruments, to fulfill the needs on legal metrology issues from every sector in this economy and to harmonize domestic regulations with the international standards.

Meanwhile, Ministry of Transportation and Communication (MOTC) initiated the new type taximeters with new functions, such as toll collection for freeway, receipt, extra charge for night time and voice announcement, other than the accuracy of distance and time duration of traditional taximeters that are stressed by the BSMI. In addition, taxi fare in northern Taiwan's metropolis area was changed since early October, 2015. **Therefore**, the BSMI revised relative regulations and technical specifications as listed below:

1. Regulations Governing Type Approval of Measuring Instrument

Because both MOTC and BSMI take legal control on taximeters, BSMI agrees to embed the requirements into the Regulations Governing Type Approval of Measuring Instruments. When applying for the type approval for taximeters, the applicant shall submit the test report issued by **the testing laboratory designated by the MOTC**, and the type approval shall be withdrawn when the MOTC abolished the test report. The new edition went into force on June 5, 2015.

2. Directions Governing Type Approval of Taximeters

As the fore-mentioned, the new type taximeters be introduced into local market, the BSMI amended the directions for the application procedure, criteria, and related documents. The new directions also re-classified the qualification of model-change and necessary documentations.

3. Technical Specification for Type Approval of Taximeters and Technical Specification for Verification and Inspection of Taximeters

According to the initiation of new type of taximeters, the BSMI also revised both technical specifications of taximeters for type approval and verification. Among the new specifications,

new test items, test condition and criteria have been identified. Type evaluation **implemented by the laboratory designated by the BSMI**, and verification **conducted by the laboratories of the BSMI** are conducted against the new technical specifications.

II. Legal metrology Affairs

1. Examinations for Metrological Technical Personnel

Nine examinations were held in 2015, seven in nine for Class A metrological technical personnel and two for Class B metrological technical personnel. 2364 examinees have passed the examination since the program emerged in 2010. According to weights and measures related regulations, technicians conducting verification in manufacturers or importers allowed to do self-verification and commissioned laboratories to do verification are required to pass the examinations.

2. License Administration

A license is needed for manufacturer, repairer and importer that engage in operating the business, of manufacturing, repairing and importing legal measuring instruments. 1214 licenses have been issued.

3. Self-verification Affairs

Three more manufacturers and importers have been granted to conduct self-verification on their own products. There are 11 entrepreneurs being allowed to conduct self-verification, including six on water meters and five on diaphragm gas meters by the end of September, 2015. Private companies had verified more than one millions legal measuring instruments in 2014, sharing one third verified legal measuring instruments. The number and percentage of self-verification measuring instruments are expected to be higher in 2015.

4. Conformity to Type (CTT)

The BSMI has been executing annual CTT scheme for years. During the last year, 13 samples in six models of measuring instruments subject to type approval were collected, 12 in 13 water meters and one diaphragm gas meter. The final results are expected to be released in early 2016 or even later.

III. Other Activities

1. Electronic Learning

An e-learning website (<http://metrology.bsmi.gov.tw/>), set up by the BSMI to provide relating metrological knowledge, was updated for adding lifelong learning sections and new interface in early 2015.

2. Dissemination of SI Units

The BSMI has cooperated closely with museums and schools domestically and held 44 activities

in 2015 to disseminate the basic concept and importance of metrology and the SI units to students.

3. Training

Four sessions of training programs were scheduled to hold in 2015. These programs focused on verification skills and opened to BSMI's technicians and technicians that passed the examinations for metrological technical personnel.

4. Volunteering Self-management Measures on Gas Stations and Traditional Markets Post Offices

To ensure the accuracy of weighing instruments used at traditional markets and post offices and dispensers installed at gas stations, the BSMI encourages the owners of gas stations, traditional markets and post offices, based on volunteering, to adopt necessary procedures periodically. The mentioned procedures include testing the dispensers and weighing instruments regularly, keeping errors of instruments less than maximum permissible errors, keeping all maintenance records. Meanwhile, the BSMI will assess those gas stations, traditional markets and post offices and issue a certificate to honor their owners. Another requirement to those gas stations is that the number of dispensers with minus errors should be more than the number of dispensers with positive errors. Up to date, there are 1003 gas stations and 58 traditional markets and post offices having received the mark.

5. World Metrology Day Activities

Corresponding to the theme of 2015 World Metrology day, Measurements and Light, Chinese Taipei held a series of seminars, workshops and training courses, working with relative associates, to address the necessity and on the importance of measurement on energy. These activities lasted for nine days, started from May 12 to May 20.

IV. Technical Specifications Enter into Force in 2016 and 2017

1. Vehicle Exhaust Emissions Analyzers

To harmonize with OIML R99:2008, BSMI renewed the Technical Specification for Verification and Inspection of Vehicle Exhaust Emissions Analyzers and will go into force on January 1, 2016. The newly published specification ruled out the analyzers for motor bike and vehicles with diesel engine. Meanwhile, the requirements of repeatability are highlight and the permissible errors for different accuracy categories listed respectively. To those analyzers that have passed the verification before the specification brought into force are allowed to serve per the old specification.

2. Corn Moisture Meters

The corn moisture meters will be subjected to verification on July 1, 2016, due to a request from the Council of Agriculture. The Technical Specification for Verification and Inspection of corn moisture meters, harmonizing with OIML R59, published in November 2014.

3. Sound Level Meters

According to the Weights and Measures Act, sound level meters are subject to verification. On the other hand, according to Environment Protection Administration's regulation, noise pollution shall be abandoned. However, there are some gaps between BSMI and EPA. Under the BSMI's responsibility, the sound level meters suitable for low frequency between 20 Hz and 200 Hz are ruled out subject to verification but under Environment Protection Administration's requirements, anyone responsible for causing noise pollution, including the noise frequency between 20 Hz and 200 Hz will be punished. To solve the dilemma, the BSMI reviewed the technical specification for verification during the past two years to correct some ambiguous in current specification, such as the terms and definitions, verification equipments and conditions, verification items and procedures; the new edition listed the terms, definitions, verification requirements, according to IEC 61672-1,-2. The new edition is expected to enter into force on January 1, 2017.