



ASIA-PACIFIC  
LEGAL METROLOGY FORUM

**25<sup>th</sup> APLMF Meeting**  
**Christchurch, New**  
**Zealand**

## Economy Report - 2018

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### *Japan*

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## SECTION 1 – Organisation and structure for metrology

### 1.1. Organisation Structures

#### (1) Metrology Policy Office in Ministry of Economy, Trade and Industry (METI)

Metrology Policy Office of METI supervises legal metrological systems and scientific metrology based on Measurement Act as the governmental organization. Based on Measurement Act, METI established Measurement Administration Council to discuss measurement system. The council members include experts, users and consumers related metrology. (2) **National Metrology Institute of Japan (NMIJ) of National Institute of Advanced Industrial Science and Technology (AIST)**

NMIJ, located in Tsukuba City in Ibaraki Prefecture, is responsible for type approval (testing and issuing certificate) for most of the specified measuring instruments, and provides standards for legal metrological purposes. NMIJ maintains most of the national primary standards and provides calibration services for JCSS (Japan Calibration Service System). In addition, NMIJ liaises with international organizations such as OIML, APLMF, BIPM and APMP in cooperation with METI.

### (3) Local governments

Forty-seven prefectural governments and 126 specified cities are responsible for periodic verification of some of the specified measuring instruments and inspection of prepackages. Prefectural governments also provide verification/inspection services. Prefectural governments and specified cities have regional meetings and seminars regarding Measurement Act and related legislations. They cooperatively execute Measurement System smoothly.

### (4) Japan Electric Meters Inspection Corporation (JEMIC)

JEMIC is responsible for type approval and verification services for electricity meters within the scope of legal metrology. It is also responsible for providing primary standards of electric power and calibration services outside the legal metrology.

### (5) Japan Quality Assurance Organization (JQA)

JQA is responsible for verification of sound-level meters, vibration-level meters, and instruments for measuring concentration of air/water pollution in legal metrology. JQA conducts verification as a Designated Verification Institute<sup>\*1</sup> assigned by Minister of Economy, Trade and Industry. JQA provides calibration services mainly for environmental measuring instruments other than legal metrology.

*\*1 **Designated Verification Institute:** Organizations designated by Minister of METI based on Measurement Act. They are mostly private organizations including the manufacturers which have impartiality and independence in test and evaluation. Although JQA is the only Designated Verification Institute at present, its number will likely increase in the future (see 2.1).*

### (6) National Institute of Technology and Evaluation (NITE)

NITE is responsible for the national accreditation body, and it is conducting assessment of calibration laboratories for JCSS (Japan Calibration Service System) and accreditation of testing laboratories. IAJapan in NITE is a signatory to MRAs (Mutual Recognition Arrangements) of APLAC (Asia Pacific Laboratory Accreditation Cooperation) as well as ILAC (International Laboratory Accreditation Cooperation).

### (7) Designated Calibration Organization

Several designated organizations, which are designated by Minister of METI, provide calibration services using specified standard.

## 1.2. Legislative Frameworks

**Primary legislation:** Measurement Act (1992)

**Secondary legislation:** Four cabinet orders and eight ministerial ordinances supporting Measurement Act

**Technical standards:** Some technical standards of JIS (Japan Industrial Standards) are referred from the secondary legislations.

## 1.3. International arrangements and engagement

### 1.3.1. Activities in OIML

**(1) Attendance to the CIML meeting**

In October 2018, six Japanese delegates attended the 53<sup>rd</sup> CIML meeting in Hamburg, Germany.

**(2) Hosting of Training Workshop for TC/SC/PG**

NMIJ and METI hosted a training workshop for secretariats and conveners of OIML TC/SC/PG (Technical Committee/Sub Committee/Project Group) held in Tokyo from 18 to 19 June. Two BIML trainers and 14 local participants attended this workshop.

**(3) Revision of R 139** (Compressed gaseous fuels measuring systems for vehicles) To ensure energy supply and prevent global warming, the government promotes development of FCVs (Fuel Cell Vehicles) as well as setting up new HRSs (Hydrogen Refueling Stations). Reliable measurement of the supplied amount of hydrogen at HRSs is indispensable in transactions to protect the consumers. For this reason, a new JIS (Japanese Industrial Standard) B 8576: *Measurement System of Hydrogen-fuel* was published in 2016.

To assure international coordination in technical requirements for hydrogen metering systems, Japan proposed a new project (TC8/SC7/p7) for revising R 139 (2014) at the 51<sup>st</sup> CIML meeting in 2016 as a co-convenor supporting Netherlands. Its Final Draft Recommendation was approved at the 53<sup>rd</sup> CIML meeting and it was published. The following are the activities of this project.

Feb. 2017: The first PG (Project Group) meeting was held in Yokohama, Japan.

Apr. 2017: WD (Working Draft) of R 139 was proposed.

May 2017: 1CD (1st Committee Draft) of R 139 was proposed.

Sep. 2017: The second PG meeting was held in Netherlands.

Nov. 2017: 2CD of R 139 was proposed for voting.

Mar. 2018: DR (Draft Recommendation) of R 139 was proposed for voting.

Oct. 2018: FDR (Final DR) of R 139 was approved at the 53<sup>rd</sup> CIML meeting. A new version of R 139 was published.

Because the efficient achievement of this project was highly evaluated in OIML, Dr. Toshiyuki Takatsuji of NMIJ received an OIML letter of appreciation at the 53<sup>rd</sup> CIML meeting as the co-convenor.

**(4) Participation to OIML-CS**

NMIJ attended a meeting of MC (Management Committee) held in Australia in March 2018. The experts actively submitted comments to revise B 18 (Framework for the OIML Certification System), PDs (Procedure Documents) and ODs (operational Documents) supporting OIML-CS. NMIJ is an issuing authority in Scheme A for R 60 and R 76.

**(5) Activities of TC 8 (measurement of quantities of fluids)**

As the secretariat of TC 8, NMIJ proposed revisions of R 63 (petroleum tables) and R 119 (pipe provers for testing of measuring systems for liquids other than water) after converting them into new OIML Documents. These projects were approved at the 53<sup>rd</sup> CIML meeting.

**(6) Attendance to TC9/SC1 meeting**

Japan attended the PG meeting of TC9/SC1 held in Germany in December 2017 to revise R 76 (non-automatic weighing instruments).

### 1.3.2. Activities in APLMF

To support transition process of the chair of WG on Quality Measurement of Agricultural Products (QMAP) to Thailand, Dr. Tsuyoshi Matsumoto, as the former chair of NMIJ attended and coordinated “MEDEA: Small Training Course for APLMF Working Group on Quality Measurement of Agricultural Products (QMAP)” held in Bangkok from 3 to 6 July. The WG had another small meeting in Thailand from 23 to 24 October. A manufacturer of rice moisture meters in Japan will continuously support WG QMAP also in the future.

### 1.3.3. Training activities of METI/AOTS

METI conducts a training program in cooperation with AOTS (Association for Overseas Technical Cooperation and Sustainable Partnerships) and NMIJ. The training course in 2017 was held in the Tokyo area from 4 to 15 December with 13 participants from 13 Asian economies in the field of legal/scientific metrology. The next course will be held from 3 to 14 December 2018 with 15 participants. In addition to AOTS training, NMIJ also accepts trainees in scientific metrology from other NMIs attaining with their own fund.

### 1.3.4. Other activities

In September 2018, METI, NMIJ and JEMIC attended the 41<sup>st</sup> meeting of Japan-Korea Cooperation Committee for Legal Metrology held in Gyeongju, Rep. Korea. Also, NMIJ will attend, as the chair and secretariat, to the APMP GA (General Assembly) in Singapore from 20 to 30 November 2018.

## SECTION 2 – Key activities of 2017/18

### 2.1. Review and Revision of Metrology Administration System

In 2016, METI consulted with the Measurement Administration Council regarding practical implementation of Measurement Act in the future, and the council proposed following **three new basic policies** for the social infrastructure in metrology. (1) Promotion of entry of competent private business operators into the metrological control system, (2) response to technological innovations and changes in social environment, and (3) review and reclassification of the current legislation system under Measurement Act.

In order to respond to the three basic policies, METI revised the cabinet orders and ministerial ordinances that support Measurement Act in 2017. **Major revisions in the legislation system** are explained below.

**Revision (1):** For the specified instruments, most initial/periodical verifications are conducted by local governments, Designated Manufacturers<sup>\*2</sup>, JEMIC or JQA at present. As a result of this revision, the requirements to be assigned as Designated Verification Institutes<sup>\*1</sup> will be mitigated for the instrument categories of NAWI (non-automatic weighing instrument), AWI (automatic weighing instrument) and fuel dispensers. More Designated Verification Institutes will be then allowed to conduct periodical verifications for error test and part of structural test. They will be also allowed to provide services locally in a specific region of the economy.

**\*2 Designated Manufacturers:** Manufacturers of the specified measuring instruments designated by METI which have an excellent quality control system. The manufacturer is allowed to deliver its

*products after a self-inspection at the factory which is replaced with the initial verification. These manufacturers must pass the initial assessment by METI before it is designated, and they have to also undergo periodical assessments.*

**Revision (2):** Before this revision, all AWIs (automatic weighing instruments) were not subject to the legal metrological control in Japan. Since October 2017, however, AWIs has been subject to the control as one of the specified measuring instruments under Measurement Act. This revision was to respond to the increasing social needs for the metrological control on AWIs particularly from the viewpoint of consumer protection as well as conformance to the OIML's technical requirements. From 2019, the categories of AWIs correspond to OIML R 50, R 51, R 61 and R 107 will be gradually subject to the legal metrological control and then, verification and type approval will be implemented. Verification (initial and periodical) of AWIs will be conducted by Designated Verification Institutes<sup>\*1</sup>.

**Revision (3):** use of the test results obtained by testing laboratories accredited by NITE will be allowed to issue national certificate of type approval of NAWIs from October 2017. Hereafter, METI, NMIJ, local governments and public organizations in metrology will cooperatively implement necessary measures in order that above reformations would be achieved appropriately.

## 2.2. Working with industry

While cooperating with METI and municipalities, NMIJ provides consultation for manufactures of measuring instruments, conduct workshops for local verification organization and Certified Measurers, and give seminars for metrology periodically. In addition, NMIJ gives lectures and provides booth at metrological exhibitions. These activities facilitate sharing information regarding domestic/international trend and new topics with the domestic stakeholders.

In September 2018, METI and NMIJ supported an exhibition by the manufacturers of measuring instruments “Intermeasure 2018” hosted by JMIF (Japan Measuring Instruments Federation). Approximately 20,000 visited This big event. International guests were also invited from PR China, France, Germany, Rep. Korea, Switzerland and Chinese Taipei.

## 2.3. Promotional or awareness raising activities

To promote awareness in metrology system, METI specified 1<sup>st</sup> November as Metrology Day to commemorate enforcement of the Measurement Act on 1<sup>st</sup> November 1993, and specified November as a special month for metrology. METI hosts a special event for Metrology Day on 1<sup>st</sup> November every year, and those who have contributed to metrology field are given “Minister of Economy, Trade and Industry Award” in this event.

In addition, METI hosts an event called “Children’s Day” in August every year, so that they get interested in METI’s work. This year, we provided a metrology-related program in which children +used scales, rules and sound-level meters.

AIST’s Open Laboratory intended for children is held in July every year. In this event, NMIJ holds an exhibition and provides experience-based programs regarding metrology.

## SECTION 3 – Future focus

(No topics in 2018)