



ASIA-PACIFIC
LEGAL METROLOGY FORUM

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Indonesia

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SECTION 1 – Organisation and structure for metrology

Organisation Structures

In Indonesia, the affairs of scientific metrology, legal metrology and industrial metrology are handled by different agencies and ministries. All of these areas aim to improve national competitiveness through the validity of measuring results.

Scientific Metrology

Centre of metrological research LIPI, under Indonesian Institute of Science (LIPI), responsible for scientific metrology in Indonesia especially as the Scientific Technical Manager of the National Standard for Measurement Units. Centre of Metrological Research LIPI offices are located in the Serpong area. Head of Centre of metrological research is **Dr. Mego Pinandito, M.Eng (Mr)**.

Legal Metrology

Directorate of Metrology (DoM), a division under ministry of trade, is responsible for legal metrology in Indonesia. The function of Legal Metrology includes type approval, verification, and inspection of measuring instrument that used for public interest. Some functions of DoM is also branched to four regional metrology offices located in Medan, Yogyakarta, Banjarmasin, and Makassar. Verification (initial and subsequent) activities are carried out in national level by DoM, while in local level by regency or city authority. Directorate of Metrology is located in Jl. Pasteur No. 27 Bandung, West Java. The new Director of Directorate of Metrology is **Dr. Rusmin Amin (Mr)**.

Responsibility for capacity building of human resources in legal metrology in Indonesia is carried out by Metrological Resources Development Centre under Ministry of Trade. This unit provides training and research in especially legal metrology. Metrological Resources Development Centre is located in Jl. Daeng M. Ardiwinata km 3.4, Bandung, West Java. Head of Centre of Metrological Resources is **Mr. Hari Prawoko** (previously Mr. Hari Prawoko was Director of Directorate of Metrology).

Beside the three unit above there are also several relevant organization:

- National Standardization Body (BSN), --- to develop and further standardization activities in Indonesia.
- National Accreditation Committee (KAN), --- to establish accreditation and give consideration and advice to the National Standardization Body in establishing accreditation and certification system.
- National Nuclear Energy Agency of Indonesia (BATAN) --- ionization radiation metrology (mostly related to medical application).

International arrangements and engagement

Indonesia participated in several activities that were held under the framework of MEDEA.

1. Modernizing National Metrological Infrastructure Workshop, held in Malaysia, from 22 to 23 May 2017, attended by one representative.
2. Verification of Rice Moisture Meters, held in Malaysia, from 17 to 21 July 2017, attended by two representatives.

3. Train the Trainer Course on the Verification of Bulk Flow Metering System Using a Master Meter, held in Thailand, from 24 to 27 July 2017, attended by two representatives.
4. Verification of Weighbridges Workshop, held in China, from 26 to 29 September 2017, attended by one representative.

SECTION 2 – Key activities of 2016/17

Legislative Frameworks

Several legislative frameworks that serves as foundation for metrology activity in Indonesia is currently under review, in order to better protect consumer interest. Changes in regulation include:

1. Ministry of Trade regulation number 8 (2010) – Measuring Instruments which subject to initial and subsequent verification.

Changes in regulation is designed to acknowledge that Ministry of Trade has only the responsibility for initial verification and subsequent verification of measuring instruments used in trade.

Another reason for changes is to exclude instrument which is more suitably classified as standard measurement rather than measuring instrument.

2. Ministry of Trade Regulation number 69 (2014) – Management of metrology human resources.

Since the enactment of Regional Authority Act number 23 (2014), there are several changes over authorities of metrology activities. Previously, provincial level metrology authority hold responsibility for conducting initial and subsequent verification, type approval, calibration and supervision. Following the new act, provincial verification offices have no responsibility in metrology activity, while city and district level are responsible for initial and subsequent verification, and also supervision. Consequently, the above regulation needs to be reviewed in order to reflect changes in official positions.

3. Ministry of Trade Regulation number 7 (2010) – Metrology training.

Changes in regulation following the change of title of the institution responsible for conducting metrology training. Furthermore, the changes mentioned in point 2 above, regulation for metrology training needs to be reviewed as well. Current changes are expected to guide metrology training toward competence-based training.

Working with industry

State Electricity Company:

At the moment, only 50% of installed kWh meter has been verified. Discussion with State Electricity Company is being held to seek the way out of the current problem. There are some proposals come out during discussion, which is:

- a. Verification of kWh meter by sampling method.
- b. Replacing old meters with new meters.
- c. Extending the period of subsequent verification.

Consumer Protection

In order to increase public awareness of the role of legal metrology and to celebrate world metrology day in Indonesia, Directorate of Metrology has organized a National Seminar on Metrology. The topic of this seminar is “Measurements in Transport to Support the Nation’s Competitiveness and Transportation Safety”. It was held on 18th July 2017, in Jakarta and was attended by 150 participants from industries, state-owned enterprises, academic, industry and trade agencies, and officials from Ministry of Trade and other related ministries.

The purposes of the seminar are:

- a. Increasing knowledge and awareness of the role of legal metrology;
- b. Improving performance of the national legal metrology activities;
- c. Harmonizing program of legal metrology between central government and regional government;
- d. Mapping or identifying constraints and problems faced by local government to implement the program of legal metrology and find solutions.

Major projects

Development of Length Laboratory

To improve verification capability in the field of length measurement, Directorate of Metrology purchased a Linear Gauge to replace a 20 meters comparator. Technical specification of the instrument:

Digital scale	: 20 meters
Accuracy grade	: $\pm 20 \mu\text{m}$
Dimensional tolerance	: $\pm 0,1 \text{ mm}$
Dimension	: 25 mm
Pole Length	: 2 mm
Camera	: high resolution

A Linear Gauge will use as standard measurement in verification of following instrument:

1. Depth tape
2. Tape measure
3. Measuring tape
4. Ullage Temperature Interface (UTI)

SECTION 3 – Future focus

New initiatives planned (next 1-2 years)

Competence Based Training

The initial training for Metrology Personnel is conducted in 5 months. This was based on the consideration of various type of measuring equipment in a province. Since the responsibility for initial and subsequent verification was authorized to provincial government, verification officer need to understand and competence in every type of instrument.

Regional Authority Act number 23 (2014) has given the authorization of initial and subsequent verification to city and regency, the variety of instrument has been decreased. Thus, a verification officer does not need to understand all types of instruments so the training duration can be shortened.

Aside of new training system will shorten teaching duration, it can also improve verification officer competence because it based on competence standard. The curriculum's training consisted of two types of competence which are basic competence and additional competence. Basic competence is dedicated for typical measuring instrument which are existing in all cities and regencies. Additional competence is dedicated for others measuring instrument in their region.

Procurement of Gas Meter Installation

Nowadays, Indonesian Government is trying to decrease the usage of petroleum based fuels due to the limited resources and the tendency of price increases. To overcome the problem, the government has made beneficiaries programs using alternative energy resource, such as natural gas which is abundant in Indonesia. This program is called National Gas Network. Ministry of Energy and Mineral Resources aims 1,3 million household gas networks until 2019.

To anticipate a large number of household gas meter that needs to be type approval and verified, Directorate of Metrology plans to build two installations for gas meter verification.