



**27<sup>th</sup> ASIA-PACIFIC LEGAL  
METROLOGY FORUM  
ONLINE MEETINGS  
3-4 December 2020**



## Working Group Report - 2020

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### *Working Group on Utility Meters*

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## **SECTION 1 – Details of the membership of the Working Group**

The Working Group on Utility Meters was established at the second Asia-Pacific Legal Metrology Forum meeting held in Beijing on 22 October 1995. Utility meters comprise a range of measuring instruments that are used for trade and these include water meters, gas meters, electricity meters, taximeters, telephone meters and parking meters. There is a need to ensure that the pattern approval requirements for these instruments are harmonized, as there is significant international trade in these meters. The Working Group aims to identify the usage of, and requirements for, utility meters in Asia-Pacific economies with the view of harmonization and uniformity of utility meters requirements in the region.

### **SCOPE**

The Working Group on Utility Meters covers utility meters including water meters, gas meters, electricity meters, taximeters, telephone meters, heat meters and electric vehicle charging equipment.

### **OBJECTIVES**

To ensure that requirements for utility meters, namely water meters, gas meters, electricity meters, taximeters, telephone meters, parking meters and electric vehicle charging equipment are harmonized within the Asia-Pacific region.

The current membership is:

1. Cambodia
2. Canada
3. China
4. Republic of Korea
6. Malaysia
5. Philippines
7. Thailand
8. USA
9. Vietnam

## **SECTION 2 – Key activities of 2019/20**

### **TRAINING ON UTILITY METERS**

A training session on the verification of electricity meters - OIML R46 and supported by NIM of China and KTC of Korea was scheduled to be held on 23-26 November 2020. Due to the COVID – 19, this training could not proceed as a face to face event. APLMF/MEDEA now decides to deliver virtual training courses. This virtual course will be delivered according to some guidelines from APLMF training coordination. The whole training course will be divided into 4 chunks which will be delivered in 2 h segments on 4 days in one week. Each chunk will contain lectures, questions and answers for participants to complete before the next chunk. Time frame will be 11 am In Indonesia. Trainers will provide a set of PP slides to participants prior to each delivery. China will give 2 chunks.

Title 1: Introduction of electrical energy measurement

Expected time length of the course is 1.5 hours.

- (1) Electricity distribution systems
- (2) Electrical power and energy (principle)
- (3) Traceability scheme and the chart in China
- (4) Functionality of smart meters in China

Title 2: Electricity meter verification of R46 and legal metrology system in China

Expected time length of the course is 1.5 hours.

- (1) Electricity meter verification of R46
- (2) Legal metrology system of electricity energy in China

Korea will give another 2 chunks.

Title 3: Understanding of Electricity meter & its application

Expected time length of the course is 2 hours.

- (1) Understanding of Electricity meter  
Classification  
Principal of measurement
- (2) Technical Requirements of Electricity meter  
International Technical Requirement  
Domestic Technical Requirement (Republic of Korea)
- (3) Type approval of Electricity meter  
Test Process  
Test method

Title 4: Understanding of EV Supply Equipment

Expected time length of the course is 2 hours.

- (1) Understanding of EV Supply Equipment  
Classification  
Principal of measurement
- (2) Technical Requirements of EV Supply Equipment  
International Technical Requirement  
Domestic Technical Requirement (Republic of Korea)
- (3) Type approval of EV Supply Equipment  
Test Process  
Test method

#### 2019/20 OIML ACTIVITIES

Work on OIML front related to Utility Meters:

TC 12/p 1 working on Revision of R 46: Electricity Meters

The 3WD of OIML R 46 Electrical Energy Meters – Alternating Current (a.c.) had been issued to comment.

OIML TC 12 PG 1 meeting scheduled for 18-20 May in Delft was cancelled due to COVID 19.

#### 2019/20 Members ACTIVITIES

Thailand:

Verification and inspection of weighting and measuring instruments in Thailand is the main function of the Central Bureau of Weights and Measures in order to regulate and supervise all instruments in the country. The weighting and measuring instruments which conform to utility meters are flow

meters, fuel dispensers, water meters, NGV meters, and LPG meters. Recently, CBWM has encouraged private sectors and manufacturers to verify fuel dispensers of their production before trade in the market. Furthermore, CBWM push two public sectors, Metropolitan Waterworks Authority – MWA and Provincial Waterworks Authority – PWA, to verify fixed and imported water meters by themselves.

China:

The GCC Standardization Organization (GSO) has successfully conducted a 3-day training online workshop of Smart Meters on Oct. 12-14, 2020 supported by NIM China. The aim of this training workshop is to enhance verification officer's competence and effectiveness in GCC countries by providing them the knowledge and skills that enable them to carry out their verification activities in a very effective way.

2019/20 E-Learning Module

After a decision in the last group meeting, the electricity meters will be the priority. China has established a support group for this work whose members come from legal metrology, power company and manufactory. Some preliminary work has been done in 2020.

## **SECTION 3 – Future focus - Recommendations**

### TRAINING ON UTILITY METERS

At 25th APLMF meeting we set an expectation that we would have 1 utility meter course each year to be funded by the MEDEA 2 programme:

At 26th APLMF meeting the working group made a future plan.

In 2021 plan was to deliver a training course on Gas Meters. The host and the trainers will be decided at 27<sup>th</sup> APLMF and Working Group Meeting.

In 2022 plan was to deliver a training course on electric vehicle charging equipment and workshop on billing system based on GIS like Uber billing system.

Other training courses/workshops in areas of gas, water, electricity meters and electric vehicle charging equipment can be discussed at WG meeting.

## **SECTION 4 – Future focus – emerging issues**

### VIRTUAL TRAINING COURSES ON UTILITY METERS

Due to the COVID – 19, the training could not proceed as a face to face event. As a result we need to prepare for virtual training courses on utility meters and established some guidelines for delivering a virtual program. That can be discussed at WG meeting.