



**26th ASIA-PACIFIC LEGAL
METROLOGY FORUM AND
WORKING GROUP MEETINGS**
6-8 November 2019, Ha Long City,
Quang Ninh Province, Viet Nam



Working Group Report of Utility Meters



Presented by: Mr. Lei Wang, National Institute of Metrology, China



SECTION 1 – Details of the membership of the Working Group

- 1995: Working Group on Utility Meters was established at the second Asia-Pacific Legal Metrology Forum meeting
- WG members: Cambodia, Canada, China, Republic of Korea, Malaysia, Philippines, Thailand, Vietnam, USA
- WG covers utility meters including water meters, gas meters, electricity meters, taximeters, heat meters and electric vehicle charging equipment



SECTION 1 – Details of the membership of the Working Group

- WG conducted 6 training courses workshops since 2005
- Terms of Reference has been reviewed to include development of further training in areas of gas, water, electricity meters and electric vehicle charging equipment
- After discussed WG have agreed telephone meter will not be included in TOR



SECTION 2 – Key activities of 2018/19

- Training session on Type Approval and Verification of Water Meters
- Conducted between 15-18 October, 2019 hosted by NMIM (National Metrology Institute of Malaysia), SIRIM Bhd. and supported by MEDEA
- 26 participants from 14 economies, 10 of which are APLMF members
- Trainers are all from Malaysia
- This program was designed for authority personnel who approve / verify water meters or have responsibility to ensure that these instruments are pattern approved / verified in accordance with OIML recommendations



SECTION 2 – Key activities of 2018/19

- Contributed to OIML
- WG is monitoring the activities of OIML related to Utility Meters:
 - TC 3/SC 4/p 2 working on New Document: Surveillance of utility meters in service on the basis of sampling inspections
 - PG phase: Project group started in January 2019.
 - Comment: First working draft (1WD) to be issued in 2019.
- TC 5/SC 2/p 3 conducted Revision of D 31: General requirements for software controlled measuring instruments
 - CIML consultation phase (preliminary ballot): 1 DRAFT submitted to CIML preliminary ballot
 - Comment: CIML members to vote on Final Draft Recommendation (FDR) at the CIML annual meeting on 22-25 October 2019 in Bratislava, Slovakia.
- TC 12/p 1 working on Revision of R 46: Electricity Meters
 - Proposal phase: Project Approved; project group forming in October 2016.
 - Comment: 2WD issued in February 2019. A PG meeting was held 22-24 May 2019 in Helsinki, Finland.

SECTION 2 – Key activities of 2018/19

- Contributed to OIML
- Working on Revision of R 46: Electricity Meters
- The WG chair and experts in China, Canada, Republic of Korea, Japan attended the meetings of TC 12/P1 and provided many comments.



SECTION 2 – Key activities of 2018/19

- Working on electric vehicle charging equipment
 - NTEP (National Type Evaluation Program, United States)
 - Has established an electric vehicle supply equipment work group
 - Providing appropriate type evaluation criteria based on specifications, tolerances and technical requirements
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- Metrology Technical Committee on Electromagnetic (China)
 - Has issued two national verification regulations for electric vehicle supply equipment.
 - JJG 1148-2018 AC Charging Spot for Electric Vehicles
 - JJG 1149-2018 Off-board Charger for Electric Vehicles

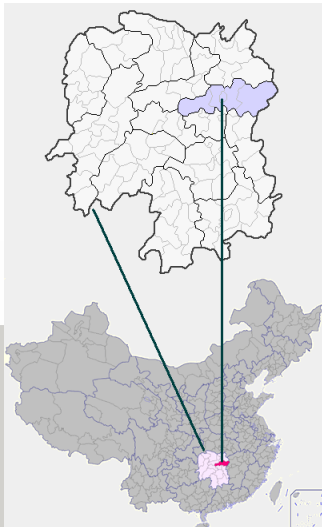


SECTION 3 – Future focus - Recommendations

- TRAINING ON UTILITY METERS
- WG will have 1 utility meter course each year to be funded by the MEDEA 2 program:
 - In 2020 will be Electricity Meters
 - Type Approval and Verification of Electricity Meters
 - Korea and China will provide trainers and China will be the host
 - The time to hold the meeting will be in upper year of 2020

SECTION 3 – Future focus - Recommendations

- TRAINING ON UTILITY METERS
- Type Approval and Verification of Electricity Meters
- The training course will be hold in Chang Sha of Hunan province.
- There are one of the biggest electricity meter manufacturer, the metering test bench manufacturer and Hunan metrology institute.
- The trainees can visit and practice in these companies and institute.



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SECTION 3 – Future focus - Recommendations

- **TRAINING ON UTILITY METERS**
- In 2021 plan will be to deliver a training course on Gas Meters. The host and the trainers will be discussed at 26th APLMF and Working Group Meeting.
- In 2022 plan will be to deliver training courses on electric vehicle charging equipment and workshop on billing system based on GIS like Uber billing system.



SECTION 3 – Future focus - Recommendations

- **DEVELOP E-LEARNING MODULE**
- At 25th APLMF meeting the timeline of development of an e-Learning module in water meters was agreed in 2020.
- What kind of utility meters will be the first e-learning module will be discussed in WG according to the priority and urgency.
- What kind of training materials to be developed and the expectations need to be discussed.

SECTION 4 – Future focus – emerging issues

- **UTILITY METERS IN OIML-CS**
- Electricity meters, gas meters are included in the OIML-CS and will transit from Scheme B to Scheme A on 1 January 2020.
- That means the national metrology authorities and test laboratories for type approval of utility meters will be assessed by 3rd party accreditation or OIML expert peer assessment.
- In APLMF there are three members (NMIA, NIM, NMIIJ) are OIML Issuing Authorities involved in electricity meter, water meter and so on.
- Experience and competency in type approval of utility meters from these members will be helpful in our WG's future work.



SECTION 4 – Future focus – emerging issues

Thank you for your attention!

