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**MEDEA: “Metrology – Enabling Developing Economies in Asia”**

**Train the Trainer Course on the Verification of BulkFlowmetering Systems using a Master Meter**

**24 – 27 July 2017 in Pattaya, Thailand**

Introduction

Accurate measurement in the marketplace is an important component of an economy’s metrological system. APLMF has conducted training courses for the past 20 years to support the development of a sound measurement infrastructure that inspires confidence and trust within the region. This ensures both consumers and vendors are benefitting equally and promotes fairer trade with greater transparency, accuracy and long-term sustainability. Due to the high monetary value of fuel bought, sold and transferred through metering systems, it is vitally important that legal metrology authorities use harmonised verification test procedures. This train-the trainer course is designed for staff who have a responsibility to train staff in their own economies.

Objective

This program is designed for people who verify bulk flowmetering systems or who have a responsibility for ensuring that these instruments are verified in accordance with OIML recommendations. In addition to some training experience all participants are expected to have practical experience in the field using a master meter. This training is composed of lectures and practical activities. The lectures cover a basic understanding of the test procedures required to verify bulk flowmetering systems using a master meter and a volume measure as the reference standards. The practical component will demonstrate the test procedures and explain how the reference standard is verified.

This course provides participants with the knowledge and skills to:

* understand the role of trade measurement within an economy
* identify the major components of a bulk flowmetering system
* analyse the operating environment to determine how it could impact on the performance of the meter
* identify sources of any possible operational error
* verify a bulk flowmetering system in accordance with the test procedures and workplace health and safety guidelines
* train others to verify bulk flowmetering systems

**Organizers:**

1. Physikalisch-Technische Bundesanstalt (PTB)
2. Asia-Pacific Legal Metrology Forum (APLMF)

**Supporting Organizations:**

1. Central Bureau of Weights and Measures, Thailand (CBWM)
2. National Measurement Institute, Australia (NMI,A)

**Trainers:**

Marian Haire, Chair of WG on Training Coordination, NMIA

Brad Larter, Senior Trade Measurement Officer, NMIA

Surachai Sungzikaw, Central Bureau of Weights and Measures, Thailand

Pisakorn Pisankul, Central Bureau of Weights and Measures, Thailand

**Venue and Accommodation:**

* + Training will take place at the Eastern Weights and Measures Centre at Chon Buri which is located 130 km from Bangkok. Accommodation for overseas participants will be organised in the Pullman Pattaya Hotel G. The hotel will be booked and paid directly by PTB.
  + To access the venue, you will need to take the airport limousine to transfer to the hotel. The cost of the transfer will be covered by PTB. If you need a visa to enter Thailand, fill the attached **“Visa Assistance Form”** and send it to the **host in Thailand** by **15 June, 2017.**

# PTB Support:

**Up to two overseas participants from each developing economy in Asia** will receive an economy return flight ticket, free accommodation, free airport transfer and a daily allowance. Participants from economies classified as developing countries under the OECD Development Co-operation Directorate (ODCD-DAC)[[1]](#footnote-1) are eligible. Only participants from institutions that have participated in the Regional Capability Survey[[2]](#footnote-2) are eligible.

Flight tickets will be booked by PTB (please contact Jana Hennigs). The hotel will be paid directly by PTB. Participants will receive a daily allowance paid in cash during the workshop.

# Presentation from each economy:

At least **one participant** from each economy is required to provide a **brief presentation** (10 minutes maximum) about the legal metrology system on bulk flowmetering systems in their economy. A guide on what to include in your presentation are shown below:

* Who you are, and your role within your organization and department
* Describe your professional experience in the area of verification of measuring instruments
* Outline the legal metrology system used to control bulk flowmetering systems in your economy
* What is the current situation in your economy about compliance to the international standards
* Describe any problems or issues you have in order to implement the legal metrology system

# Registration:

Please complete the attached “**Nomination Form**” and send it to the APLMF Secretariat and Jana Hennigs by **28 April, 2017.**

# Currency and Credit Cards:

The local currency is Baht. Major credit cards (Visa, Master Card, etc) are accepted in Hotels and big department stores. The exchange rate for 1 USD is about 35 Baht.

# Climate:

The average temperature is about 25oC– 35oC in July in Pattaya.

# Electricity Supply:

Voltage is 220-240 volts AC, 50/60 cycles per second. The power plugs used in Thailand are 2 pin Power plugs.

**Local Time:**

GMT +7

# Contact Persons:

**APLMF Secretariat**

C/- Trading Standards

Ministry of Business, Innovation & Employment (MBIE)

PO Box 1473, Wellington 6140, New Zealand

Telephone: 0064-4-4601367

Ms. Alli Smith

E-mail: [APLMF.Secretariat@mbie.govt.nz](mailto:APLMF.Secretariat@mbie.govt.nz)

**PTB Contact Person:**

Ms. Jana Hennigs **(Registration, Flights, Hotel Reservations)**

Bundesallee 100, 38116 Braunschweig, Germany

Tel: +49 531 592 8218

E-mail: [jana.hennigs@ptb.de](mailto:jana.hennigs@ptb.de)

**Host in Thailand** (**Visa assistance, Venue and access information)**

Visa assistance: Ms.Pisakorn Pisankul Email:pisankul@hotmail.com

Accommodation: Ms.Khemsai Rahannok Email: khemsair@hotmail.com and

Ms.Siriwan Gucharo Email: jik\_cnn@hotmail.com

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563 Nonthaburi Rd., T.Bangkraso, A.Muang, Nonthaburi 11000 Thailand

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**Train the Trainer Course on the Verification of Bulk Flowmetering Systems using a Master Meter**

**Program 24–27 July 2017**

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| **Monday 24 July Venue: Pullman Pattaya Hotel G** | | |
| **Time** | **Details** | **Presenter** |
| 08:30 – 09:00 | Registration | Host |
| 09:00 – 09:40 | Welcoming address from the host economy  Opening ceremony (APLMF Secretariat)  Group photo taking | APLMF and Host |
| 09:40 – 10:00 | Introduction | APLMF and Host |
| 10:00 – 10:45 | Overview of the course  Economy reports - explains how bulk flowmetering systems are verified | Marian Haire Trainees |
| 10:45 – 11:15 | ***Coffee Break*** |  |
| 11:15 – 12:30 | Economy reports continue | Marian Haire Trainees |
| 12:30 – 14:00 | Lunch break |  |
| 14:00 – 15:30 | Brief visit to view bulk flowmetering system  Equipment required for testing  Safety considerations  Visual inspection | Surachai Sungzikaw,  Jintana Pengyai  Brad Larter |
| 15:30 – 16:00 | Coffee break |  |
| 16:00 – 17:00 | Test procedures for bulk flowmetering systems | Brad Larter |
| 18:00 – 20:00 | Welcome dinner hosted by Central Bureau of Weights and Measures, Thailand |  |
| **Tuesday 25 July Venue: Eastern Weights and Measures Center** | | |
| **Time** | **Details** | **Presenter** |
| 9:00 – 10:30 | Test procedures for bulk flowmetering systems | Brad Larter |
| 10:30 – 11:00 | ***Coffee Break*** |  |
| 11:00 – 12:30 | Test procedures for bulk flowmetering systems | Brad Larter |
| 12:30 – 14:00 | ***Lunch*** |  |
| 14:00 – 15:30 | Demonstration of test procedures and completion of test report | All trainers |
| 15:30 – 16:00 | ***Coffee Break*** |  |
| 16:00 – 17:00 | Demonstration of test procedures and completion of test report Question and Answer session | All trainers |
| **Wednesday 26 July Venue: Eastern Weights and Measures Center** | | |
| **Time** | **Details** | **Presenter** |
| 9:00 – 10:30 | Demonstration of test procedures and completion of test report | All trainees |
| 10:30 – 11:00 | ***Coffee Break*** |  |
| 11:00 – 12:30 | Students work together to answer test questions | All trainers |
| 12:30 – 14:00 | ***Lunch*** |  |
| 14:00 – 15:30 | Group discussion of answers to test questions | Brad Larter  Marian Haire |
| 15:30 – 16:00 | ***Coffee Break*** |  |
| 16:00 – 17:00 | Preparation for group presentations  Action plans | All trainers |
| **Thursday 27 July Venue: Eastern Weights and Measures Center** | | |
| **Time** | **Details** | **Presenter** |
| 9:00 – 10:30 | Group 1 presentations – Discussion and feedback | Participants |
| 10:30 – 11:00 | ***Coffee Break*** |  |
| 11:00 – 12:30 | Group 2 presentations – Discussion and feedback | Participants |
| 12:30 – 13:30 | ***Lunch*** |  |
| 13:30 – 15:00 | Group 3 presentations – Discussion and feedback | Participants |
| 15:00 – 15:30 | ***Coffee Break*** |  |
| 15:30 – 17:00 | Group 4 presentations – Discussion and feedback | Participants |
| 17:00 – 17:30 | Closing Ceremony | APLMF and Host |
| 18:00 – 20:00 | Farewell dinner hosted by MEDEA |  |

1. see <http://www.oecd.org/dac/stats/daclist.htm>. Eligible economies in Asia: Bangladesh, Bhutan, Cambodia, Fiji, India, Indonesia, Kyrgyzstan, Laos, Malaysia, Mongolia, Myanmar, Nepal, Pakistan, Papua New Guinea; Philippines, Sri Lanka, Thailand, Uzbekistan, Vietnam [↑](#footnote-ref-1)
2. Only economies that submitted the Regional Capability Survey are eligible to receive funding by the MEDEA project. [↑](#footnote-ref-2)