21st Asia-Pacific Legal Metrology Forum Meeting

Nov. 9 – 12, 2014

Hosted by Trading Standards, Ministry of Business, Innovation and Employment, New Zealand, the 21st APLMF Working -Group meeting and Forum meeting were held from Nov. 9 through Nov. 12 2014 at the InterContinental Hotel, Wellington, New Zealand. The Meetings were attended by delegates from full member economies and representatives of the international and regional organizations.
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3.19 Closing Address from Mr. Pu Changcheng, the APLMF President
1. List of Participants

1.1. Table 1-1 Hosts

<table>
<thead>
<tr>
<th>New Zealand</th>
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<tbody>
<tr>
<td>Mr. Sanjai Raj</td>
<td>Ministry of Business, Innovation and Employment</td>
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<tr>
<td>Mr. Stephen O’Brien</td>
<td>Ministry of Business, Innovation and Employment</td>
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<tr>
<td>Mr. Kevin Gudmundsson</td>
<td>Ministry of Business, Innovation and Employment</td>
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<tr>
<td>Mr. Julian Crane</td>
<td>Ministry of Business, Innovation and Employment</td>
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<tr>
<td>Mr. Phil Sorrell</td>
<td>Ministry of Business, Innovation and Employment</td>
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<td>Mr. Martin Rushton</td>
<td>Ministry of Business, Innovation and Employment</td>
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<tr>
<td>Mr. Srinivas Bobbala</td>
<td>Ministry of Business, Innovation and Employment</td>
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<tr>
<td>Ms. Fiona Ryan</td>
<td>Ministry of Business, Innovation and Employment</td>
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<tr>
<td>Mr. John Barker</td>
<td>Ministry of Business, Innovation and Employment</td>
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<tr>
<td>Mr. Stuart Carstens</td>
<td>Ministry of Business, Innovation and Employment</td>
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<tr>
<td>Dr. Tim Armstrong</td>
<td>Callaghan Innovation</td>
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1.2. Table 1-2 President and Secretariat

<table>
<thead>
<tr>
<th>President</th>
<th>General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ)</th>
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<tbody>
<tr>
<td>Mr. PU Changcheng</td>
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<table>
<thead>
<tr>
<th>Honorary President</th>
<th>Former APLMF President</th>
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<tr>
<td>Mr. John Birch</td>
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</table>
### Asia-Pacific Legal Metrology Forum

<table>
<thead>
<tr>
<th>Secretary</th>
<th>General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ)</th>
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<tbody>
<tr>
<td>Ms. ZHENG Huaxin</td>
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<td>Mr. GUO Su</td>
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#### 1.3. Table 1-3 Full Member Economies

<table>
<thead>
<tr>
<th>Country</th>
<th>Contact Person</th>
<th>Institution/Agency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Dr. Valerie Villiere</td>
<td>National Measurement Institute Australia (NMIA)</td>
</tr>
<tr>
<td>Australia</td>
<td>Mrs. Marian Haire</td>
<td>National Measurement Institute Australia (NMIA)</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Mr. Polineavith Ng</td>
<td>National Metrology Center of Cambodia</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Mr. Mao Vann</td>
<td>National Metrology Center of Cambodia</td>
</tr>
<tr>
<td>Canada</td>
<td>Mr. Alan Johnston</td>
<td>Measurement Canada / Organization Internationale de Metrologie Legale (OIML)</td>
</tr>
<tr>
<td>People's Republic of China</td>
<td>Mr. HAN Yi</td>
<td>General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ)</td>
</tr>
<tr>
<td>People's Republic of China</td>
<td>Mr. HAN Jianping</td>
<td>General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ)</td>
</tr>
<tr>
<td>People's Republic of China</td>
<td>Mr. DU Yuejun</td>
<td>General Administration of Quality Supervision, Inspection and Quarantine (AQSIQ)</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Mr. Hari Prawoko</td>
<td>Directorate of Metrology</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Mr. Eko Agus Irianto</td>
<td>Directorate of Metrology</td>
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<tr>
<td>Indonesia</td>
<td>Mr. Priyo Syamsul</td>
<td>Directorate of Metrology</td>
</tr>
<tr>
<td>Country</td>
<td>Name</td>
<td>Organization</td>
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<tr>
<td>Indonesia</td>
<td>Mr. Gunawan Marto</td>
<td>Center of development of Metrological human Resources</td>
</tr>
<tr>
<td>Indonesia</td>
<td>Mr. Cecep Mufti Cahyana</td>
<td>Center of development of Metrological human Resources</td>
</tr>
<tr>
<td>Japan</td>
<td>Mr. Yasuhiro Koyano</td>
<td>National Metrology Institute of Japan (NMIJ), AIST</td>
</tr>
<tr>
<td>Japan</td>
<td>Dr. Tsuyoshi Matsumoto</td>
<td>National Metrology Institute of Japan (NMIJ), AIST</td>
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<tr>
<td>Japan</td>
<td>Dr. Toshiyuki Takatsuji</td>
<td>National Metrology Institute of Japan (NMIJ), AIST</td>
</tr>
<tr>
<td>Japan</td>
<td>Mr. Satoshi Miura</td>
<td>Ministry of Economy Trade and Industry (METI)</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>Mr. Hee Chan Yang</td>
<td>Korea Association of Standards and Testing Organizations (KATS)</td>
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<tr>
<td>Republic of Korea</td>
<td>Ms. Soon Young Joo</td>
<td>Korea Association of Standards and Testing Organizations (KATS)</td>
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<tr>
<td>Republic of Korea</td>
<td>Mr. Seong Boo, Jeong</td>
<td>Korea Testing Certification</td>
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<tr>
<td>Malaysia</td>
<td>Mr. Mohd Roslan Mahayudin</td>
<td>Ministry Of Domestic Trade, Co-Operatives And Consumerism Malaysia</td>
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<tr>
<td>Malaysia</td>
<td>Dr. Abdul Rahman Mohamed</td>
<td>National Measurement Standard laboratory (SIRIM Berhad)</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Mr. Stephen O’Brien</td>
<td>Trading Standards, Ministry of Business, Innovation and Employment</td>
</tr>
<tr>
<td>New Zealand</td>
<td>Mr. Kevin Gudmundsson</td>
<td>Trading Standards, Ministry of Business, Innovation and Employment</td>
</tr>
<tr>
<td>Singapore</td>
<td>Ms. Lena Soh</td>
<td>SPRING Singapore</td>
</tr>
</tbody>
</table>
### China-Taipei
- **Mr. Jin-Hai Yang**
  - Bureau of Standards, Metrology and Inspection (BSMI)

### Thailand
- **Mr. Jarin Suttanarak**
  - Central Bureau of Weights and Measures (CBWM)
- **Mr. Sakchai Hasamin**
  - Central Bureau of Weights and Measures (CBWM)
- **Ms. Pattaraporn Surasit**
  - Central Bureau of Weights and Measures (CBWM)

### United States of America
- **Dr. Charles Ehrlich**
  - National Institute of Standards and Technology (NIST)
- **Mr. Ralph A. Richter**
  - National Institute of Standards and Technology (NIST)

### Viet Nam
- **Mr. Tran Van Vinh**
  - Directorate for Standards and Quality (STAMEQ)
- **Mr. Tran QUy Giau**
  - Directorate for Standards and Quality (STAMEQ)

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1.4. **Table 1-5 Observers**

<table>
<thead>
<tr>
<th>Country</th>
<th>Observer</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brunei</td>
<td>Mr. Noriskandariah Damit</td>
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<tr>
<td>Brunei</td>
<td>Mr. Awang Haji Arifin Awang Md Taib</td>
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<tr>
<td>OIML</td>
<td>Mr. Peter Mason</td>
<td></td>
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<tr>
<td>BIML</td>
<td>Mr. Stephen PATORAY</td>
<td></td>
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<tr>
<td>PTB International Technical Cooperation</td>
<td>Dr. Anna Cypionka</td>
<td></td>
</tr>
<tr>
<td>MEDEA Project</td>
<td>Mr. Abdul Rashid Bin Zainal Abidin</td>
<td></td>
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<tr>
<td>MEDEA Project</td>
<td>Dr. Grahame Harvey</td>
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<tr>
<td>ILAC</td>
<td>Dr. Llewellyn Richards</td>
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2. Working Group meeting (9 am – 4 pm, Nov. 10, 2014)

The WG meeting was held on Nov. 10 2015. Mr. Alan Johnston (WG on Utility Meters) as the Chair and Dr. Charles Ehrlich (WG on Mutual Recognition Arrangements). The agenda of this meeting included reports from 7 WGs of APLMF. Mr. Alan Johnston opened the meeting by emphasizing the contribution of legal metrology to trade and other aspects of human's social life.

2.1. WG on Training Coordination

Mrs. Marian Haire, the Chair of the WG on Training Coordination, reviewed training activities since the 20th APLMF Forum Meeting.

- Support WG on Goods Packed by Measure to develop a Guide document containing suggested test procedures to provide practical advice on the implementation of R79 and R87
- Work with Secretariat to develop an appropriate evaluation form for each training activity. Secretariat will then manage the completion of the evaluation form during each training activity. The results will be collated and distributed to the trainer/s and WG 1 Chair.
- Report against Work Plan for 2014:
  - verification of weighbridges in Indonesia (trainers provided by Australia and New Zealand);
  - CNG dispensers in Malaysia;
  - Traceability in rice-moisture meters in an economy to be identified;
  - verification of bulk flow metering systems using a master meter in PNG;
  - 32 participants from 7 economies attended the Traceability in Rice Moisture Measurement course in Chiang Mai in November 2013;
  - 40 participants from 6 economies attended the Non-Automatic Weighing Instruments in Bandung in September 2014;
  - The other 2 planned programs did not happen
  - Disseminate information regarding the new version of R49 Water meters. (seminar or a series of webinars);
  - Chair of WG for utility meters will request the Forum to suggest the most appropriate next step;
  - Work with Steering committee to manage the development and dissemination of a regional project to improve the capability of developing economies within the region. MEDEA;
  - Output is outlined in Concept 1.

APLMF TEST Procedures:

- Develop Guide documents containing tests used to verify measuring instruments;
- Concept 1 suggests APLMF develops a mechanism to ensure training covers agreed test procedures;
- Carry out surveys of economies to determine which tests are essential and which are desirable;
- See Appendix F for an example for NAWI.

Mr. Guo Su: clarified APLMF Secretariat have contacted PNG to host the training course on verification of bulk flow metering systems using a master meter but lost contact in October.
Mrs. Marian Haire: MEDEA Project will include such training in the next few years.
Mr. Stephen O’Brien: Applauded MEDEA’s project to develop a guide document of test procedures after training sessions.
Mrs. Marian Haire: Each training will have an emphasis on traceability.

2.2. WG on Goods Packed by Measure
Mr. Kevin Gudmundsson summarized the progress made on the work program of the WG in 2014.

- **OIML Technical Committee 6 (TC6) Pre-packaged Products**
  - 15th - 19th September 2014, Seoul, Korea
  - 15 of the 28 members attended
  - Revision of OIML R79 – Labelling requirements for pre-packaged products
  - Revision of OIML R87 – Quantity of product in pre-packages
  - Development of the Guide for the Certification of Pre-packages

- **OIML R79 Revision**
  CD5 received a positive vote from P members. If editorial changes only, it would be submitted to the BIML for registration as a draft publication and forwarded to CIML preliminary ballot.
  The definition of ‘Principle Display Panel’
  “The part of a package that is designed to be visible under normal conditions of display for sale.
  *Note: This is normally the main or front panel of the pre-package and there could be more than one.*”
  Both the product identity as well as the quantity declaration shall be displayed on the same panel that should be visible to consumers under normal conditions of display.
  All references to Misleading Pre-packages within R87 will be relocated to R79:
  - Remove duplication
  - R79 covers both random and constant nominal quantities, whereas R87 is only concerned with constant nominal quantities.

- **OIML R87 Revision**
  CD3 received a positive vote from P members. If editorial changes only, it would be submitted to the BIML for registration as a draft publication and forwarded to CIML preliminary ballot.
  - All references of “manufacturer” to be amended to “packer”
  - Introduce a new sub-clause within the “Terminology” section to contain all acronyms and symbols;
  - A note detailing the statistical rounding method to be inserted
  - A method for rounding a number in which numbers larger than or equal to \([N-0.5]\) and less than \([N+0.5]\) is rounded to \(N\) as an integer
  - It was agreed that Aerosols can be sold by weight or volume or both
  - Multistage Sampling Plans
  - Annex H - Stepwise sampling plan
  - OIML Guide to be developed ‘Alternative Sampling Methods’.

- **Guidance for Defining the System Requirements for a Certification System for Pre-packages**
  - 1st draft presented to members for review and comments
  - Sharing of knowledge and experience in certification systems
    - ‘E-mark’ - European and South African
Purpose of the document: To provide guidance to national authorities on the establishment and maintenance of certification schemes to control the quantity of product in pre-packages and associated labelling.

2015 Plan
The working group on goods packed by measure has commenced developing testing procedures for:
- Compost / mulch
- Glazed Seafood
- Beer (carbonated liquids)
- Ice cream and Ice blocks on a stick

Develop a document detailing the general test procedures for completing an Average Quantity Reference Test on mass, volume, length.

2.3. WG on Utility Meters
Mr. Alan Johnston, on behalf of the Chair of this WG, Mr. Gilles Vinet, gave the summary report of activities since last Forum meeting in 2014.

- Update on 2014 APLMF activities
- Update and discussion on OIML activities related to utility meters.

- Electricity Meters TC 12 - R46
  - No activity in 2014
  - R46 latest revision was issued in 2012
  - OIML model requirements are now up-to-date for electricity meters.

- Water Meters TC8/SC5 - R49
  - No activity in 2014
  - R49 latest revision was issued in 2013
  - OIML model requirements are now up-to-date for water meters and are harmonized with ISO.

- Natural Gas Meters TC8/SC7
  - R-137 Gas Meters;
  - DR approved at the 2007 CIML meeting
  - 1CD Issued in October 2009
  - Meeting in June 2010 in the Netherlands
  - 2CD Issued in September 2010
  - R-137 approved in May 2012
  - R-137-3 (Test Methods) 2CD issued in December 2012
  - New revision of R-137-1 started to address required software evaluation methods
  - Revisions to R137 (parts 1, 2, and 3) issued in 2014
  - R-139 Compressed gaseous fuel measuring systems for vehicles
  - Meeting in June 2010 in the Netherlands
  - 1CD issued in April 2012
  - 2CD Issued in December 2012
Final Draft Recommendation approved at 2014 CIML meeting in Auckland last week.

- Application of Statistical Methods
  - Surveillance of utility meters in service on the basis of sampling inspections
  - 1CD issued in April 2004
  - 2CD issued in Feb. 2006
  - Meeting in November 2006
  - 3CD issued in July 2010
  - Information Session held at 2011 CIML meeting
  - Survey sent in July 2013 to obtain information from members and re-start the project.
  - 4CD issued in June 2014

- Action plan for 2015
  - Develop and organize training as per the agreed APLMF training plan
  - Follow OIML work related to utility meters and inform APLMF members

2.4. WG on Mutual Recognition Arrangements
Dr. Charles Ehrlich, the Chair, presented 3 work items in 2013-2014.

- 1. Continue supporting the OIML work on implementation of the MAA (Mutual Acceptance Arrangement) and not develop a regional MAA;
  - There has been no direct request or inquiry from an APLMF Member Economy to look into a regional Mutual Recognition Arrangement.
  - The ongoing work in implementing the OIML MAA has been the focus of the APLMF WG activity, while keeping in mind ways that all interested APLMF Member Economies might participate.
  - MAA discussions and report at last week’s CIML meeting in Auckland.

- 2. Closely follow the work of the newly-formed OIML ad-hoc working group that is reviewing the structure of the OIML Committees on Participation Review (CPRs), the rules and procedures governing the operation of the OIML MAA, and the role of MAA Utilizing Participants – with a view to increasing the efficiency of the operation of the MAA, and, if necessary, amending the OIML MAA documents.
  - As review, three MAA Resolutions were approved at the 2013 CIML meeting in Vietnam:
    - A Questionnaire covering several aspects of the MAA was developed by the Chairman (Prof. Roman Schwartz) of the Ad-Hoc Working Group (AHWG) on the MAA, and circulated internationally on 18 December, 2013, with comments due back 21 Feb., 2014.
    - A key outcome of the AHWG(MAA) meeting was that three Task Groups (TGs) were established
    - Status/progress of the three Task Groups (TGs) as of 1 October, 2014 [later updated with discussions and decisions at CIML meeting in Auckland last week].

Mr. Stephen O’Brien: Suggested the survey also goes to APLMF members.
Dr. Charles Ehrlich: Invited Mr. Peter Mason, CIML President to answer.
Mr. Peter Mason: Commented it was a good idea, but better to use short questionnaire, and should get experience from CIML members. It has to be careful to ask questions to corresponding
· 3. WG Chair, with assistance of BIIML, provided an OIML MAA implementation update report for APLMF Circular.

Mr. Peter Mason: Some information of OIML Ad-hoc WG will be public information, but some are just for OIML full member and corresponding member.

Mr. Stephen O’Brien: Suggest APLMF Secretariat email APLMF members to check important update of OIML MAA.

Dr. Charles Ehrlich: Supported Mr. Stephen O’Brien’s idea, and will inform APLMF Secretariat.

Mr. Guo Su: APLMF Secretariat will share the questionnaire summary on the APLMF website.

Mr. Peter Mason: Suggested having a potential work item on bilateral mutual recognition.

Mr. John Birch: APLMF was set up as special regional body to pursue APEC agenda which is open free trade. But bilateral recognition will be against APEC intention.

Dr. Charles Ehrlich: Asked Mr. John Birch to draft questionnaire.

Mr. Stephen O’Brien: Happy to help Mr. John Birch and learn from ACEAN experience.

Mr. Peter Mason: Emphasized the benefits of bilateral agreements compared to multilateral agreements.

Mr. Ralph Richter: Certificates of R117 is growing and suggest concluding such area in to MAA.

Dr. Charles Ehrlich: The issue exists in operation of CPR, it best to wait its result.

Mr. Peter Mason: R117 may be next most likely MAA. Also there are some failed instances mainly because lack of issuing participants.

Dr. Tsuyoshi Matsumoto: It was premature to send out such survey when Japan ran the APLMF Secretariat several years ago. But such survey is useful for both APLMF and OIML.

2.5. WG on Medical Measurement

Mr. Jin-Hai Yang, gave a comprehensive presentation on Medical Devices Control. It included:
• Survey on Metrological Control for the Medical Measurement Instruments as follows:
  • Introduction
  • Member Economies’ replies
  • Future works
  • Conclusion
  • Few Member Economies show their concern on medical measurement instruments
  • It seems that metrology authorities need the cooperation from health authorities
  • Training activities are needed in various fields and this working group would like to organize training courses in the future under APLMF/APEC full support.

Then he introduced 2015 Working Plan
• Adverse report of medical instruments in Asia Pacific region
  ■ Methodology
    ◆ Collect the data of adverse report of medical instruments in Asia Pacific region in past 5 years;
    ◆ Analyse the data of adverse reports of medical instruments in Asia Pacific region.
  ■ Objects
Asia-Peacific Legal Metrology Forum

- Address the threats of malfunction/inaccuracy of medical measurement instruments;
- Seek the opportunity to organize a workshop to build-up the cooperation between metrology authorities and health authorities in the future;
- Bridge the dialogue between metrology authorities and health authorities.

Mr. Stephen O’Brien: Saw limited replies from Member Economies, then asked how to raise awareness of medical measurement area.

Mr. Jin-Hai Yang: Difficult to achieve the goal.

Dr. Grahame Harvey: Try to highlight the cost of medical system that does not have good measurement.

Mr. Guo Su: WG on Medical Measurement and WG on Metrological Control System have developed two guidelines related to medical measurement.

Mr. Peter Mason: Willing to share the report on OIML TC/SC website.

2.6. WG on Quality Measurement of Agricultural Products

Dr. Tsuyoshi Matsumoto, the Chair, reported the activities since last Forum meeting.

- **Call for host economy of a training program on grain (rice) moisture measurement**
  In reply to the survey from our WG, Indonesia and Thailand proposed to host training courses with a ‘self-funded’ scheme. In thanks to their proposals, two APLMF Training Courses on Traceability in Rice Moisture Measurement were conducted in Indonesia (May 2012) and Thailand (November 2013).

With regard to funding, APLMF agreed to accept the support fund from PTB (Physikalisch-Technische Bundesanstalt) in Germany in 2013 in order to conduct training programs in legal metrology. This is a joint project between PTB, APLMF and APMP (Asia-Pacific Metrology Programme), named as “Metrology: Enabling Developing Economies within Asia (MEDEA)”. The training program for grain moisture measurement is already included in this project; therefore, there is a possibility that the training courses would be partially supported by the MEDEA fund.

- **Conducting a training course on rice moisture measurement in Thailand in 2013**
  With dedicated support of CBWM (Central Bureau of Weights and Measures) in Thailand, a training course was conducted in Chiang Mai (Thailand) on 25-29 November, 2013 (see separate report). NMJJ (National Metrology Institute of Japan) and Kett Electric Laboratory Co. Ltd. provided five trainers for this program, and 32 trainees from seven economies (CN, ID, KH, MY, TH, TW and VN) attended.

- **Drafting of a new APLMF Guide Document on Grain Moisture Measurement**
  The WG has provided an outline of a new “APLMF Guide Document on Grain Moisture Measurement” at the 20th Forum Meeting in 2013. The working draft (WD) document is under development in order to provide practical procedures to calibrate, verify and test grain moisture meters, which are not covered by the OIML recommendations or ISO documents. Materials used in the previous training courses on rice moisture measurement will be used as the base material of this guide document.

- **Contributing to OIML TC 17**
  The WG continuously monitored the activities of OIML TC 17/SC 1 (Humidity) and TC 17/SC 8
(Instruments for quality analysis of agricultural products) in regard to the two documents (OIML recommendations) shown below:

(1) TC 17/SC 1 R 59 "Moisture Meters for Cereal Grains and Oilseeds (1984)"
Discussion to revise the present recommendation is under progress by the joint secretariat in USA and PR China. CD6 (6th committee draft) of R59 was sent to the P members of SC1 in March, 2013. Discussion on the CD6 took place at the SC1 meeting in USA in July, 2013. Next CD has not been proposed after this meeting.

(2) TC 17/SC 8 on "Protein Measuring Instruments for Cereal Grains and Oilseeds (New)"
Discussion to draft a new recommendation is under progress by the secretariat in Australia. Discussion on CD4 took place at the SC 8 meeting in USA in July, 2013. After this meeting, CD5 was sent to the P members of SC8 in August, 2014 (deadline for reply: 15 November 2014). The chairperson is preparing comments on CD5.

Monitoring activity on BIPM and APMP on rice moisture measurement, and others
In cooperation with BIPM and APMP, the WG informed NMJJ delegates attending their meetings the activities of the WG including training courses. The WG continuously exchanged information between the researchers in NMJJ about a new measurement method for grain moisture content using electromagnetic waves. In Japan, the WG Chair attended a domestic mirror committee to OIML TC17 and exchanged information between the manufacturers of moisture meters and protein measuring instruments.

2015 Work Plan

- Planning next training program on grain moisture measurement and calling for another host economy
- Drafting of a new APLMF Guide Document on Grain Moisture Measurement
- Contributing to the OIML TC 17
- Monitoring activities of BIPM and APMP on grain moisture measurement
- Supporting of training course on flow measurement

Mr. Stephen O’Brien: Asked Dr. Tsuyoshi Matsumoto to consider including ‘dealing with fraud and dishonest practices’ in future training course.

Dr. Tsuyoshi Matsumoto: Suggest sealing the instruments completely, for grain moisture measuring instrument, better to use one variety.

Mr. John Birch: Asked which instruments are certifiable?

Dr. Tsuyoshi Matsumoto: The grain moisture instruments in some economies belong to a ministry other than legal metrology so it’s difficult to make suggestion.

Mr. Sakchai Hasamin: In Thailand they only measure the paddy rice to set the parameter, and then sealed.

2.7. WG on Metrological Control Systems

Mr. Guo Su on behalf of Mr. Yang Youtao, the Chair, reported the progress of WG in 2014. His report included following three aspects:

- Guidelines for APLMF
  Guidelines of “Ionizing radiation metrology for human health and security in medicine on legal metrology system” (No.1-2013)
The complementary controls of medical devices on metrological and medical supervision (No.2-2013)

- New Guideline:
  Guide to the application of pressure metrology in industry safety under legal metrological system

- Work plan for 2015
  - Associate with other WG to draft the guidelines
  - Plan to hold a workshop of the Metrological Control System
  - Plan to hold a workshop on Software Controlled Measuring Instrument.
  - Think about some new guidelines for APLMF in the Metrological Control System.

Dr. Charles Ehrlich: Asked what duty of WG on Metrological Control System concerning developing new guidelines.
Mr. Guo Su: He will be the coordinator.
Dr. Tsuyoshi Matsumoto: Understand WG on Metrological Control System will coordinate all the guidelines developed by other WGs.
Dr. Charles Ehrlich: Suggest cooperation with USA to develop new guidelines on pressure metrology.

2.8. PTB-APLMF-APMP Joint Project Session

Mrs. Marian Haire was invited to chair this session with Mr. Guo Su assisting.

Dr. Anna Cypionka from International Cooperation Department of PTB reported information on:
- Activities of MEDEA project in 2014
- Project framework
- MEDEA CC meeting and ToR
- MEDEA planning workshop
  - Needs assessment
  - Target activities
  - Selection criteria for priorities
  - Work packages
- Procedure for Implementation
- Funding
- SharePoint webpage

Mrs. Marian Haire: Suggested monitoring the results of training after 6 months.
Dr. Tsuyoshi Matsumoto: Difficulty to select nominees.

Mr. Abdul Rashid Bin Zainal Abidin shows the status of work packages of MEDEA project since 2013 include: Progress report and Status of 1 large APLMF work package, 6 APMP work packages and 4 Joint work packages. Also, he request sending participants to MEDEA work package activities shall fit well into the developmental strategic planning of the NMI. Finally, he introduced the next step include building Work Plan for 2015, confirmation of hosts, experts and trainers and confirmation of participants.
Mrs. Marian Haire went through APLMF Concept 1 in MEDEA project including:
- Background
- Basic courses
- Advanced courses
- Participant requirements
- Target group
- Duty of Host Economies
- Economies eligible to volunteer as hosts
- Trainers - Critical element
- Duty of Trainer
- Duty of APLMF Secretariat
- Next Steps

Dr. Toshiyuki Takatsuji: Suggested obligation of trainer should be limited as small as possible. Regional capability survey is necessary.
Mr. Stephen O’Brien: To collect training materials previously as basis.
Mr. John Birch: Asked what the benefits are for trainers.
Mr. Stephen O’Brien: Important skill in career.
Dr. Anna Cypionka: Emerging economies also welcome to be co-trainer with developed economies.

Dr. Grahame Harvey reported on the Regional Capability Survey which included:
- Multiple objectives
- First year’s results
- Introduction
- Purpose of the survey
- Distinguishing features of revised survey
- Survey sections
- Survey questions
- Extract of survey table

Mr. Stephen O’Brien: Useful tool for MEDEA and APLMF. Suggest tracking result once a year.

Dr. Grahame Harvey and Mr. Abdul Rashid Bin Zainal Abidin introduced MEDEA joint work package 1 which included:
- Objective of Work Package
- Background Information
- Activities under the work package
  - Revision of APLMF Guide 1
  - Promotion of Metrological Infrastructure
- Timing
Dr. Charles Ehrlich: Suggested talking with Prof. Manfred Kochsiek regarding Guide 1.
Mr. John Birch: Suggested asking what measurements are important in each economy? And how it is controlled?

Mr. Stephen O’Brien: introduced MEDEA joint work package 2 which focuses on Awareness Raising for Metrology, the Objective is to enhance the development, sharing and use of information resources to support APMP and APLMF members in their awareness raising and public relations development. Then he explained the separate activities, status and team members.

Mr. Guo Su: APLMF Secretariat on behalf of APLMF and APMP attended Euramet workshop on such topic, and wrote a summary report to share with all members.

Dr. Anna Cypionka went through the MEDEA joint work packages 3 and 4, which include:
- International Cooperation Group
  - Objective
  - Proposed members
  - Proposed activities
- Management and Stakeholder Communication Skills
  - Proposed Activities:
  - Focus areas for directors and senior managers:
  - Training courses for line managers:

Finally, Mrs. Marian Haire and Mr. Guo Su went through the list of training in 2015 to confirm the host economy and trainer.

3. Forum meeting (Nov. 11 - Nov. 12, 2015)
3.1. Welcome Address by Mr. Mr. Sanjai Raj, General Manager, Consumer Protection and Standards, Ministry of Business, Innovation & Employment.

Good morning, ladies and gentleman, APLMF President, APLMF Delegates, and invited guests.

Ministry of Business, Innovation & Employment has a number of regulatory responsibilities, including the regulation of electricity, building, immigration advisory authority and Trading Standards. Trading Standards includes product safety, fuel quality and legal metrology, but people here also appreciate we have a body called Standards New Zealand, member of International Standards Organization. This is the entity that Government made decision on to bring into the Ministry. This will occur in about 12 months time.

It’s my great pleasure on behalf of the New Zealand Government, and Ministry to welcome you all to New Zealand, and speak in 21st APLMF meeting here in beautiful Wellington.

This Forum meeting has brought together the variety of experts from around the world, and presents a unique opportunity to share international best practice, and consider and seek the future direction
Many of you have traveled great distances, to be here and on top of an interesting and productive meeting I hope you have the opportunity to enjoy a little of New Zealand scenery and hospitality while you are here. As General Manager of Consumer Protection & Standards that includes the Trading Standards team, I appreciate the important work that APLMF undertakes to protect consumers, to enable a level playing field for business, and reduce technical barriers to international trade.

As a regulator and a part of Ministry in Government that focus on good governance, and improving regulatory practice, I understand the need for accurate measure, and importance of legal metrology and international standards. Limited government resources need to be focussed on where they can effectively be utilized and return best value for the investment. But decisions we make as government officials to allocate these resources must be based on accurate measurement.

To put the importance of this forum meeting in the work of APLMF perspective, APLMF member economies including New Zealand’s key trading partners, are responsible for shaping the legal metrology system that supports 2.9 billion people with combined gross domestic product of 39 trillion US dollars.

An effective legal metrology system is essential to support the economic and personal wellbeing of these 2.9 billion people. This is done through the provision of credible measurements and standards that support trade, health, safety protection of environment and law enforcement. Every day, consumers, traders, government regulators and industry make decisions based on measurement results. These measurements affect the economic and personal wellbeing of us all. A well functioning society relies on confidence in the accuracy and transparency of all measurements that benefit consumers, business and regulators. Many of these measurements cannot be easily verified by the consumer, so maintaining the confidence and a level playing field for competing businesses relies on a measurement infrastructure and the work of many of you here today.

But words of appreciation are just words, unless that followed up with actions. New Zealand is committed to supporting the important work of APLMF and it’s goal to reduce technical barriers to trade, harmonization of technical requirements and development of economies within the region of Asia-Pacific. My Ministry has supported this work through actions including active participation in technical work, leadership in the Working Group on Pre-packaged Goods, membership of Executive Council and hosting this important meeting. In the future we look forward to be able to continually support and lead this work as we all work together to a healthier, safer and more prosperous Asia-Pacific Region.

I wish you well for discussions and deliberations at this forum meeting in the next few days. I enjoyed the opportunity to meet some of you last night at the welcome diner we hosted in Te Papa, and hope you have the chance to enjoy a little of our culture and hospitality. I wish you an enjoyable and productive time while you here in New Zealand and a safe journey home.
Thank you very much.

3.2. Opening Address by Mr. PU Changcheng, the APLMF President

Distinguished Mr. Sanjaj, Raj, Distinguished Mr. John Birch, Ladies and Gentlemen

Good Morning!

It gives us great pleasure to come to this beautiful city, Wellington, New Zealand to attend the 21st APLMF forum meeting, to discuss important issue regarding development of APLMF with all of you.

Let me begin by thanking, Mr. Sanjaj, Raj, Ministry of Business, Innovation and Employment, and his colleagues for their excellent preparation and arrangement for hosting this meeting.

I also wish to take this opportunity to express my warm welcome and my thanks to all of you for your participation and contribution to the forum meeting.

Since last Forum meeting held in Yogyakarta, Indonesia, Member Economies, Working Groups, together with APLMF Secretariat have made great efforts to carry out the approved work program.

We continually use our own “one on one” system to organize the training courses based on economies’ needs and APLMF resources.

We actively participate in APEC meetings to share our views and proposals for potential funding from them.

We worked together with APMP and PTB and developed a work package containing 11 training courses which to be conducted in next 4 years.

We have learned the news that New Zealand is proposing to take the next APLMF Presidency and Brunei’s proposal to be our new full member.

Our activities have contributed to the further development of legal metrology and play an important role in the legal metrology world.

Moreover, APLMF and its WGs have actively participated and communicated with OIML and other Organizations.

In the following one and a half days, I will work together with Mr. Stephen O’Brien, Manager in MBIE, to co-chair the Forum meeting.

I expect all colleagues here to contribute and comment on the topics. I believe we will have an effective work program which can meet the members’ needs by our efforts.

Thank you.
3.3. Roll Call
Mr. Guo Su took a roll call of the participants. 54 delegates from 14 member economies and relevant organizations attended the meeting. They were Australia, Canada, Cambodia, P.R. China, Indonesia, Japan, Republic of Korea, Malaysia, New Zealand, Singapore, Chinese Taipei, Thailand, USA and Vietnam. In addition, the representatives from Brunei, OIML, ASEAN ACCSQ, PTB and ILAC also participated the meeting.

3.4. Confirmation of the report of the 20th APLMF Meetings
The report of the 20th APLMF Meeting was approved without modification.

3.5. Report of the APLMF President
Mr. Pu Changcheng, the APLMF President, gave the President’s report. In his presentation, after he reports the brief introduction of APLMF and APLMF activities in 2013-2014, and he welcomed the guide development of APLMF. Furthermore, he emphasized the cooperation with OIML Advisory Working Group: Finally, Mr. Pu expressed his sincere appreciation to all Member Economies, WG Chairs, MEDEA CC and the APLMF Secretariat for their long term support and contributions to APLMF activities.

3.6. Report of the APLMF Secretariat
3.6.1 Activity of the APLMF Secretariat
APLMF Secretary, Mr. Guo Su reported the APLMF activities conducted since the 20th APLMF Meetings.

3.6.2 APLMF Project
1 Training Course on Traceability in Rice Moisture Measurement, held from November 25-29, 2013 in Northern Weights and Measures Center, Chiang Mai, Thailand
   Trainer: Japan, over 46 participants from 8 economies
2 Training Courses on Non-Automatic Weighing Instruments (NAWI), held from September 1-5, 2014 in Tropicana Hotel, Bandung, Indonesia
   Trainer: China, over 71 participants from 7 economies
3 Operational Planning Workshop for the Metrology: Enabling Developing Economies within Asia (MEDEA) Project, held from May 30- June 1, 2014 in Atria Paramount Serpong, Jakarta, Indonesia
   25 participants including 10 from Legal Metrology
4 EURAMET Workshop Training and Workshop on Principles of Awareness-Raising, Communication and Public Relations, held from September 17-18, 2014 in PTB, Germany
   Key Speaker: Dr. Julien Biere, PTB, APLMF, Turkey, Ireland, over 21 participants from 16 economies

3.6.3 Fund Application
- APEC Fund
  - Proposing Economy: China,
Title: Symposium for guide to the application of ionizing radiation metrology in medicine under legal metrological system

- China Government Fund
- Title: Support for Developing Economies

3.6.4 Survey

- Survey on Metrology Capability (MEDEA)
- Survey on Metrological Control for the Medical Measurement Instruments

3.6.5 Guide

- Completed: The Application of Ionizing Radiation Metrology in Medicine under Legal Metrological System
- Completed: The Complementary Controls of Medical Devices on Metrological and Medical Supervision
- New Proposal: Draft APLMF Guide to the Application of Pressure Metrology

3.6.6 Cooperation within MEDEA

- Welcomed in APLMF 20th Meeting in Nov. 2014, in Yogyakarta, Indonesia
- Meeting of Coordination Committee (CC) and Joint Planning Workshop in May 2014, in Serpong, Indonesia
- Workshop on Principles of Awareness-Raising, Communication and Public Relations of Metrology in Sep. 2014 in PTB, Germany
- ToR
- Procedure
- Work Packages

3.6.7 20th APLMF Meeting

Cooperation with Host, Trading Standards; Program and Agenda; Financial Issue; APLMF 21st Website; Invitations; EC Topics; Registration and Report Collected, Financial support, Organizing support

3.6.8 Liaison

- APEC SCSC/SRBs Meeting
  - February, Ningbo, China
  - August, Beijing, China
- OIML RLMO
  - November, Auckland, New Zealand

3.6.9 Contact points update on APLMF member economies

Ms. Suh-Chyin CHUANG, Deputy Director General, Bureau of Standards, Metrology and Inspection.................................................Chinese Taipei
3.6.10 Membership Fee
Most Member Economies make the contributions in a timely manner.

3.7. Presentation nominated by the host economy
The host nominated presentation was given by Mr. Martin Rushton, Principal Advisor, Trading Standards, Ministry of Business, Innovation & Employment. The title of his presentation was **New Zealand’s Approach to Enforcement & Stakeholder Engagement**. In this presentation, the contents covered the following aspects:
- Context - Overview of Legal Metrology in New Zealand
- National Stakeholders
- International Connections
- Enforcement ‘Pyramid’
- Project Focus
- Case Study

3.8. Working Groups Reports
7 WG chairs reported the outcomes and 2014 work plans from the WG meeting the day before. (Please refer to the part 2. WG meetings mentioned above)

3.9. Asia Pacific Metrology Programme (APMP)
Dr. Tim Armstrong Director, Measurement Standards Laboratory, Callaghan Innovation reported APMP activities highlighted below:
1. Important Developments
2. New Strategic Initiatives
3. General Updates
4. APMP GA 2014 – Korea, September
5. Forthcoming Meetings

Mr. Han Jianping: What is the role of APMP when it involved in APEC project?
Dr. Tim Armstrong: To improve regional metrology capability.
Mr. John Birch: Does APMP focus on climate change and /or Pacific Island?
Dr. Tim Armstrong: Will development project contribute to climate change.

3.10. Report of the Bureau of International de Metrologie Legale (BIML)
Mr. Stephen PATORAY as the director of BIML, gave update on BIML activities:
1. Report on BIML activities
2. Progress with the new OIML website
3. Member States and Corresponding Members
4. Approval of the 2013 accounts
5. Management of the Translation Center
6. BIML activities in liaison with other international organizations
7. Advisory group on countries and economies with emerging metrology systems
8. Special projects aimed at developing countries
9. Modeling: Benefits of legal metrology
10. Information regarding the RLMO Round Table
11. Implementation of the revised B 6: *Directives for OIML technical work*
12. The Basic Certificate System
13. The MAA

Mr. Stephen O'Brien: The new OIML website is an effective tool to raise awareness of metrology.

Mr. Stephen Patoray: A guide of how to access each part of new OIML website was demonstrated during the seminar in Auckland.

Mr. Stephen O'Brien: How to promote legal metrology and highlights concerning it will be the topic in World Metrology Day 2015.

Mr. Stephen Patoray: Look at the aspect of wave or radiation and how to perceive that as legal metrology.

Mr. Peter Mason: New understanding of legal metrology, application to regulation.

Dr. Grahame Harvey: Fundamental part of legal metrology is to define the legal units of measurement.

Mr. John Birch: Asked Mr. Stephen Patoray to clarify how corresponding members can contribute to OIML.

Mr. Stephen Patoray: TC/SCs secretariat should be member states, a corresponding member could be an observer, who can participate but cannot vote.

Mr. John Birch: How can APLMF test procedures be adopted by OIML.

Mr. Stephen Patoray: TC and projects need to have international perspective, it must have at least 2 region P members participating.

3.11. Report of the APLAC

Dr. Llewellyn Richards, Chief Executive, International Accreditation New Zealand, reports APLAC activities in following aspects.

1. APLAC- Its Role & Structure
2. Asia Pacific Laboratory Accreditation Cooperation
3. APLAC Membership
4. APLAC’s Role
5. Proficiency Testing
6. Technical
7. Training
8. APLAC - Primary Objective
9. APLAC - Subsidiary Objectives
10. Accreditation
11. APLAC MRA, Evaluation Team, Assisting Trade, Regulators

Dr. Charles Ehrlich: Did APLAC cover testing medical instrumentation? How much business involved?

Dr. Llewellyn Richards: APLAC cover medical testing laboratory. Details are available on website.

Mr. Stephen O’Brien: What experience does APLAC have with delivery of training?
Dr. Llewellyn Richards: Train the trainer, train the evaluator. APLAC has training budget itself.
Mr. John Birch: How do you accredit measurements in industry, particularly those not maintaining standards?
Dr. Llewellyn Richards: Testing laboratory within compliance with 17025, and may use industry testing methods.

Dr. Anna Cypionka, International Technical Cooperation, PTB, highlighted the new regional metrology project work as following.

- Project Framework
- Main Activities up to now
  - Establishment of a Project Coordination Committee (CC) and development of CC Terms of reference
  - Development of a Regional Capability Survey for Legal and Scientific Metrology
  - Planning Workshop in Jakarta/Indonesia, May 2014
  - Development of four joint, one APLMF and 5 APMP Work Packages
- MEDEA Joint Work Packages
- MEDEA APLMF Work Package
- MEDEA APMP Work Packages

Full Member Session
3.13. Secretariat Report
The report of the Full Member session was available only to the APLMF full members. Please visit the APLMF website for this information.

3.14. Economies’ Reports
Australia
Dr. Valerie Villiere from NMIA, Australia highlighted some major points in the economy report.

National Measurement Legislation
The amendments to the National Measurement Act 1960 (Cth) made in 2013 and detailed in last year’s report have now been fully integrated into Australia’s national trade measurement system; this includes:

- provisions for inspectors to request a driver to stop and move vehicles;
- provisions for inspectors to undertake trial purchases;
- providing discretion for inspectors to allow the continued use of measuring instruments for trade or the continued sale of packaged goods where there is a minor technical infringement, but no material detriment to any affected person; and
- clarification of the definition of a utility meter so that it is separated from the enforcement part of the Act and exempt utility meters can still be voluntarily verified if necessary.

Recent minor amendments to the National Measurement Regulations 1999 (Cth) have increased the fees levied for the examination and certification of patterns of measuring instruments by the National Measurement Institute (NMI). These reflect the increased costs of providing these services based on changes in the Consumer Price Index in Australia over the previous twelve months. These
amendments are in two parts. The first increased the fees by 2.9% from the 1 July 2014. The
second will be completed by the end of the 2014 calendar year and will insert an indexation provision
for these fees. This will increase these fees by an amount based on the annual change in the
Consumer Price Index in Australia over the previous twelve months on 1 July each year commencing
from 2015.
Amendments have also been made to the National Trade Measurement Regulations 2009 (Cth). The
main amendments that came into effect on 1 July 2014 ensure that the regulations reflect
widely-accepted commercial practices and:
• clarify that the requirement for approaches to weighbridges to have a perimeter that is clearly
indicated by painted marks only applies to weighbridges used for axle weighing or end-and-end
weighing;
• ensure consistency with Australia’s treaty obligations under the World Wine Trade Group
Agreement on Requirements for Wine Labelling for the position of the measurement marking on
standard-sized wine bottles;
• allow for the automatic indexation each year of the fee charged for the verification of a
measuring instrument by trade measurement inspectors;
• allow certain types of products to be sold by count, mass or both count and mass.
• clarify the units of measurement used for measurement marking of a product. Including clarifying
when alternate types of measurement can be used, based on when a ‘significant proportion of
merchants selling the product in Australia’, are selling it by reference to that accepted method;
• amend the scope of the exemption of utility meters from the National Measurement Act 1960
(Cth) so urban cold water meters with a maximum continuous flow rate of up to 16 000 L/h are not
“exempt utility meters”;
• allow the measurement markings for bed sheets, tarpaulins and similar goods to be in
centimetres where the length exceeds 100 cm.
• clarify the prescribed qualification requirements for the appointment of trade measurement
inspectors; and
• clarify terms including ‘garden landscape materials’, ‘pre-package’, ‘lot of packages’ and
‘pre-packaged product’.

Government’s Regulatory Reform Agenda
The Australian Government is committed to a regulation reform agenda that will drive productivity and
efficiency gains within the economy. A key feature of the agenda includes reducing the regulatory
burden for individuals, businesses and the community through reducing red tape by at least $1 billion
per year.
There will be two parliamentary repeal days every year to cut unnecessary regulation and streamline
existing regulation. On the first Repeal Day on 26 March 2014, 10,000 pieces and more than 50,000
pages of legislation and regulations were announced. This is expected to save over $700 million of
compliance costs from across the economy.
Every cabinet submission now has a regulation impact statement so that its potential impact on
business, community groups and households can more readily be identified.
All Commonwealth government portfolios have a dedicated deregulation unit, formed from existing
staff, to focus on repealing unnecessary laws.
Every department and agency is conducting a comprehensive audit of the costs it imposes on
individuals and entities so that it can estimate a dollar figure on the cost of compliance and reporting, and start reducing it every year.

To help implement the Government’s Regulation Reform Agenda, the Department of Industry Portfolio (which includes the NMI) is:

- stocktaking the portfolio’s regulation and costing the compliance burden;
- identifying possible areas of regulation reform that will contribute to the growth and productivity of globally competitive industries; and
- promoting awareness and assisting policy, programme and regulatory officers identify alternative responses to regulation, develop good quality regulation impact statements and undertake effective consultation with stakeholders.

**Utility Metering**

OIML TC12 has now finalised the revision of OIML R 46- Part 3, *Active Electrical Energy Meters*. It was approved by CIML 2013 in Vietnam. TC12 is now considering its next projects including:

- transformers (voltage and current);
- energy measures other than Active Energy;
- peak demand, maximum power;
- charging of road vehicles; and
- direct current systems

Within Australia the exemption for domestic electricity meters has been lifted. Now that OIML R 46 has been published, Australia will be moving to adopt it for pattern approval.

Australia has adopted OIML R 137 as the national pattern approval standard for gas meters. Australia is currently developing verification requirements and test procedures for gas meters.

Australia is currently consulting with stakeholders regarding the adoption of the 2013 edition of OIML R 49. This would replace the adopted 2006 edition of OIML R 49 as the national pattern approval standard for water meters for cold potable and hot water.

The exemption in the *National Trade Measurement Regulations 2009* was lifted on 1 July 2014 for all cold water meters with a maximum continuous flowrate of less than or equal to 16,000 litre per hour.

As a result, pattern approval and verification is now mandatory for these water meters.

**Conformity to Type**

Within Australia, NMI is promoting the introduction of CTT in sectors where few companies buy large numbers of measuring instruments. Considerable progress has been made in the water utility area where a joint industry-NMI code of practice has been developed with the Water Services Association of Australia.

Australia is currently coordinating CTT testing with industry members in accordance with codes of practice. It is expected that the first round of CTT testing will conclude by the end of 2014, with results consolidated by early 2015. It is anticipated that CTT will flow on to other classes of utility meters in due course.

**Quality Measurements**

OIML TC 17/SC 1 is responsible for the revision of OIML R 59 *Moisture meters for cereal grains and oilseeds* and TC 17/SC 8 is responsible for the development of a new OIML Recommendation on protein measuring instruments.

Australia, as the convener of TC17/SC8 p1, has prepared a fifth committee draft (5CD) based on
decisions at the last OIML TC 17/SC 8 meeting in the USA last year. The 5CD has been circulated to all members of the project group for their vote regarding the acceptability of the revised draft for registration as a draft recommendation. All comments and vote are due by 14 November 2014.

**Training**

Australia continues to work through the process of assessing more than 2000 verifiers and weighbridge operators. All verifiers of measuring instruments and at least one operator at each public weighbridge are required to hold a Statement of Attainment. A Statement of Attainment is awarded to those who meet the competency requirements set out in the defined assessment process. Individuals are required to submit evidence and undergo an interview with a qualified assessor. In the past 12 months, 1000 Statements of Attainment, covering a range of instruments classes and weighbridge operators were issued. There are 400 assessments yet to be completed. Around 8-10 inspectors are working full time on this project. On 1 January 2015 a new regulation will require all verifiers to have a Statement of Attainment in order to comply with the legislation (see earlier section of the report).

The requirement to demonstrate competence has continued to increase attendance at NMI’s training courses. Most applicants are making a genuine effort to ensure they understand and meet the requirements. By the end of 2014, more than 90 per cent of verifiers will have the required qualification so a significant reduction in applications for training and assessment is expected.

The eLearning (online) program for Weighbridge Operations has also been highly successful with 127 weighbridge operators enrolled and 80 per cent having already completed the assessment component. This program included both a training and assessment component. A similar program was launched for Verifying Non-Automatic Weighing Instruments in July 2014. This program was very complex to develop.

The servicing licensee and public weighbridge industries have given overwhelming support for the competency assessment program and acknowledged the program is adding value to their businesses and the national system of trade measurement. Statements of Attainment are increasingly being stipulated as a prerequisite for contracts or for employment.

The majority of licensees and their verifiers now comply with the competency requirements.

**Trade Measurement Services (Inspectorate)**

Since August 2014, NMI has appointed three assistant officers as inspectors with an additional 11 officers to be appointed in the next few months. Appointment as an inspector follows approximately twelve months training during which two mandatory qualifications for appointment are attained.

In mid-October 2014, Trade Measurement Services (TMS) is to take delivery of a new weighbridge test unit capable of carrying 22 tonne of 1 tonne weights and a forklift to test weighbridges throughout Australia. TMS has three test units.

The Hobart office moved to a new location on 1 July 2014. The new premises include a NATA accredited measurement laboratory and training room suitable for 12 attendees.

**Cambodia**

Mr. Polineavith Ngi from National Metrology Center of Cambodia highlighted some major points in the economy report.

1. Introduction
2. About NMC
Mr. Alan Johnston from Measurement Canada updated major issues in the economy report.

**Authorized Service Providers for device inspections**
As of September 30, 2014, there were 182 organizations authorized to perform inspections of mass, volume, electricity and natural gas measuring devices on behalf of Measurement Canada (MC), which represents an increase of 9 compared to last year. The vast majority of these organizations are located across Canada but 9 are located in the United States and Mexico due to the North American Free Trade Agreement. All authorized organizations were closely monitored and subject to audits and follow up inspections.

**Timber Dimensional Measuring Devices (TDMD)**
Stakeholders in the forestry industry approached Measurement Canada (MC) regarding developing approval and inspection requirements for technology used for measuring (scanning) logs. In 2014 MC, in consultation with stakeholders, completed development of new requirements to allow the approval and inspection of these devices in Canada. Mr. John Ellis, NZ Institute of Forestry is an associate member of the Canadian Standards Association Technical Committee on Scaling of Primary Forest Products.

The machines measure log length and diameters at several locations along the length of the log. Diameters are defined as the circumference of the log at a given location divided by the mathematical constant Pi. These measurements will subsequently be used to determine timber volumes, however as the method of determining volume varies from Province to Province, MC will not get involved in this aspect of usage and the devices will initially only be approved for linear measurements and not for direct measurement of volume.

So far MC and industry have run several tests of existing scanners in order to better understand their operation and use and to develop appropriate test procedures and standards. Manufacturers are using this information to help them make the necessary modifications to the devices so that they may be submitted for approval examination. To date, no manufacturer has submitted an application based upon the current requirements.

**Legislation and Regulations amended to introduce mandatory inspection of Weights and Measures Devices**
Amendments to the Weights and Measures Act and Regulations came into force on August 1, 2014. This has been a long term project that began with various trade sector reviews which lead to a number of recommendations regarding the appropriate level of Measurement Canada intervention in the marketplace.
Highlights of the legislative and regulatory amendments include:

- Requirement that measuring devices subject to the Weights and Measures Act be inspected at regular intervals in eight trade sectors (retail petroleum, downstream petroleum, dairy, retail food, fishing, logging, mining as well as grain and field crops) at this initial stage and possibly additional sectors later;
- Providing non-government inspectors the authority to perform mandatory examinations (inspections) pursuant to the Weights and Measures Act, but enforcement activities will remain with government inspectors;
- Increasing court-imposed fines under the Electricity and Gas Inspection Act and the Weights and Measures Act to $10,000 for minor offences, $25,000 for major offences and up to $50,000 for repeat offences, thus providing greater deterrence against measurement inaccuracy and improved consumer protection; and
- Introducing administrative monetary penalties (AMPs) under both the Weights and Measures Act and the Electricity and Gas Inspection Act.

These legislative and regulatory amendments came into force on August 1, 2014. The mandatory inspection frequencies will be phased in over a period of two to three years depending on the sector.

He introduced Mandatory Inspection frequencies:

National Technical Training Program
Through its National Technical Training Program, Measurement Canada continued to create videos on best inspection practices. Presently, twelve (12) such videos have been produced as follows:
- *Fair Measure for All* (2012), video DVD, 15 minutes in length, presents Measurement Canada’s history, mission, and mandate;
- *Signed, Sealed, Delivered*, interactive CD, 12 minutes in length, training module on the sealing of devices inspected under the *Weights and Measures Act*;
- *The Device Inspection Certificate*, interactive CD, 60 minutes in length, training module on how to fill out a Device Inspection Certificate in an accurate and concise manner under the *Weights and Measures Act*;
- *Retail Computing Scales: Standard Test Procedures (STPs) Demonstrated*, interactive CD, 40 minutes in length, training module on the application of standard test procedures for the certification of retail computing scales inspected under the Non-Automatic Weighing Device Specifications (NAWDS) pursuant to the *Weights and Measures Act*;
- *Retail Petroleum Dispensers with ATC: Standard Test Procedures (STPs) Demonstrated*, interactive CD, 40 minutes in length, training module on the application of standard test procedures for the certification of retail petroleum dispensers with automatic temperature compensation (ATC);
- *Vehicle Scales: Standard Test Procedures (STPs) Demonstrated*, interactive CD, 40 minutes in length, training module on the application of standard test procedures for the certification of vehicle scales pursuant to the *Weights and Measures Act*;
- *Truck-Mounted Petroleum Metering Assembly: Standard Test Procedures (STPs) Demonstrated*, interactive CD, 40 minutes in length, training module on the application of the Standard Test
Procedures to be accomplished before certifying a Truck-Mounted Petroleum Metering Assembly pursuant to the Weights and Measures Act;
- Electricity Metering Installation Inspections: Recommended best practices demonstrated, interactive CD, 45 minutes in length, training module on the application of the best practices to adopt while inspecting a complex electricity metering installation pursuant to the Electricity and Gas Inspection Act;
- Gas Measuring Apparatus Certification, interactive CD, 43 minutes in length, training module on the application of the best practices to adopt while undertaking the certification of gas measuring apparatus pursuant to the Electricity and Gas Inspection Act;
- Practical Evaluations: A "how-to" guide, interactive CD, 45 minutes in length, a guide for evaluators and those being evaluated on the application of Standard Test Procedures (STPs) for devices inspected pursuant to the Weights and Measures Act;
- Class III Weighing Devices: Standard Test Procedures (STPs) Demonstrated, interactive CD, 40 minutes in length, training module on the application of standard test procedures for the certification of Class III platform (electronic and mechanical) scales inspected under the Non-Automatic Weighing Device Specifications (NAWDS) pursuant to the Weights and Measures Act; and
- Electricity Metering Installation Inspections of Multiple Customer Metering Systems (MCMS): Recommended best practices demonstrated, interactive CD, 45 minutes in length, training module on the application of the best practices to adopt while inspecting MCMS installations pursuant to the Electricity and Gas Inspection Act.

The target audience for all of the videos are Measurement Canada inspectors and technicians employed by Authorized Service Providers recognized by Measurement Canada. All the materials are delivered in both official languages and pertain exclusively to Canadian legislation.

People’s Republic of China
Mr. Han Jianping on behalf of Chinese delegation gave the economy report covering the following aspects:

1. Improvement of the technical infrastructure with aim of traceability development
   - Strengthen the management on metrology technical regulations
     - Reviewed 1037 national regulations which issued over 5 years

2. Strengthen capability building of service and safeguard
   - Structure the industrial metrology testing system by serve the upgrade of industrial
     - Drafted inspection regulation of “National Industrial Metrology Testing Center”
   - Promote capacity building of metrology institutes in order to complete metrology technical service system.
     - Approval of new national type approval labs
     - Supervision on energy efficiency label
   - Support regional economic development by express regional metrology testing office duty on traceability
   - Promote unified legal unit of measurement
     - Participant in the activities on national standardization technical committee on SI
     - Drafted phases plan for national ionizing radiation unit
     - Supervision on adopting national legal unit of measurement in publication
3. **Focus on metrology supervision and inspections in priority areas**
   - Carried out relevant works on cancel and decentralize administrative approval items of metrology
   - Strength work on measurement on energy efficiency
   - Made steady progress on system building of metrology law and regulations
   - Inspection measuring instrument in super market, medical institution
   - Provide free service in primary, junior high school and country area;
   - Inspection on utility meters, pre-packaged goods and over packaged goods.
   - Inspect and assess the 31 legal metrology authorities at provincial level.

4. **International cooperation**
   - Undertaken the leadership in OIML Advisory Group (AG) for Countries and Economies with Emerging Metrology System (CEEMS)
     - Drafted work program of CEEMS
     - Developed ToR, webpage content and survey summary report of AG
     - Reported in CIML Meeting and got approved work plan 2015
   - Actively participated in relevant OIML TCs’ activities (such as OIML TC8/SC3, OIML TC7/SC4).
   - Participated in the 3rd China-Russia workshop on energy metrology in Russia
   - Have had bilateral meeting with NMI, Netherlands on metrology cooperation between AQSIQ and NMI.
   - Renewed the MoU with NMO, UK
   - Passed OIML MAA peer review
   - Participated Sino-Swiss FTA TBT/SPS 1st committee meeting
   - Carried out 8 international comparisons

5. **World Metrology day**
   - Issued a publication on “Metrology History of New China”
   - Event on Metrology Science and Technology Progress Award
   - Free distribution of all kinds of promotional materials, and posters 77.9 million copies
   - Testing, repairing measuring instruments 2 million units (sets) for free.
   - Carry out law enforcement inspection for measuring instruments in total of 7.4 million units (sets)
   - Training for key energy consumption organizations 311 sessions
   - On-site guide of how to equip and manage energy measuring instruments in 5969 enterprises.

**Hong Kong China**
There is no representative attending the Forum meeting.

**Indonesia**
Mr. Priyo Syamsul from DOM, Ministry of Trade of Indonesia has covered following aspects in the economy report.
Introduction

Legal metrology activities in Indonesia are governed by the Act on Legal Metrology, aimed at protecting public interest by ensuring the truthfulness of measurement processes and legal confidence in the use of units, standards, methods of measurement, and measuring instruments. As a part of trade development, one element noted in the national policy on long-term and mid-term national development is that economic growth must be accompanied by strong domestic trade in order to maintain the stability of prices and domestic logistics, the competitiveness of domestic products, market trust, and fair trade.

It was considered that legal metrology is an effective tool for market surveillance, and should be used as a focus for strategies aimed at establishing fair trade, both for consumers and suppliers as market players, with the objective of boosting the growth of the domestic economy.

This target cannot be met unless both consumers and suppliers have the necessary level of awareness in creating trust through legal metrological control.

National Activities

1. National Regulation

   Metrology activities in Indonesia will effect and changed significantly since Law No. 23 on District Government taking into a force. The significant change is on legal metrology activities such initial and subsequent verification and supervision that no longer provincial government authority but it become city government authority. Thus will effect on the ability and infrastructure availability of city government to execute metrological activities.

   Indonesia still in progress to develop new metrology law and has published 3 Ministerial Decree on Initial and Subsequent verification, Metrological Human Resources, and Supervision on Measurement Instruments.

2. Capacity Building

   In order to increase the competency of human resources in the field of legal metrology, Indonesia hosted APLMF Training Course on NAWI on 1 – 5 September 2014 in Bandung (40 participants) in collaboration with APLMF.

   Indonesia proposes to host a training course on water meter in 2015 in collaboration with APLMF.

3. Public awareness in legal metrology activities Program

   In 2014, Indonesia organised a national seminar aiming to promote and to boost public awareness in legal metrology. The seminar was held on 20 May 2014 in Solo, Central Java, the objective to improve understanding of legal metrology at national level and to celebrate the World Metrology Day.

Mr. John Birch: Asked how many metrology authority are responsible for supervising metrology in Indonesia?

Mr. Priyo Syamsul: Legal metrology activity was conduct under each province.

Japan

Mr. Satoshi Miura from Ministry of Economy, Trade and Industry, Japan gave the economy report focused on the following five aspects:

- Organizational Restructuring of METI
Organizations Related to Measurement Act
- Metrology Policy Office METI
- Measurement Administration Council
- Local Govt.
- National Metrology Institute of Japan (NMIJ)
- Japan Electric Meters Inspection Corporation (JEMIC)
- National Institute of Technology & Evaluation (NITE)

Structure of the Measurement Act
1. Establishment of Standards for Measurement
   - Unification of Measuring Units
   - Calibration of Measuring Instruments (JCSS)
2. Implementation of Appropriate Measurement
   - Supply of Accurate Measuring Instruments
   - Production, Repair and Sales
   - Verification, Type Approval & Designated Manufacturer
   - Implementation of Appropriate Measurement
   - Control over Weighing Commodities
   - Measurement Certification Business
   - Promotion of Autonomous Measurement
3. Calibration of Measuring Instrument (JCSS)
4. Enforcement and Penalty

Participation in the OIML Activities
International Activities
- TC 17 / SC1 (Moisture) / SC 8 (Protein) meeting in July, 2013
- TC 6 (Pre-packages) meeting in September, 2013
- TC 9 (Instruments for Measuring Mass and Density) meeting in March, 2014
- Mutual Acceptance Arrangement (MAA) meeting in March, 2014
- TC 8 / SC 3 (Liquids other than water) meetings in April, 2014
- TC 6 (Prepackages) meeting in September, 2014

Domestic activities
Operating domestic mirror committees for OIML TCs/SCs participated by:
- Ministry of Economy, Trade and Industry (METI)
- National Metrology Institute of Japan (NMIJ)
- Manufacturers belonging to the Japan Measuring Instruments Federation
- Users and Consumers, etc.

Incorporating Technical Requirements of Measuring Instruments into JIS
Training Activities
- The Asia-Pacific Legal Metrology Forum (APLMF)
2. Course on rice moisture measurement in Thailand (Nov. 2013)
   ◆ International Cooperation
   Training programs in legal metrology with co-sponsorship by Japan International Cooperation Agency (JICA)
   1. JICA Programs for the economies in Asia Pacific, Middle East and Africa (1973~2010)
   2. JICA bilateral program (2014)
   • Manufacturers’ Classification for Producing Specified Measuring Instruments
     ■ Notified Manufacturers
     Every manufacturer of specified measuring instruments must file a notification to the Minister via a prefectural governor before production and sale (compulsory)
     ■ Type Approved Manufacturers
     Once obtaining “Type Approval” from NMIJ or JEMIC, the manufacturer is exempted from “structural & performance checks” at initial / periodical verification.
     ■ Designated Manufacturers (Quality Control: ISO9000 Series)
     Once designated as a “Designated Manufacturer” by the Minister, the manufacturer is allowed to conduct the initial verification and attach a stamp to show the compliance with a technical regulation.

Democratic People’s Republic of Korea
No representative from DPRK attended forum meeting.

Republic of Korea
Ms. Soon Young Joo from KATS (Korean Agency for Technology and Standard), Republic of Korea reported the legal metrology activities since the last meeting in the following aspects.
   • Legal Metrology System
     Under the Measures Act, the Korean Agency for Technology and Standards (KATS) is authorized to legislate and operate the legal metrology system of Korea.
     The Measures Act passed in the National Assembly, the ordinance and regulations of enforcement are under amendment. The key point of amendment is to protect the consumer against manipulation through opening the list of illegal manufacturers to the public and clawing back illegal profits.
     KATS has also revised requirements of self-verification system to ease burden of industry and promote autonomy for manufacturers.
     As the regular inspection is conducted once every two years, this year KATS has conducted the inspection with local government officials for whole range of legal measuring instruments including Non-automatic weight instruments.
     Web-based management system for metrology was developed in June 2013. It has been operated from the beginning of this year and provided information of metrology system, type approval and verification.

   • Revision of technical regulation
     In 2014, KATS has revised a technical regulation for non-automatic weighing instruments (NAWI) to meet international recommendation (OIML R 76). Moreover, all technical regulations are under the
Use of SI units

Korea has prohibited the use of non-SI units in commercial transactions. However, non-SI units such as geun (weight), ja (length), dae (volume) and pyeong (area) are still used, and this causes confusion. To this end, we are working to spread public awareness via radio announcement, the Internet, outdoor signboards and other media. Since 2010, KATS has imposed fines on businesses that continue to use non-SI units in the media.

Pre-packaged Products

KATS specifies and manages 26 kinds of daily necessities (detergents, beverages, etc.) as pre-packaged products that normally trade in the units of weight, length, volume and, etc. KATS keeps making efforts to raise awareness of SI units among stakeholders and industries, and supervising all related products not to exceed error tolerance defined by the Measure Act. In 2014, KATS conducted inspection of pre-packaged products in the market place and found that none of the 506 items of 26 kinds of pre-packaged products did not exceed permissible error.

Training & Reward

To ensure the efficient and professional operation of legal metrology systems, KATS regularly organizes internal training programs to improve the capabilities of local government officials and personnel responsible for verifications and inspections. KATS plans to strengthen cooperation with other national metrology institutes and hosted OIML TC 6 (Pre-packaged products) meeting in Sep. 2014. This year, KATS hosted an exhibition to promote the industry of metrology and awarded 5 industries and 21 people that contributed to the improvement of metrology.

Malaysia

Dr. Abdul Rahman Mohamed from NML-SIRIM, Malaysia updated on the Current Development/Activities in Legal Metrology.

1. THE NATIONAL MEASUREMENT SYSTEM

In Malaysia, similar to other countries, legal measurement for different fields are administrated by different authorities under different enforcement Acts. There are 2 Acts which specifically focus on legal metrology. They are National Measurement System Act 2007 (NMSA 2007) and Weights and Measures Act 1972 (WMA 1972).

The NMSA 2007 provides for the establishment of a National Measurement Standards Laboratory (NMSL) whereby the National Metrology Laboratory at SIRIM Berhad (NML-SIRIM) is then endorsed by the Ministry to be the NMSL for Malaysia. Being the National Measurement Standard Laboratory, NML-SIRIM is also:
Amongst the main role of NML-SIRIM as the Custodian of Weights and Measures are:
- Realization, establishment and maintenance of the national measurement standards based on SI;
- Pattern approval of weighing and measurement instruments for trade use; and
- Provide technical advice and support in implementation of Weights and Measures Act.

The Weights and Measures Act 1972 (WMA 1972) is an Act to regulate weights and measures and instruments for weighing and measuring, and to make to make provisions for matters connected therewith. This Act is applicable to the whole of Malaysia and is enforced by the Ministry of Domestic Trade, Cooperatives and Consumerism (MDTCC). In 2005, the Minister has granted a license to a company, known as Metrology Cooperation Malaysia (MCM) to perform any of the functions of the Inspector of Weights and Measures such as verification, stamping etc. (except enforcement duties).

2. Updates on Current Development of Legal Metrology in Malaysia

2.1 Pre-packaged Products Regulations
The setting up of a mini Pre-Packaged Products Laboratory at MDTCC office has already been completed where internal training programs based on ASEAN Common Requirements for Pre-packaged Products are still being conducted at regular basis. This is to ensure that all staff who are involved are fully competent and well-versed with this ASEAN harmonized requirements which is scheduled to be implemented across the ASEAN region by early next year.

Besides the trainings which were conducted in the laboratory, trainees were also exposed to the real inspection environments through mock-up inspections to the industries who voluntarily requested MDTCC to inspect their pre-packaged products. These inspections were successfully conducted where the pre-packaged products were collected from their facilities based on the harmonized sampling procedures. However, the products were tested at the mini Pre-Packaged Products Laboratory in MDTCC for detailed inspection cum training.

2.2 Amendment of the Weights and Measures Act 1972 (WMA 1972)
The amendment work is still in progress where the Legal Division of MDTCC is still in the process of vetting all the proposed amendments. Once completed, the proposal will be presented to the Working Group Committee to be finalized, then submitted to the Minister for endorsement.

2.3 New instrument to be regulated
2.3.1 Rice Moisture Meter
Gazetting the rice moisture regulation under the WMA 1972 is still in progress. National Metrology Laboratory, SIRIM Berhad (NML-SIRIM) who is responsible for the establishment of the traceability system of the rice moisture measurement in Malaysia is at her final stage to complete the traceability system. Once the traceability system is completed, the rice moisture measurement will then be enforced by the MDTCC.

2.3.2 Egg Grading Machine
The reason to verify the egg grading machine is due to many complaints received from consumers on the grading system currently used to determine the size of eggs sold in Malaysia. The current grading system creates confusion amongst the consumers in making decisions when buying eggs in the market. Therefore, MDTCC initiated a series of discussions with the players of the farm eggs industries where positive feedback has been received towards standardised/harmonised system to be used. The players also agreed that the Egg Grading Machine be classified under regulated instruments, to ensure that the grading machine used by them is capable of classifying eggs based on the new regulation on the size of eggs. Discussion sessions between MTDCC, NML-SIRIM and MCM are being carried out on a regular basis to make sure that the future implementation is successful and it is fair to any parties involved in commercial transactions of eggs.

2.3.3 Tyre Pressure Gauges
Discussions with the Ministry of Transport and other related authorities on the intention of the MDTCC to regulate any pressure gauges (that are intended for the measurement of the inflation pressures in motor-vehicle tyres) which are provided to public had reached good responses. Those related authorities agreed that this type of instrument needs to be classified under regulated measuring instruments under WMA 1972 and need to be verified at regular time intervals. This is in line with the government policy towards improved safety measures to the motorists. Regular discussion sessions between MTDCC, NML-SIRIM and MCM are still being carried out so that this new regulation could be implemented smoothly and efficiently.

2.4 Pattern approval
There has been a significant increase in the number of requests for the approval of domestic water and energy meters within the past 3 years due to requirements set by the National Water Services Commission (NWSC) and Energy Commission (EC), respectively. The two Commissions are introduced by the Government to regulate the activities at federal level.

Mr. Ralph Richter: Interested in testing Tyre Pressure and it's regulation in Malaysia.
Dr. Abdul Rahman Mohamed: Malaysia wants to put effort on regulating Tyre Pressure.

Mongolia
No representative from Mongolia attended Forum meeting.

New Zealand
Mr. Kevin Gudmundsson from Trading Standards, Ministry of Business, Innovation and Employment, New Zealand highlighted the main issues in the economy report.

• Reducing the physical strain of testing 20kg Standards
A Trading Standards Officer, who previously worked as an engineer, has designed, developed and installed a mass handling system into Trading Standards weights and measures laboratories. The brief was to develop a system that would help reduce the risk of muscular strain on Officers while lifting 20kg mass standards.

The new mass handling system means that 20kg standards now require only to be handled twice - once to load the pallet and again to unload. This compares to the previous method which could see up to up 8 lifts per weight during the testing and calibration processes.

They are now lifted onto a custom built pallet that can hold up to 300kg, which is transferred to a roller
table by forklift. The rollers allow the pallet to be lined up with a row of weights, which sit under a monorail that supports an actuator (lifting rod). The actuator has two speeds for lowering the weights - initially rapid down then slow creep for the last 50mm. The creep speed function allows the mass under test to be placed gently onto the balance or comparator, which has a block of high density foam on the receptor to reduce shock loading and a self-levelling pan.

The reference standard sits on the ‘nest’ behind the balance and swings around on its arm against a stop so it always returns to the centre of the pan. The adjusting table is on the left.

The system has been in use since November 2013 and all officers are very happy with how it is performing.

If you would like more details on the design, please contact kevin.gudmundsson@mbie.govt.nz

A short video has been created that has been entered for the Ministry of Business Innovation and Employment (MBIE) Health and Safety initiative award.

• Interactive map for finding approved verifiers

Like many other legal metrology authorities, Trading Standards operates an approved verifier scheme or as it is referred to in New Zealand an Accreditation Scheme. Trading Standards receives many enquiries from traders and companies requesting information on which approved verifiers (or Accredited Persons APs) are locally available and if one can be recommended or even to confirm that they are legitimate.

Trading Standards has developed an interactive facility that will allow inspectors to direct business and traders to the Trading Standards website to find the contact details of approved verifiers operating in their region. It is a simple matter of clicking on a map of New Zealand for a particular area and category of instrument and a list of relevant accredited persons will appear automatically. This has allowed inspectors to remain impartial and also serves as a credibility check for businesses to confirm that a technician is from an accredited company.

A further benefit to APs of this tool is that it will serve as a source of advertisement for their services. The tool will also be promoted by www.business.govt.nz, which is a website owned by MBIE that provides support to small and medium sized businesses.

The online tool is available on our website and has been made available to numerous industry associations within NZ.

• Fuel Service Stations receive metrology education

Following the recent rebranding of Trading Standards and the high frequency of staff changeover at fuel service stations, Officers were encountering some significant delays in confirming their authority to access fuel dispensers to carry out a compliance inspection.

A document outlining the role of Trading Standards Officers, the testing procedure and the health and safety procedure that will be followed while on site was developed through consultation with all fuel companies.

The final version was distributed to all fuel companies for inclusion into their on-site manuals. Many fuel companies have also introduced a policy for their new staff to read the document as part of their introduction.

• I-pads for Inspections

Trading Standards has piloted the use of the I-Auditor app on I-Pads to record its inspection activities on a real time basis when working away from the office. I-Auditor is a free to use customisable app that allows the user to create bespoke audit templates and reports. It is anticipated that the I-Auditor
app will replace all inspector test sheets from instrument testing to average quantity inspections. There are a number of advantages of using this type of data capture.

The pilot has proven to be very successful and the following project benefits can be realised:

- A reduction in process & work involved relating to data capture;
- GPS locating for site location details that avoids incorrect or duplicate address records;
- PDF export & Email integration;
- Sign off section for completed audits by both parties to the audit;
- Professional looking assessment & (client) reports;
- Much faster outcomes of assessments provided back to the client;
- Decreased (client) reporting inconsistency (Templates, modified templates and hand written notes);
- Decreased Database inconsistencies;
- Standardised audit/assessment process through the use of bespoke TS templates;
- Real time recording, report writing and distribution;
- Audit reports compiled and disseminated whilst on site; and
- Ability to add media such as photos/sketches to reduce time spent writing explanations or demonstrating compliance requirements.

Trading Standards is very pleased with the realisation of these benefits and the development of further bespoke iAuditor templates is currently underway.

Before increasing the investment in I-pad’s and I-Auditor licenses Trading Standards wants to confirm it is feasible to fully utilise the data collected in the I-Auditor templates to improve management reporting and building a collection of data relating to inspections completed on a site over time.

- **Working with industry to achieve an accurate quantity in products**

Trading Standards has moved to a more project based method of operating. This has seen an increase in communication with relevant industry associations due to a focus on improving the accuracy of a particular market sector or product type. Building strong working relationships with these associations, allowing them to participate and contribute to a process that directly affects their industry, has seen a greater willingness to adopt a new test method or change a manufacturing process.

The projects based approach has also aligned with identified task of the APLMF working group for goods packed by measure.

- **Seafood**

Average Quantity Inspections on glazed seafood products revealed that some manufacturers were increasing the gross weight of the product by applying an excess amount of water used to glaze the product. Sample inspections completed at supermarkets gave the impression that glazed prawns were being significantly over packed, however once the prawns were deglazed, packages were found to be between 4%-7.5% deficient.

Trading Standards has developed a guidance document for the seafood industry. This includes a test procedure for determining the net weight of glazed seafood and an explanation of the relevant requirements within the Weights and Measures Act and Regulations.

This document has been produced as an attempt to obtain consistency and transparency following a number of Infringement Offence Notices (fixed penalties) being issued for non-compliant batches.

- **Compost**
Proactive inspections by a Trading Standards Officer found significant deficiencies in the quantity of growing media products (composts and soil conditioners) sold at retail level in New Zealand. A sampling exercise highlighted that these deficiencies were industry wide and revealed that consumers were being disadvantaged by 3%-5% on each package purchased.

The packing process involves the product being funneled through a hopper into a measuring cylinder (commonly 40L), which was then gravity fed into the packaging. The product is immediately compressed due to the final gravity drop that follows the measurement process. The package is further compressed when stacked on a pallet.

A meeting was held with all major industry members to devise an accepted test method that was fair to both industry and consumers. The test procedure involves aerating the product and it was agreed that enforcement sampling would be based on this method.

A guide has been produced which provides a step by step process for calculating the volume of packaged growing media products up to 50L.

- **Ice cream**
  It is estimated that New Zealanders consume 23 Litres of ice cream and related products per annum. This makes New Zealand one of the highest consumers of ice cream in the world. The industry exports 9,000 tonnes each year.

Trading Standards have been working with the ice cream industry association (NZICMA) to develop a standardised test method. The primary issue identified by the industry is that the density of the product will vary throughout the process. Legal metrology bodies from other economies have also assisted in providing resources and their knowledge on how to accurately test this product.

The most suitable and practical method for testing ice cream for both legal metrology officials and industry members is displacement. This method will require the product to be destroyed but due to the varying density figure and the relatively low cost per unit figure, the industry is in agreement.

Using a displacement bath, a products’ volume can be directly measured by the volume of water that is displaced.

The next step is to develop a step by step industry guide for both ice cream on a stick or in a container. Schematic drawings of both the small and large displacement baths will also be developed for industry and APLMF members who want their own.

- **Beer**
  Beer manufacturing in New Zealand is a growing industry. The recent boom of micro-breweries now provides consumers with a large selection of bottled and canned beers, some of which are from small one off batches. Large commercial beer companies tend to have fully automated systems whereas craft breweries generally have a significant manual element to their packing process, which may lead to increased behavioural errors occurring. Ensuring all companies, regardless of size, are packing to their stated net quantities would bring a level playing field for all industry. Trading Standards has conducted some preliminary sampling using octanol to de-foam the carbonated beer and measuring it using a graduated cylinder. This simple destructive method identified significant quantity deficiencies in batches of both bottled and canned beers packed by brewers of all sizes.

To avoid destructive testing of this high value product during an average quantity inspection, Trading Standards is working with the Measurement Standards Laboratory (New Zealand’s primary lab) to develop a simple but accurate method for determining density of beer. Trading Standards Officers
have witnessed manufactures carry out many different methods of how to determine a package of their beer contains the stated quantity, some of which are contained in the OIML G 14 document on density. Industry has welcomed and been very supportive of this project, especially the smaller passionate craft breweries that can’t afford high-tech laboratory equipment capable of measuring a carbonated liquid.

- **Portable LPG cylinders**

  In New Zealand Liquefied Petroleum Gas (LPG) is used as a fuel for home heating, fuelling vehicles, cooking and running other gas appliances. New Zealand produces enough LPG to supply the domestic market and it is produced from several sites within the west of the North Island.

  LPG is typically supplied to the consumer either through pipes, where consumption is metered or in portable LPG cylinders (Bottled LPG). Portable LPG cylinders may be filled in-situ at consumers’ premises or filled at an LPG filling station and delivered on request. A portable LPG cylinder is deemed by Trading Standards to be a package and therefore must comply with the Weights and Measures Act.

  The most common size of cylinder delivered to a consumer is the 45kg cylinder. The statement of 45kg refers to its net contents. This type of transaction is often referred to as an ‘exchange cylinder’, ‘swappa bottle’ or similar.

  In response to consumer complaints Trading Standards has been investigating;

  1. The fill weights of 45kg cylinders, to ensure they meet Average Quantity System (AQS) requirements i.e. they contain 45kg of LPG.
  2. The amount of LPG which is returned to the supplier and cannot be used by the consumer because it is inaccessible.

  Typically the New Zealand consumer purchases a cylinder of LPG for a set price fixed by the supplier. Depending upon the LPG bottle supplier’s policy a consumer may or may not be credited for any residual gas returned to the supplier within the cylinder. The LPG within a cylinder is stored under pressure. For various reasons the pressure of the gas stored within can decrease to a point where it becomes inaccessible. Under certain conditions a cylinder may appear to be empty even though it still contains gas. Factors such as very cold climatic conditions can cause the gas to stop expelling from the cylinder. The cold climate conditions, as experienced in a New Zealand winter, are when consumption of LPG is at its greatest. The effect of cold climatic conditions can be enhanced by a process known as ‘evaporative cooling’, which can further decrease the temperature of the cylinder to lower than that of its surrounding environment. When a cylinder ceases to yield gas the consumer will typically order a replacement cylinder; returning the used but not empty cylinder to the supplier.

  A nationwide investigation has been carried out by Trading Standards and 400 cylinders have been sampled at 12 filling stations. It was found that LPG filling stations were meeting their requirements under the average quantity system. Officers also recorded the residual LPG being returned to the supplier within the bottle. It is interesting to note that on average cylinders are being returned to the supplier for refilling containing 10% of LPG. Suppliers have a range of policies with regards to crediting residual gas.

  Currently Trading Standards is investigating how the Weights and Measures Act can be applied to this scenario where consumers are not able to use the full quantity of the goods purchased.

- **Training Samoan Inspectors**
Weights and Measures Legislation has recently been passed in Samoa and Trading Standards accepted a request from our Samoan colleagues to provide a two week training course in May 2014, which coincidentally coincided with ‘Samoan Language Week’. Officers provided a hands-on approach for testing and calibration of weighing instruments and driveway flowmeters, length measuring instruments, the average quantity system, approvals and enforcement. Site inspections also took place at a supermarket, fuel station and also two visits with accredited persons.

The training delivered was tailored to the specific requirements of the new Samoan Act and Regulations, which made it more realistic and helpful for the two participants.

Papua New Guinea
No representative from Papua New Guinea attended the Forum meeting.

Philippines
No representative from Philippines attended the Forum meeting.

Singapore
Ms. Lena Soh Mei Lin from SPRING Singapore focus on the key activities in Singapore include:
The Weights and Measures Office (WMO) in SPRING Singapore plays an important role in protecting consumers and traders by regulating the use of weighing and measuring instruments used for trade and pre-packaged goods. It ensures that a uniform and accurate system of weights and measures is used in Singapore, thereby ensuring fair trade and correct measurement for excise tax computation. Since 2006, WMO has made several initiatives to ensure that the Weights and Measures Programme remains relevant for consumers and businesses and aligned with international practices.

Key initiatives to the Weights and Measures Programme include:
1. The Jurong Rock Caverns (JRC), the first commercial underground rock cavern storage facility for liquid hydrocarbons in Southeast Asia, was officially opened on 2 Sep 2014. It will be a key support for Singapore’s petrochemical industry. It will be used to store liquid hydrocarbons such as crude oil and condensate. Tunnels measuring 9 km provide access to the caverns, and there are five of them, with a total capacity of 1.47 million cubic metres - a storage capacity equivalent to 600 Olympic-sized swimming pools. The flowmeters used for the Jurong Rock Caverns are verified and sealed by WMO.

2. The use of mass flowmeters in the bunkering industry is still on-going. To date, 22 bunker tankers have participated in the test-bedding programme, and the first commercial bunker delivery using a mass flow meter took place in June 2012. The bunkering industry has also overseen the successful completion of more than 700 bunker deliveries under the test-bedding programme. 21 bunker tankers have been fitted with mass flow metering systems and are in the process of being approved for use in our Port. The Maritime Port Authority (MPA) of Singapore with WMO have also published an Industry Guide on the Mass Flow Metering System. Taking it further, it has been announced that Singapore will implement mandatory adoption of mass flow meters for bunkering in the Port of Singapore from 1 January 2017. As the first port in the world to mandate the use of mass flow meters for bunkering, we will set a new benchmark for bunkering practices worldwide. Under this
new framework, all existing and new bunker tankers operating in Singapore must be fitted with an approved mass flow meter for Marine Fuel Oil delivery by 31 December 2016.

3. We continue to engage several local regulators with a view to collaborate in the area of weights and measures. They include:
   (a) Singapore Customs;
   (b) Council of Estate Agencies (CEA); and
   (c) Urban Redevelopment Authority (URA).

4. We have moved to a new location at No. 1 Fusionopolis Walk, #01-02, South Tower, Solaris, Singapore 138628. All contact details remain unchanged.

Chinese Taipei
Mr. Jin-Hai Yang from Bureau of Standards, Metrology and Inspection, Chinese Taipei summarized activities and development in legal metrology field since the last Forum meeting.

- **Weights and Measures Legislation**
  Chinese Taipei keeps improving its legislation infrastructure on metrology. During the past year several metrology-related regulations, technical specifications and standards have been amended and enacted. Furthermore, the Weights and Measures Act has been being reviewed. All these efforts were aiming to ensure that the legal metrology structure in Chinese Taipei meet the needs of all sectors domestically and to harmonize with the international trends.
  The main amendments of legislation are:
  - **Regulations Governing Verification and Inspection of Measuring Instrument**
    Diaphragm Gas Meters with maximum flow-rate larger than 100 m$^3$/h as well as Hand Held Hanging Luggage Scale with maximum capacity not more than 50 kg, mercury-in-glass thermometers and combination water meters have been ruled out from verification required while the corn moisture meters is subject to verification.
  - **Regulations Governing Disputed Expertise of Measuring Instruments**
    In the case of any dispute arising between the parties to a trade transaction about the accuracy of utility meters, an application for expertise may be filed to BSMI, according to the Weights and Measures Act. However, public doubt the adequacy that the utilities take the concerned instruments to the laboratory where the expertise be conducted. Therefore, BSMI is to summon a hearing to settle the argument.
  - **Regulations Governing Type Approval of Measuring Instruments**
    BSMI ruled out Hand Held Digital Portable Travel Luggage Scale from type approval required, due to most of which not being used for trade.
  - **Regulations Governing Self-verification Conducted by Measuring Instrument Enterprises**
    The new edition of Regulations Governing Self-verification Conducted by Measuring Instrument Enterprises authorizes measuring instrument enterprises implement re-verification. Meanwhile, the new regulations authorizes BSMI to recognize the test report of type evaluation issued by laboratories designated by New Zealand’s competent authorities, according to the Agreement between New Zealand and the Separate Customs Territory of Taiwan, Penghu, Kinmen, and Matsu on Economic Cooperation (ANZTEC), an agreement between Chinese and New Zealand.
  - **The Categories and Scope of Self-Verification Conducted by Measuring Instruments**
Enterprises
BSMI has extended the categories and scope of measuring instruments to electronic non-automatic weighing instruments that are not subject to type approval, as well as mechanic non-automatic weighing instruments with dial indicator. However, fixed weighbridge and portable weighbridge are still excluded from the categories of self-verification.

- **Technical Specification for Verification and Inspection of Diaphragm Gas Meters**
  Diaphragm gas meters with maximum flow-rate larger than 16 m$^3$/h that are not subject to type approval have been ruled out from the testing at flow-rate $3Q_{\text{min}}$ when conducting verification. On the other hand, Diaphragm gas meters with maximum flow-rate not larger than 16 m$^3$/h that type approval is required have to be tested at flow-rate $3Q_{\text{min}}$, by sampling, as current requirement.

- **Technical Specification for Verification and Inspection of Weighing Instruments**
  Weighing instruments with pricing count function will not be attached a verification mark after passing verification and the verification validity of automatic gravimetric filling weighing instruments and discontinuous totalizing automatic weighing instruments will be 1 year, according to the new edition Technical Specification for Verification and Inspection of weighing instruments.

- **Technical Specification for Verification and Inspection of Vehicle Exhaust Emissions Analyzers**
  This previous edition was issued in July 2003 and wasn’t being reviewed for a decade. The new one is based on OIML R99: 2008.

- **Technical Specification for Verification and Inspection of Corn Moisture Meters**
  Due to the request from the Council of Agriculture, the corn moisture meters will be subjected to verification in the future.

- **Legal metrology Affairs**
  Six examinations for metrological technical personnel were held in 2014, two for Class B metrological technical personnel and four for Class A metrological technical personnel. The examination has been held since 2010. Up to now, there have been 2195 examinees passing the examinations. According to regulations, Technicians of Measuring Instrument Enterprises authorized to do self-verification and laboratories contracted to do verification have to pass the examination.

- **Other Activities**
  1. An e-learning website (http://metrology.bsmi.gov.tw/), set up by THE BSMI to provide related metrological knowledge, was updated for adding lifelong learning sections and new interface in 2014.
  2. The BSMI cooperated closely with museums and schools domestically holding 37 activities in 2014 to disseminating the basic concept of metrology and the importance of metrology to students.
  3. Six sessions of training were scheduled to hold in 2014. These training programs, focusing on the metrology and verification skills, compulsory execution and administrative enforcement of metrology management, had been completed.
  4. Volunteer -Self-management measures on gas stations and traditional markets.
  To ensure the accuracy of weighing instruments used at traditional markets and dispensers installed at gas stations, the BSMI encourages gas station and traditional markets, based on volunteer, to adopt necessary procedures periodically, such as testing the dispensers or weighing instruments regularly by calibrated standards with traceability, keeping the error of instruments less than MPEs, holding all maintenance records. By implementing those procedures, dispensers and weighing instruments would be kept in good condition and precise. Meanwhile, the BSMI will overview those
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gas stations and traditional markets and issue a remark if they meet some certain requirements. Up to date, there are 880 gas stations and 60 traditional markets having received the mark.

4. World Metrology Day activities
Corresponding to the theme of 2014 World Metrology day, Measurements and the global energy challenge, Chinese Taipei held a series of seminars, workshops and training courses, working with relative associates, to address the necessity and on the importance of measurement on energy. These activities lasted for month long, started from April 29 to June 20.

- Future Plan
Ministry of Transportation and Communication (MOTC) is working on new model of taximeter. However, BSMI implements the type approval and verification on taximeters. In order to remove the duplicate legal measures on taximeters by two authorities, the BSMI is elaborating with MOTC closely. Therefore, the Technical Specification for Verification and Inspection of Taximeters, the Technical Specification for Type Approval of Taximeters and Corn Moisture Meters and the Directions Governing Type Approval of Taximeters are under reviewed. Furthermore, the taxi fare is to be adjusted in the coming spring. A procedure is being drafted regarding the re-verification after the taximeters are adjusted. The procedure will speed up the re-verification process.

Thailand
Mr. Sakchai Hasamin from Central Bureau of Weights and Measures, Thailand highlighted the co-operation with APLMF as below.
In 2013, Thailand has co-operation with APLMF organized the Training Course Traceability in Rice Moisture Measurement. The course was held on 25-29 November, 2013 at Northern Weights and Measures Center in Chiang Mai, Thailand.
He presented a comprehensive view of the training course.

United States of America
Mr. Ralph A. Richter from NIST, Department of Commerce, USA highlighted items of the economy report.

1. Proposals to Revise the U.S. Taximeters Code
A new USNWG on Taximeters was formed to develop proposals to revise the current Taximeters Code in NIST Handbook 44 (HB 44), “Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices.” The purpose of this USNWG is to adequately address emerging technologies used to assess charges based on time and/or distance measurements in taxi applications and to ensure that the prescribed methodologies and standards facilitate measurements that are traceable to the International System of Units (SI).
The main body of the work group will target the completion of updating the existing Taximeters Code so that it will encompass current devices and technologies in use. In addition to this work, a subcommittee was formed to work towards the development of standards and requirements that specifically address the use of Global Positioning System (GPS) applications when they are used commercially to compute fares based upon distance and/or time measurements.
Some specific proposals to change HB 44 for taximeters include:
   A. Re-defining a “point-of-sale” system (as it relates to taximeters);
   B. Updating the provision for security seals on taximeters;
C. Requiring that a form of receipt is capable of being produced by the taximeter system for all transactions (non-retroactively) and removing the existing optional provision for a recording element;

- Transactions involving for-hire vehicles may include multiple charges and as a result be somewhat complex. Total charges resulting from taxi services in some jurisdictions can include the fare based on time and distance traveled) as well as extras and other additional charges. Those extras and additional charges may include charges for additional passengers, transportation of luggage, tolls, surcharges, taxes, and possible additional services.

- In many instances the interchange between passenger and the taxi driver is brief and that the passenger may not immediately comprehend fully all the details regarding a transaction. With a potential total cost to the passenger comprised of numerous charges, it is considered important that the customer (passenger) be able to receive a record/receipt (printed or electronic) to ensure that there a record of expenses paid for, and for documentation in cases where the charges may be disputed.

- Recorded Representation. – A printed receipt issued from a taximeter, whether through an integral or separate recording element, shall include as a minimum, the following information when processed through the taximeter system:
  
  (a) date;

  (b) unique vehicle identification number, such as the medallion number, taxi number, vehicle identification number (VIN), or permit number, or other identifying information as specified by the statutory authority;

  (c) start and end time of trip;

  (d) distance traveled, maximum increment of 0.1 kilometer (0.1 mile);*

  (e) fare in $;

  (f) for multi rate taximeters, each rate at which fare was computed and the associated fare at that rate;

  (g) additional charges/discounts in $ (where permitted) such as extras any surcharges, telephone use, telecommunications charges, tip, discounts, credits, and taxes shall be identified and itemized; and

  (h) total fare charge for service in $ (total charge inclusive of fare, extras, and all additional charges);

  (i) trip number, if available; and

  (j) telephone number (or other contact information) for customer assistance.

2. Belt-Conveyor Scales
Recent efforts of US National Working Group (USNWG) on Belt-Conveyor Scales has been towards the further development of proposed changes to the NIST HB44 Belt-Conveyor Scale Systems Code so that it may be more appropriately applied to shorter conveyor systems known as “weigh-belts.” The conclusions from this work group have resulted in the submission of eight specific proposed changes to the HB44 Belt-Conveyor Scale Systems Code for consideration by the NCWM in July 2015.

NIST Handbook 44 Belt-Conveyor Scale Systems Code language that existed prior to 2001 provided
an exemption for belt-conveyor scale systems designed and furnished by the manufacturer from requirements that were related to specific details of the installation of belt-conveyor scale systems. In general, weigh-belt systems are designed and built by the manufacturer as a unit and are therefore less likely to be susceptible to malfunctions or operational defects directly caused by a variance from the manufacturer’s intended installation specifications. This is in contrast to belt-conveyor scale systems that are typically installed as separate components (conveyor, weighing system, belt loading system, speed sensor, etc.) within an existing conveyor system where the details of the installation for each component may greatly influence the performance of other components in the system.

USNWG members have agreed that it is important not to impose prescriptive requirements that may restrict innovation in the design of this type of device in HB44. Requirements that place limitations on the placement of components in a conveyor system in relation to the weighing device and to other components are viewed as being arbitrary and may be invalid if the design of a system is shown to operate within performance requirements regardless of the configuration of its components.

3. Truck Scales -- Weigh-in-Motion Systems
The US is drafting new requirements for Weigh-in-Motion (WIM) Systems. Some elements of these new requirements are:

A. Procedures for establishing the reference weights of axle loads, axle-group loads, and total vehicle weight -- and the types of scales considered acceptable for use in establishing such test loads and their acceptable level of accuracy;

B. Specific requirements applicable to the design, installation, and maintenance of approach and exit aprons of the weigh sensors of a WIM system;

C. Additional accuracy classes for WIM systems (currently there is one accuracy class specified) capable of achieving greater accuracy levels or at least provide the option of adding higher accuracy classes later.

4. Legal Metrology Issues related to Alternative-Fuel Vehicles

a. Compressed Natural Gas (CNG) and Liquefied Natural Gas (LNG) Vehicles

With the current situation of an abundant and inexpensive U.S. domestic natural gas supply, the U.S. is significantly increasing its use of natural gas as a vehicle fuel. A natural gas vehicle (NGV) uses compressed natural gas (CNG) or liquefied natural gas (LNG) as a cleaner alternative to other fossil fuels.

There were about 135,000 NGVs and about 1,300 NGV fueling stations in the U.S in 2013. For the same energy content, natural gas costs about half as much as gasoline or diesel fuel. For the past several years, the most prevalent NGVs in the US are fleets of mass-transit local busses which are fueled with CNG at a (non-retail) central location for the fleet.

Because of the inexpensive natural gas fuel costs, the owners/operators of many heavy-use engines that traditionally have used diesel fuel (including long-haul trucks and boats) have been buying or converting their engines to run on natural gas, especially LNG. NIST and NCWM are working to establish new requirements and test procedures for the new retail LNG fuel dispensers that will be installed to service these industries.

b. Electrical Vehicles

Electric vehicles run on battery power, replenished through electrical connections. In the U.S., the
primary charging locations are residences, businesses, and storage locations for fleet vehicles. There are minimal legal metrology issues in these locations because the electricity has already been metered and billed by the electrical utility. In these locations, with a standard charger, recharging a typical electric vehicle battery from near-total discharge to full charge usually takes 4-8 hours, with most vehicles charging overnight.

The number of public charging sites for electric vehicles has increased dramatically in the U.S. over the past three years. These sites are usually located in city or store parking lots, and at hotels, airports, and various businesses. The installation of “DC Fast-Charging Stations” with high-speed charging capability can allow consumers to recharge a battery on their electric vehicle from 20% to 80% in about 10 minutes.

The legal metrology issues arise on how the public site is attempting to “sell” the electricity to consumers. Many sites favored a “time-of-connection” charge, but that was found to be not very equitable because of the wide range of charging capabilities of the different types of stations/connections. The key for the weights and measures officials was that the transactions involve a measurable finite quantity of energy so that nationally-standardized requirements for the method of sale could be developed.

A U.S. National Working Group was established to develop new legal metrology standards related to electrical vehicle charging. This USNWG held meetings in January and March 2013. In July 2013, the NCWM approved the recommendation of the USNWG and adopted the following method of sale (which was implemented in January 2014):

NCWM Handbook 130, Section 2.34.2. Method of Sale. – All electrical energy offered for sale and/or sold at retail as a vehicle fuel shall be in units in terms of the megajoule (MJ) or kilowatt-hour (kWh). In addition to the fee assessed for the quantity of electrical energy sold, fees may be assessed for other services; such fees may be based on time measurement and/or a fixed fee.

The USNWG is now developing new testing procedures for sites that sell electricity at retail as a vehicle fuel.

c. Development of Hydrogen Fuel Measurement Standards

As part of a national effort to promote alternative fuels for vehicles, NIST established a U.S. National Work Group (USNWG) for the Development of Commercial Hydrogen Measurement Standards in to develop a comprehensive set of legal metrology standards for commercial measurement of hydrogen for vehicle and other refueling applications.

The tentative equipment code applies to hydrogen gas deliveries sold typically through service station dispensers for use as fuel in fuel cell and internal combustion engine vehicles. The approved method of sale stipulates that hydrogen fuel only be sold by the kilogram and that street sign pricing be shown in terms of whole cents (e.g., $3.49 per kg, not $3.499 per kg). The tentative code includes device design, accuracy, installation and use requirements, and test procedures. NIST published the tentative code in its 2011 edition of NIST Handbook 44 “Specifications, Tolerances, and Other Technical Requirements for Weighing and Measuring Devices.”

Hydrogen fuel quality requirements were approved in July 2012 and are found in NIST Handbook 130. These requirements recognize the most recent version of the US Society of Automotive Engineers (SAE) Standard J2719 “Hydrogen Fuel Quality for Fuel Cell Vehicles” that requires greater than 99.97% hydrogen purity.
This USNWG is currently continuing its work to refine and finalize the test procedures for retail hydrogen fuel dispensers and related equipment.

5. Development of a new ANSI standard for Gas Meters / Harmonization with OIML Recommendations

The American National Standards Institute (ANSI) technical committee B109, responsible for gas metering standards has developed a draft new performance-based standard for gas meters that will cover all new metering technologies. This new standard is based on the final draft of OIML R137 “Gas Meters,” and is being tentatively called “ANSI B109-point-zero.” The organization responsible for this technical committee is the American Gas Association (AGA), and a NIST engineer is leading this effort. Some of these “newer” technologies are not currently covered by a domestic US standard – creating a significant problem for the purchasers of these systems. A single performance-based standard that covers all metering technologies will serve to alleviate this issue.

The United States is also continuing the effort to harmonize its requirements in other areas of legal metrology with those of the International Organization of Legal Metrology (OIML). Because our system splits responsibility between the national government and the state governments, the National Conference on Weights and Measures (NCWM) and National Institute of Standards and Technology (NIST) are working as a team to focus attention on the need to harmonize national and international legal metrology standards.

6. Labeling Requirements for Printer Ink and Toner Cartridges:

Proposed new Method of Sale and Labeling Requirements:

- Method of Sale, printer ink cartridges. – All printer ink cartridges kept, offered, or exposed for sale or sold shall be sold in terms of the count of such cartridges and the fluid volume of ink in each cartridge stated in terms of milliliters or fluid ounces.

- Method of Sale, toner cartridges. – All toner cartridges kept, offered, or exposed for sale or sold shall be sold in terms of the count of such cartridges and the net weight of toner substance.

Over the past several years, there has been a change in the net content statements on inkjet and toner cartridges. Currently, there is little uniformity in the marketplace on this item, and many new labels have only a page yield count (e.g., prints 1000 pages). The NIST Weights and Measures Division believes that according to guidelines from the US Weights and Measures Law, “information required on packages,” these products are required to have the net contents of the ink (and toner) labeled. These are expensive items and the need exists to clarify the labeling requirements for industry, consumers, and weights and measures officials.

Many industry representatives do not believe that a net content statement should be required, and that a having a page yield statement is sufficient. Their main arguments are that 1) the ink associated with a cartridge is a small fraction of the total cost of the print cartridge mechanism; and 2) a page yield can provide a meaningful comparison to a consumer if all manufacturers employ the same estimating assumptions and techniques. According to manufacturers, the International Organization for Standardization (ISO) studied this issue for years and has rejected reliance on ink volume or quantity; instead ISO has developed a yield estimating and claiming methodology that permits cartridges to be compared using a consistent yardstick.

One large issue in the U.S. is that allowing the “contents” declaration only by yield will possibly open the door for other commodities to request to change their labeling (e.g., loads of laundry). One resolution being considered is for inkjet/toner cartridges to be sold by volume and weight – and
adding page yield as a supplementary statement. This will allow for weights and measures inspectors to verify the net contents, and also provide information for consumers to make value comparisons.

Update: Because industry and the regulators were unable to reach consensus, this item was formally withdrawn by NCWM in July 2014.

7. Moisture Allowance – Pasta & Noodle Products
A controversial item was adopted by the NCWM concerning a 3% “moisture allowance” for pasta and noodle products. These products are packaged in paper bags, paperboard cartons, and/or flexible plastic bags with a moisture content of 13% or less at the time of pack. This new requirement went into effect in January 2014.

Studies indicate that moisture loss for pasta products is reasonably predictable over time. Pasta exhibits consistent moisture loss when handled in a uniform manner. However, moisture loss can vary more than 4% due to environmental and geographic conditions. Although it eventually reaches equilibrium with the surrounding atmosphere because it is hygroscopic, this balance does not occur until long after packaging and shipping. One potential problem is that manufacturers may possibly attempt to under-fill on purpose to take advantage of the allowance; correct net weight would need to be verified at time of packaging.

8. Aerosols and Similar Pressurized Containers
There are a number of products in the marketplace bearing quantity statements in terms of fluid measure that utilize the Bag on Valve (BOV) technology. Packages using BOV technology are generally pressurized containers but propellant is not dispensed with the product. Consumers are not able to do price and quantity comparisons between products packaged using BOV technology (which is being typically labeled by volume in the marketplace) and similar product in traditional aerosol packaging (required to be labeled by net weight) – because the aerosol packaged product includes the propellant in the net weight and the propellant is dispensed with the product.

In July 2014, the National Conference on Weights and Measures (NCWM) unanimously approved a revision to the requirements for these products. The revision supports and further strengthens the States’ position that the method of sale for aerosols and other pre-pressurized containers dispensing product under pressure (including those using BOV technology) must be sold by weight. This has been the traditional method of sale in the marketplace for these type products for over 50 years.

Please note that industry who have been mislabeling BOV containers by volume, were granted a 3 year time period to comply with the labeling requirements.

9. Animal Bedding
Animal Bedding, also called pet or stall bedding, litter or simply bedding, is generally sold by dry volume in compressed or uncompressed packages. Based on numerous failed inspections of packaged animal bedding, the NIST Office of Weights and Measures conducted a study in which compressed and uncompressed packages of animal bedding were measured using a variety of procedures and test equipment. The results from those tests indicated that the current procedures in the 2014 Edition of NIST Handbook 133 “Checking the Net Contents of Packaged Goods,” the dimensional inspection procedure for testing compressed packages (e.g., peat moss); and the volumetric inspection procedure (e.g., mulch); were inadequate for use in testing animal bedding. Uncompressed volume measurements of animal bedding are dependent on a number of factors, including the size and shape of the measuring container, the method of filling the measuring container,
and the means used to break up the bedding prior to measuring. Based on the findings of this study, a draft procedure has been developed for testing the uncompressed volume of animal bedding. NIST OWM also designed and constructed new test measures to be used with the procedure, and then brought these measures to several animal bedding packaging plants for on-site verification of the test methods. Preliminary findings indicate that the draft procedure provides more consistent measurement results. Further, the study shows that there is no correlation between compressed and uncompressed volumes of animal bedding, leading to the conclusion that the requirement for compressed volume statements on the package label is unnecessary.

NIST has developed a proposal that includes recommended changes to the method of sale for Animal Bedding in NIST Handbook 130 “Uniform Laws and Regulations in the Areas of Legal Metrology and Engine Fuel Quality,” a revised test procedure for NIST Handbook 133 relating to the verification of the compressed volume of peat moss (which has been used with animal bedding), new test procedures for measuring the compressed and uncompressed volumes of animal bedding, suggested test equipment and a gravimetric auditing procedure that allows inspectors to avoid destroying all of the packages.

Previously, packaged animal bedding of all kinds, except for baled straw, should have been sold by volume (by the cubic meter, liter, or milliliter and by the cubic yard, cubic foot, or cubic inch). If the commodity was packaged in a compressed state, the quantity declaration should have included both the quantity in the compressed state and the usable quantity that could be recovered.

10. IACET Accreditation for NIST's Office of Weights and Measures

The International Association for Continuing Education and Training (IACET) has awarded the National Institute of Standards and Technology (NIST) Office of Weights and Measures (OWM) an "Authorized Provider" accreditation. IACET Authorized Providers are the only organizations approved to offer IACET Continuing Education Units (CEUs). In order to achieve Authorized Provider accreditation, NIST OWM completed a rigorous application process, including a review by an IACET site visitor, and successfully demonstrated adherence to the ANSI/IACET 1-2007 Standard addressing the design, development, administration and evaluation of its training program. The accreditation period extends for five years and includes courses offered or created that follow OWM procedures during that time. Many US states require that their weights and measures officials receive training throughout their careers. Using an accredited training organization gives those officials confidence that the training they will receive is of high quality.

The NIST OWM analyzes weights and measures training needs, obtains input from the weights and measures community, designs and delivers training for laboratory metrologists and weights and measures officials, measures the impact and effectiveness of training to ensure ongoing continual improvement, and consults with the weights and measures community to ensure ongoing professional development.

11. Unit Pricing Information

NIST has formed a workgroup that is developing guidelines to improve the accuracy and usability of unit pricing information offered on retail store shelves in the United States. The workgroup includes representatives from industry and trade associations (such as the Food Marketing Institute), weights and measures officials, consumers and consumer groups (such as the National Consumer League
There is not a Federal Government mandate in the U.S. that requires unit pricing. Voluntary use of unit pricing by retailers is highly recommended because of its value to consumers and businesses. Providing clear and unambiguous information about the prices of products offered for sale not only helps to guarantee transparency in the marketplace, but also serves to protect consumers by permitting them to make value and price comparisons and educated purchasing decisions.

In the U.S., there is currently a significant lack of uniformity in the use of unit pricing in the marketplace (from retailer to retailer). There are many examples of possible improvements in the design of unit price labels, including:

- Increased Font size and readability (i.e. require a minimum font size and a requirement of the correlation between the size and proportion of retail price and unit price);
- Larger unit price labels on the bottom shelves. This will make information more clear and conspicuous;
- Greater consistency from retailer to retailer on the placement of information on the label to ensure standardization and uniformity;
- A requirement for unit pricing on sale items – considering the requirement for unit pricing on internet, sales ads and other forms of advertising media;
- Extend unit pricing to more product categories, not just food products;
- Greater adoption of the Uniform Unit Pricing Regulation by individual states to ensure retailers meet the minimum recommended national uniform requirements; and
- Recommend greater use of metric unit pricing.

The goal of this new workgroup is to develop an industry “Best Practices Guide” for unit pricing that will be made available online for use by anyone interested in improving the presentation and accuracy of unit pricing information. University researchers from Michigan State University and the University of South Australia have provided the results of their research concerning the best formats for unit pricing.

The guide will build upon the existing Uniform Unit Pricing Regulation (UUPR) in NIST Handbook 130, and will take into account current mandatory unit pricing regulations in 11 States in an effort to achieve and promote a more comprehensive, consumer friendly and uniform approach to unit pricing. This guide is expected to be published in early 2015 (approximately 37 pages with good/bad examples). The workgroup may also develop recommendations to revise the UUPR which would be submitted to the National Conference on Weights and Measures for consideration.

Vietnam

Mr. Mr. Tran QUy Giau from Directorate for Standards, Metrology and Quality (STAMEQ), Vietnam updated current status, development of legal metrology and action plan.

I – Current status and development of legal metrology

1. Legal documents
   a) The Decree for implementing Vietnam Metrology Law was issued by the Government and in October 2012.
   b) The Decree for administrative fine on violations of standardization, metrology and quality control was issued by the Government in November 2012.
   c) 06 Circulars for implementing the Law on Metrology were issued by Minister of Ministry of
Science and Technology (MOST) included:
- Circular on approval of National measurement standards;
- Circular on Group 2 measuring instruments;
- Circular on management of Verification, Calibration, Testing;
- Circular on measurement management on trade of gold & quality management on trade of jewels;
- Circular on State metrological supervision;
- Circular on quantity of pre-packaged goods.

d) 34 binding metrological technical specifications on metrology (based on OIML recommendations) were issued by STAMEQ by the end of 2014.

2. 48 bodies in calibration, verification and testing were designated by STAMEQ.

3. The Celebration of the International Metrology Day (20/5/2014) was organized in Vietnam

II – In the year of 2015
- Submit to the Minister of MOST to technical specification of quantity assessment on pre-packaged goods.
- Issue ~ 30 binding metrological technical specifications (based on OIML recommendations).
- Organize the Celebrations of the Vietnam Metrology Day (20/01/2015) and of International Metrology Day (20/05/2015) in Vietnam.

3.15. Next APLMF Presidency
Mr. Stephen O’Brien from Trading Standards, Ministry of Business, Innovation & Employment of New Zealand introduced a proposal to take responsibility for APLMF Secretariat and Presidency as follows:

- In June 2014 NZ responded to request with proposal to take responsibility for APLMF Secretariat and Presidency for 4 year period.
- China has held this responsibility for 7 years – Thank you.
- Period of great LM development within the Asia-Pacific region.
- Proposal is that this responsibility be transferred to New Zealand and held by Trading Standards, Ministry of Business, Innovation and Employment (MBIE).
- Transfer would take place at the 22nd APLMF meeting in 2015.
- China and New Zealand would work closely together to ensure a smooth transition.
- NZ recognises the importance of the work of APLMF for the Asia-Pacific Region and welcomes the opportunity to contribute.
- Trading Standards location within the MBIE gives it access to:
  - IT support and website design specialist skills,
  - Communications, training and education advisors,
  - Regulatory, occupational licensing, accreditation and compliance best practice,
  - Scientific metrology expertise (Measurement Standards Laboratory),
  - Financial and Governance expertise.
- Some of the key areas of focus during this period would be:
  - APLMF website development;
  - Continue APLMF’s LM awareness raising and development work within region;
  - MEDEA Project – work stream completion;and
New Zealand was approved by the Forum to take over APLMF next presidency.

3.16. New APLMF full Member
Brunei proposal to be new APLMF full member. Mr. Noriskandariah Damit from National Standards Center, Brunei introduced the organization chart of Brunei Metrology department and related ministry, National Standards Center, Structure, Plan To Establish the National Metrology Committee under the National Standards Council & National Measurement Act.

Brunei was approved by the Forum to be APLMF full member.

3.17. Future Meetings
Mr. Ralph Richter, USA confirmed they would host the APLMF meeting in 2015, but the date and venue will be confirmed later.

3.18. Closing Address from Mr. Stephen O’Brien, Manager, Trading Standards, MBIE, New Zealand
On behalf of the New Zealand government, I thank you all for travelling here and actively contributing to this meeting. I appreciate New Zealand is a great distance for many of you to travel, and commend efforts to be here. It has been a very useful meeting and I’m excited about the MEDEA project which will make a real difference in the way we assist emerging economies in Asia-Pacific region, and it will be a great opportunity for us to work closely with APMP, so I certainly passed on my appreciation to the steering group that worked hard behind the scenes to make that happen. I know we are coming out of the planning stage, and moving into the implementation stage, so hopefully in the next year or so we will see some great development and great results.

I thank you all for your endorsement of New Zealand taking over the secretariat and leadership of APLMF. I’ll be working with colleagues from China to make sure this happens in efficient and effective way.

I would like to pass on my appreciation to the current secretariat and Mr Pu for making this meeting such a success. It was very easy to work with this secretariat team.

It is a great pleasure to host you all in New Zealand, and those of you who also attended the CIML meeting in Auckland. It is great to see you twice. I’d like to wish you safe travel, and enjoy the rest of your stay in New Zealand.

3.19. Closing Address from Mr. Pu Changcheng, the APLMF President,
Ladies and Gentleman, Good Morning!

Mr. Stephen O’Brien, thank you very much for Co-chairing with me over the past 2 days.
In the past few days, we’ve discussed all issues listed in the agenda. It is a great pleasure to see that we’ve achieved expected results. As the APLMF President, I would like to make efforts to continue to work with colleagues from member economies towards the healthy development of APLMF. I also want to thank you for your active participation, contribution and support.

In New Zealand, 21 years old is very important for youth to become as a grown man, and our Forum reaches 21 years in New Zealand this year. Our Forum has done a lot of work with contributions from member economies in the last 21 years, and from now on our Forum has grown up as 21 years old and become stronger.

Here, I would like to extend my thanks again to colleagues from Trading Standards, Ministry of Business, Innovation and Employment, APLMF Secretariat for their great efforts, on preparation and hard work to make this a successful meeting.

Finally, I wish you a pleasant journey back after this meeting and hope to see you again at next APLMF meeting.