

## **Summary Report on the Training Course on Electricity Meters**

The APEC/APLMF Training Course on Electricity Meters was held in Ho Chi Minh City, Viet Nam from February 28 to March 3, 2006. The course was attended by 35 participants representing 13 economies including Cambodia, Chile, People's Republic of China, Indonesia, Japan, Lao PDR, Malaysia, Mongolia, Papua New Guinea, Philippines, Chinese Taipei, Thailand and the host economy Viet Nam. The course was organized by the APLMF with support from APEC, the Directorate for Standards and Quality (STAMEQ) of Viet Nam, the National Metrology Institute of Japan (NMIJ), the Japan Electric Meter Inspection Corporation (JEMIC) and Measurement Canada.

While electricity is one of the most commonly used and traded commodities in the world today; the nature of electrical power and energy, the forms in which it is delivered to the consumer, and the methods used in trade measurement are complex and often poorly understood by the general population. In order to develop and maintain mutual confidence in the trade measurement of electricity, APLMF member economies have recognized the need for effective and harmonized legal metrology programs.

The course was designed to provide participants with a greater understanding of the issues and challenges associated with achieving accuracy and equity in the trade measurement of electricity.

Participants came with a variety of technical and legislative expertise. Such benefit as a diverse group provides participants an exposure to legal metrology from different perspectives. While it is beneficial for legislators to understand the significance of the technical aspects of electricity measurement, it is equally important for technical personnel to appreciate the benefits of using national requirements that are in harmony with international standards or policies. The course was structured in a manner that would allow participants with varying levels of technical and legislative expertise to enhance their understanding of electricity measurement from a legal metrology perspective while providing the flexibility to add or expand on content where required to address the training needs of the participants.

At present, the legal requirements for electricity measurement vary significantly between the participating APLMF economies. In order to provide participants with a greater understanding and appreciation of the various policies and practices of other APLMF economies, participants were requested to make a three minute presentation on the current requirements within their respective economies, in relation to nine key questions. This provided a means for establishing the training needs of the individual participants, and also gave them with a greater understanding of the differing practices of other economies.

This was followed by lectures by Mr. Takao Oki, Director, Technical Research Laboratory, and Mr. Masatoshi Tetsuka, Senior Staff of Verification Management Division of the Japan Electric Meters Inspection Corporation (JEMIC). The lectures presented an overview of the legal requirements for electricity meters in Japan and provided participants with an example of a mature legal metrology program for electricity meters, along with an update on the progression of applicable OIML and IEC documents.

The remainder of the training session was presented by Mr. George Smith and Mr. Paul Rivers, Electricity Specialists for Measurement Canada, which is the government organization responsible for the administration of the legal metrology legislation for Canada. The session covered a broad range of topics applicable to the development of an effective legal metrology program for electricity measurement. Topics included the various single phase and polyphase electricity delivery configurations, energy and power analysis, measurement concepts, various methods for calculating the units of measure, energy and demand measurement options, induction and electronic meters, type approval, meter verification and test methods,

reverification intervals, in-service compliance programs, meter test equipment, and the dispute investigation process used in the resolution of complaints.

The successful completion of this course is a tribute to all of those involved with organization, presentation and participation in the training. The participants demonstrated their commitment to the training session, often working well into their break periods and after class to gain a greater understanding of the concepts presented. The contributions of the APLMF Executive Secretary, Dr. Tsuyoshi Matsumoto, and Mr. Bui Quy Long, (STAMEQ) are greatly appreciated for the arrangement of such a well organized and productive training session.

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