



**Ottawa
Section**



Seminar by IEEE Ottawa Section I&M/PES/RS Chapters and EA, and EPMG of INMS/NRC

The IEEE Ottawa Section, with Electrical Power Measurements Group of NRC, is organizing a seminar on Instrumentation & Measurements for IEEE members. Non-members interested in the subject are also welcome.

The Role of JEMIC in Japan's Electrical Power Industry

Speaker 1: Mr. Usa Kakinuma, Vice President

Calibration of Active/Reactive Power/Energy Meters at JEMIC

Speaker 2: Dr. Kunihiko Takahashi, Director, Technical Research Laboratory

Japan Electric Meters Inspection Corporation (JEMIC), Tokyo, Japan

DATE: Tuesday, July 03, 2007

TIME: Registration: 9:30 - 10:00 a.m.; Seminar: 10:00 a.m. – 11:30 p.m.

PLACE: National Research Council, 1200 Montreal Road, Ottawa, Building M-50, Auditorium.

PARKING: No fee at the visitor's parking. Please respect restricted areas.

Abstract 1 Japan Electric Meters Inspection Corporation (JEMIC) was officially established in 1965, based on 1964 JEMIC Law. The objectives of JEMIC are primarily: (1) providing certification which includes pattern approval, verification and inspection of electricity meters, and inspection of Legal Standards; (2) providing calibration services and traceability to the SI through national standards, including those of Japan Calibration Service System; (3) providing research and technical consultations to Japan's electrical industry. The presentation will describe the history, organizational structure, and objectives of JEMIC.

Usa Kakinuma received the B.Sc. and M.Sc. degrees in Electrical Engineering from Waseda University in 1967 and 1969, respectively. In 1969, he joined the Ministry of International Trade and Industry (MITI). From 1982 until 1993 he held a number of positions within MITI, including Director of Nuclear Power Operating Administration Office, Director General of Public Utilities Department (PUD), and Director of Gas Safety Division within PUD, MITI. In 1993-1995 he was Director General of Mining and Industry Development Cooperation Department, Japan International Cooperation Agency. In 1995-2004 he was Managing Director of Planning Division, Japan Electric Power Information Center. He currently is Vice President of JEMIC.

Abstract 2 The presentation will describe the development of JEMIC's new system for calibrating active/reactive power and energy meters with an extended frequency range and a low Type B uncertainty. Instead of based on a current comparator as a current ratio standard, the system is based on a highly accurate wideband current transformer as a current ratio standard. The test current is compared using the reference current transformer to the reference currents derived from a reference AC resistor and a reference capacitor. Thus, the system basically consists of essentially four independent national standards of (1) a current ratio, (2) an AC voltage, (3) an AC resistance, and (4) a capacitance. Details of the development of the system and its uncertainty analysis will be presented.

Kunihiko Takahashi received the B.Sc. and M.Sc. degrees in Electrical Engineering from Nippon University in 1975 and 1977, respectively. In 2000, he received the D.Eng. degree from Saga University. In 1977, he joined Japan Electric Meters Inspection Corporation (JEMIC). He was Manager of the Calibration Laboratory in 1995, and Manager of the Verification Division in 1998. In 2001-2006, he was a staff member of the National Institute of Advanced Industrial Science and Technology, National Metrology Institute of Japan (AIST/NMIJ). He currently is Director of Technical Research Laboratory at JEMIC.

Admission: Free but **registration is required** for security reasons.

To ensure a seat, please register by e-mail to branslav@ieee.org