



Field Visit to NRC Program (Nov. 13th, 2003)

13:40 **Gathering and Networking**

As part of the EPS2003, a visit to the National Research Council of Canada (NRC) on Montreal Road Campus in Ottawa has been organized for the Symposium attendees. It consists of two parts: (1) a visit to the NRC Institute for National Measurement Standards (INMS) High Voltage Laboratory and (2) a visit to the NRC Cogeneration Facility.

14:00 **Visit to the NRC Institute for National Measurement Standards High Voltage Laboratory**

As Canada's national metrology institute, INMS anchors the national measurement system and provides a fundamental technical infrastructure that supports Canadian industry and Canadian public. INMS activities strengthen innovation and competitiveness, support international trade, and advance social well-being. The INMS Electrical Power Measurement Group provides standards, instrumentation, calibration methods and new transferable technology in the area of electrical power measurements and high-voltage insulation diagnostics to meet the present and future measurement requirements of Canadian utilities and industry including small and medium size enterprises (SMEs).

Visitors have an opportunity to become familiar with various AC and DC high-voltage and high-current calibration methods and test setups for testing current and voltage instrument transformers, high-voltage capacitors, electricity meters, losses in power transformers and reactors, and high-voltage cables.

15:15 **Visit to NRC Cogeneration Facility**

In 1993, the National Research Council installed a 4.5 MW cogeneration unit at the Montreal Road Campus in Ottawa. This cogeneration unit consists of a gas turbine capable of operating on natural gas or No.2 fuel oil, and a 12 kV generator. Steam generated by the heat recovery boiler is used for heating during winter months and cooling during the summer, utilizing an absorption chiller. This cogeneration unit was sized to displace the Montreal Road Campus' base load of 4.5 MW.

NRC cogeneration unit is the first ever installed in the Federal Government. These are the basic facts related to the cogeneration project:

- *Total cost of installation:* \$6,700,000
- *Grant from Ontario Hydro:* \$1,000,000
- *Annual saving:* \$1,000,000
- *Payback:* 5.7 years

The unit has been operating extremely well, delivering on average yearly savings of \$1M. With deregulation of the electrical industry on the horizon, it has served as an example of success for many organizations looking for similar units.

16:30 **End of visit**