

Ontario's Smart Grid Forum
Notes of Meeting

Date: July 29, 2009
Time: 12:30 p.m. – 4:00 p.m.
Location: 655 Bay Street, Suite 410, Toronto
IESO Boardroom

Attendees:

Forum Members:

Paul Murphy	IESO
Don Tench	IESO
Brian Hewson	Ontario Energy Board
Annamaria Cross	Ministry of Energy and Infrastructure
David Collie	Electrical Safety Authority
David McFadden	Ontario Centres of Excellence
Michale Angemeer	Veridian Corporation
Norm Fraser	Hydro Ottawa
Paul Shervill	Ontario Power Authority
Wayne Smith	Hydro One

Working Group:

David Curtis	Hydro One
Joshua Wong	Toronto Hydro
Raed Abdullah	Hydro Ottawa (by phone)

Administration:

Helen Lainis	IESO
--------------	------

Introduction

Paul Murphy welcomed the attendees and provided opening remarks. He highlighted the value of the Forum in continuing to build on the successful effort of advancing the concept of the Ontario Smart Grid. Given the introduction of the Green Energy and Green Economy Act, 2009 (the GEGEA), the primary focus of the Forum will now be on the implementation aspects for the Ontario Smart Grid. He went over the agenda which included the revised terms of reference to reflect the evolution of the Forum's focus.

Forum Terms of Reference

Don Tench reviewed the change in the Forum's primary objective discussed at the last meeting; which will be to advance the development of the Ontario Smart Grid by focusing on investment in the GEGEA technologies and objectives. Observations and issues discussed regarding the revised terms of reference were:

- A key aspect of the GEGEA is job creation and the Forum should support economic development in advancing the implementation of the Ontario Smart Grid. The terms of reference should reinforce this notion. The terms of reference should also denote that the Forum will promote export opportunities for Ontario smart grid expertise and knowledge.
- With respect to Forum deliverables, it was recommended that the Forum provide only an update on a semi-annual basis and a more comprehensive report on an annual basis regarding the Forum's activities and progress on achieving its objective.
- It was agreed to distribute exceptional costs of the Forum amongst the members.
- Consideration was given to the need to broaden the representation of the Forum as it moves forward on implementation aspects. As such, the Forum approved a new member, the Electrical Safety Authority (ESA). The ESA will be represented by David Collie who has been a most valued contributor as the President of Burlington Hydro and EDA Board member.
- Paul Murphy informed the Forum that APPRO has been contacted, as agreed at the previous meeting, to provide a Forum representative with experience in distributed generation.
- The Forum felt it was crucial to build on the credibility of the Forum and continue to be a key leader. As such, the Forum would need to foster participation by Ontario industry organizations and corporations. A key challenge for the Forum is to understand the perspectives of the broader industry, including the manufacturers of smart grid technologies, without compromising any request for proposals that Forum members will be undertaking.
- It was recommended that the Forum consider the approach taken by the Canadian Electricity Association which provides for an annual conference with its corporate partners. The terms of reference should identify this collaboration.
- In light of the momentum that the smart grid is taking in Ontario and the United States, it was agreed that a technical conference to gain the perspectives of Ontario industry organizations and corporations should be a priority for the Forum.
- It was suggested that the technical conference should include representation from the following segments: (1) smart grid technology/consulting service providers; (2) smart grid manufacturers (e.g., solar panel) and (3) automotive. It was also suggested that the technical conference can be structured along the following streams: (1) transportation; (2) distribution and automation and (3) in-home devices. The services of a third party may be used to organize the technical conference given the scope and preferred timeline.

Ontario Smart Grid Status

- The Forum was provided with the document Smart Grid Update that lists the various provincial, national and international smart grid initiatives including the associated webpage links. Discussion ensued on the recently issued policy statement on the smart grid by the U.S. Federal Energy Regulatory Commission (FERC). The policy statement focuses on prioritizing efforts to develop standards for inter-operability of devices and systems and a proposed rate policy for the interim (before standards are developed) for smart grid investments. These standards are for four priority issues: (1) cyber security; (2) wide-area situational awareness (3) emerging technologies such as demand response and electric storage; and (4) inter-operability. A bill is also being promulgated through the House of Representatives in the United States which gives broad powers to FERC including authority issuance of rules or orders as are necessary to protect critical electric infrastructure against vulnerabilities or threats that would extend to utilities beyond their jurisdiction. This will be done in consultation with the Secretary of Homeland Security. This bill would allow FERC to either replace or supplement existing NERC cyber security standards.

- Priorities in Ontario include the implementation of the Feed-In-Tariff program, the rollout of smart meters and time-of-use pricing, conservation and electrical vehicles.
- Paul Murphy updated the Forum on ISO/RTO electrical vehicle integration study. This project by the ISOs/RTOs is designed to evaluate the reliability and market impacts of electrical vehicles on the bulk power system and to look at market design features. Another initiative that the ISOs/RTOs are undertaking is the development of communication standards between the ISOs/RTOs and load aggregators/demand response resources. A report will be issued by the end of this year.
- Brian Hewson noted that at a recent NARUC meeting in Seattle, state regulators were actively encouraging their regulated utilities to advance their smart grid investments.

Smart Grid Standards Development

- David Curtis provided an update on the standards development process in the United States. Under the Energy Independence and Security Act (EISA), the National Institute of Standards and Technology (NIST) has been assigned primary responsibility to develop the interoperability standards for smart grid devices and systems. The American Recovery and Reinvestment Act provided \$10 million for NIST for this purpose. NIST is working with many stakeholders including the Department of Energy and its Grid Wise Architecture Council. NIST will be developing the interoperability framework and the standards would be developed by the standards development organizations. Under the EISA, once sufficient consensus has been achieved, FERC can begin the rulemaking process for adopting any of those standards and protocols.
- It is recognized that Ontario has a limited ability to influence the standards development outcomes in the United States without focused effort. However, we have influenced the standards adopted via procurement of our Advance Metering Infrastructure and Meter Data Management Repository systems. To date, the proposed and interim standards in the United States are moving in the direction that Ontario has adopted. Hydro One will continue to monitor and report on the United States standards development process on behalf of Ontario's Smart Grid Forum.
- It was recognized that the Canadian Standards Association may have to provide guidance on these standards and that the OEB may need to include the standards as part of the criteria for the approval of smart grid investments. The OEB should also consider developing outcomes so that LDCs adopt standards that will provide these outcomes. It was also noted that Ontario should consider adopting standards consistent with other international markets such as China and Europe.

Investing in the Smart Grid:

- David McFadden led a discussion on the importance of the smart grid investment decisions ahead for the industry. In his view, investment decisions need to take into account the scope of the investment, the period of investment and the return on equity for this investment. There are 4 scenarios (with varying degrees of flexibility for distributors and transmitters) which could be considered:
 - (1) One standard for all of Ontario with common functionality for all consumers;
 - (2) One standard for all of Ontario with allowance for local functionality;
 - (3) Two or more standards with functionality options; or
 - (4) No provincial standard with minimum functionality available.
- The investment should also foster economic development. As such, it is important to include the following considerations:
 - (1) Installation activity (i.e., is there a shortage of "smart grid" skilled workers)

- (2) Education and skills training
 - (3) Operational maintenance and management of the smart grid system
 - (4) Innovation and commercialization (e.g., OCE provides funding for research that leads to the commercialization of products and start-up operations).
 - (5) Manufacturing – there is a need to understand the extent to which Ontario companies are involved the manufacture of smart grid devices and systems.
 - (6) Opportunities to export Ontario smart grid expertise and knowledge
- Brian Hewson discussed the OEB’s recent initiatives to support the GEGEA including the staff discussion paper on the regulatory treatment of infrastructure investment for LDCs and transmitters. The OEB also stated the it provided some guidelines for distribution system planning which includes the establishment of deferral accounts, a funding adder and that distribution system plans related to smart grid development are expected to focus on smart grid studies, demonstration projects, and smart grid planning and smart grid education and training. It was also noted that the OEB does not require at this time that all distributors file formal investment plans. Over the coming months the OEB will have reviewed a few distribution system plans and will use this experience to further develop the guidelines.
 - A concern was raised as to a potential disconnect between conservation and demand management initiatives (where an LDC actively encourages reduction in demand) and electrical vehicle investments (where an LDC must build the infrastructure to accommodate electrical vehicles and resulting increase in electricity use). However, this disconnect can be mitigated by designing rates for vehicle charging (i.e., during off peak hours) that optimize the use of electricity on the grid by shifting consumption.

Forum Priorities:

As mentioned above, in light of the momentum that the smart grid is taking in the United States, it was agreed that a technical conference to get the perspectives of Ontario industry organizations and corporations should be a priority for the Forum.

Other Business:

- Forum members to provide input to Ontario Smart Grid Forum Recommendation spreadsheet by the 3rd week in August, 2009.
- Next meeting is scheduled for September, 2009. Details to be provided.