

## Electronic Notification

August 13, 2010

To: Interested Parties

**ALBERTA SMART GRID INQUIRY  
APPLICATION NO. 1606102  
PROCEEDING ID. 598**

### **SUPPLEMENTAL QUESTIONS TO SMART GRID INQUIRY PARTICIPANTS**

1. The Alberta Utilities Commission (Commission) has reviewed participants' responses to the questions attached as Appendix A to the Notice of Inquiry issued by the Commission on April 20, 2010. The Commission seeks further clarification on certain items and therefore has developed a second round of questions.
2. In two of the questions (Question 66 and Question 67), the Commission has provided links to documents recently prepared by The Brattle Group and has requested parties' comments on the content, in the context of the Alberta market. The Brattle Group, along with Dr. Stanford Levin, Professor Emeritus (Economics), Southern Illinois University Edwardsville, have been retained by the Commission to provide technical support and advice on smart grid related matters to the Commission during the course of the Smart Grid Inquiry.
3. In keeping with the schedule set on by the Commission on May 26, 2010, the Commission requests that parties submit their responses to the Supplemental Questions by no later than **3:00 p.m. on August 31, 2010**.
4. If you have any questions, please contact me at 403-592-4435 or by email at [robert.thomas@auc.ab.ca](mailto:robert.thomas@auc.ab.ca).

Yours truly,

*(sent by email)*

Robert Thomas  
Director, Regulatory Policy

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**COMMISSION SUPPLEMENTAL QUESTIONS TO PARTICIPANTS**

Parties are asked to address those questions below that may be applicable to them or relate to their prior submissions.

Question 60

**Preamble:** A number of parties indicated in their submissions that the utilization of smart grid technologies will improve the reliability of power supply to customers, but in some cases did not provide any details of how this reliability will be achieved or what the magnitude of the incremental reliability benefit attributable to a particular course of action might be.

**Request:**

The Commission requests that parties provide specific comment on the incremental reliability benefits associated with the application of any individual smart grid technologies discussed in their submissions.

Question 61

**Preamble:** AltaLink Management Ltd.'s submission<sup>1</sup> referred to the fact that there are more than 11,000 MW of wind generation projects with pending applications for connection to the transmission system. Other parties identified potential energy storage options that could be utilized to provide more reliable power from intermittent renewable sources such as wind. The Commission would like to understand the technologies that would be required to integrate this amount of wind generation into the grid so that the reliability of the bulk electric system is not compromised.

**Request:**

The Commission requests that parties comment on the technologies available to allow them to better integrate intermittent and or variable generation such as wind. In particular, the Commission requests that parties comment on the viability of energy storage systems for wind and intermittent generation in Alberta and to provide any publically available information regarding the costs to install and operate such technologies.

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<sup>1</sup> Exhibit 99.02, page 7.

Question 62

**Preamble:** Many of the parties referenced a benefit of smart grid as allowing for the addition of variable generation in the distribution system. The Commission would like to understand what additional operational and metering requirements this might require.

**Request:**

The Commission requests that the Alberta Electric System Operator, the transmission facility owners and the electric distribution system owners provide information detailing the point, in terms of size (MW) and quantity (number of generating units), at which distributed generation (both variable and dispatchable) would become unmanageable for their systems utilizing current monitoring, control and communications technology. Please describe the technology that would be needed on the respective transmission and distribution systems to integrate and manage large variable generation connected to the distribution systems.

Question 63

**Preamble:** Many parties commented that the installation of smart meters and Advanced Metering Infrastructure (AMI) could empower consumers with a greater ability to control electricity consumption and costs by providing consumption and pricing information in a more timely and frequent manner. The Commission wants to understand how the deployment of smart metering and AMI technology should be executed and staged.

**Request:**

If consumers are provided access to wholesale market pricing and hourly consumption information, and have the ability to choose a retail service offering that is tied to the hourly wholesale price, or other direct pricing signal, can electric distribution system owners deploy smart metering and AMI technologies to just those consumers who choose to utilize the technology to monitor and control their electricity consumption? What would be the challenges and barriers, as well as the advantages, of accommodating these consumers only versus a mass deployment of the technology?

Question 64

**Preamble:** Many parties considered it important that open standards are used in the deployment of smart grid communications to ensure interoperability. Alcatel-Lucent Canada Inc. noted<sup>2</sup> that it is also possible to use proprietary solutions in well-defined areas of the smart grid. The Commission wants to better understand the participants' views regarding the use of proprietary systems.

**Request:**

The Commission requests that parties comment on what systems could or would be considered proprietary, why they should be proprietary and what actions the owners of proprietary systems should take to mitigate the risk of vendor lock-in or system obsolescence due to the proclamation of an open standard by a recognized standards setting organization after a proprietary solution was deployed.

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<sup>2</sup> Exhibit 89.01, page 15.

Question 65

**Preamble:** Many parties provided qualitative statements regarding the viability of the smart grid in Alberta. The Commission wants to better understand the parties' reasons for reaching their conclusions.

**Request:**

The Commission requests that, where possible, parties provide citations for all resources, data, and analysis used to reach their conclusions on the viability of the smart grid in Alberta.

Question 66

**Preamble:** The Commission seeks further comments from parties on approaches to estimating the costs and benefits of smart grid demonstration projects.

A report, *Methodological Approach for Estimating the Benefits and Costs of Smart Grid Demonstration Projects* (Final Report) dated January 2010 and prepared by The Brattle Group<sup>3</sup> et al for the Electric Power Research Institute may be accessed at:

[http://my.epri.com/portal/server.pt?Abstract\\_id=000000000001020342](http://my.epri.com/portal/server.pt?Abstract_id=000000000001020342)

**Request:**

The Commission requests that parties provide comment on the applicability of this evaluation model to the Alberta market. Parties may also reference other similar reports or studies in their responses.

Question 67

**Preamble:** The Commission seeks comments from parties regarding the effects of demand response programs and dynamic pricing on vulnerable consumers.

A report, *The Impact of Dynamic Pricing on Low Income Customers* (IEE Whitepaper) dated June 2010 and prepared by The Brattle Group for the Edison Foundation, may be accessed at:

[http://www.edisonfoundation.net/iee/reports/IEE\\_LowIncomeDynamicPricing\\_0610.pdf](http://www.edisonfoundation.net/iee/reports/IEE_LowIncomeDynamicPricing_0610.pdf)

**Request:**

The Commission requests that parties provide comments on this material in the context of the Alberta market. Parties may also reference other similar reports or studies in their responses.

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<sup>3</sup> The Brattle Group was retained on April 1, 2010 to assist staff and to provide technical support and advice to the Commission during all phases of the Smart Grid Inquiry.