Two-Way Communication:
OEB Smart Meter Initiative

01/05/2005

File: RP-2004-0196

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SmartSynch believes the functionality proposed in the Smart Meter Implementation Plan should dictate the technology utilized and not the other way around whereby technology dictates functionality.

Consequently, SmartSynch believes the following required and desired functionality will eventually mandate the selection of two-way communication for successful smart meter implementations:

1) Two-way communication enables dynamic load curtailment and critical peak pricing programs by marrying real-time consumption with real-time energy market influences. This real-time data enables LDCs to provide the conservation inducing pricing structures necessary to change consumption practices. One-way communication effectively nullifies these fundamental dynamic pricing structures as a mechanism for promoting conservation, the most important objective of the Smart Meter Initiative.

2) Two-way communication provides the greatest flexibility in modifying future TOU rate structures to better fit conservation efforts on a long-term basis as the needs of the LDCs and consumers change or become more clearly defined.

3) Two-way communication systems provide better mechanisms to support automated load control services and equipment.

4) Two-way communication allows for the automated and timely reporting of meter and system diagnostics used to gage the overall performance and health of the smart meter system.

5) Two-way communication affords lower on-going maintenance costs by reducing the likelihood of expensive site visits to smart meters.

6) Two-way communication as a baseline reduces the risk of costly upgrades for added functionality at a later date.

7) Two-way communication supports message delivery confirmation and provides timelier feedback on task success.

8) Two-way communication supports on-demand interrogation of the smart meter (e.g. register reads).

9) Two-way communication systems are capable of producing higher data collection success rates by providing the automatic push of data by the smart meter and automatic remote retrieval of data not yet received by the collection system.

10) Two-way communication systems are capable of supporting tighter time frames for data availability by allowing for greater processing parallelism as each individual smart meter may concurrently push data back to the collection system.

11) Affordable and proven two-way communication systems exist which can be implemented within the OEBs target goals for cost recovery.

Additional answers to questions posed by the OEB:

1. What are the benefits and drawbacks of mandating a two-way communication network?

   Please see above

2. In the event of Province-wide two-way communication, should electricity distributors be responsible for operating the communication network?

   Electricity distributors should not be responsible for operating the communication network when many public networks are utilized by proven technologies and maintained by companies focused on the service and performance of the network as their main means of revenue production.

   As noted in section 1.1.5 and 1.1.6 of Appendix D-11

   Publicly owned wireless networks with the primary service offering being either public voice or data services do not depend on SMS for its primary source of revenue. Service providers are responsible for maintaining and upgrading the network. This alleviates core responsibility and the maintaining of staff with specialized skill sets within the LDC.

3. If not, how should a communication operator or operators be selected?

   The LDCs should form buying groups focused on determining which communication operator(s) best meet their needs.

   As noted in the opening paragraph of Appendix D-11:

   The inherent strengths and weakness of each SMS is inherently based to a large degree on the telecommunications medium used to transmit the data. Diversity in the type of customer base, demographics and telecommunications infrastructure availability will necessitate LDCs selecting systems that are most appropriate, cost effective and available for deployment in their service territory.

Furthermore, as noted by the Working Group on Data and Communications (WGD&C) in section 1.1.5 and Section 1.1.6 of Appendix D-11 for those utilities selecting a wireless solution,

WGD&C recommends that a bulk purchasing agreement be implemented for utilities opting for this network solution in order to strike the most cost effective pricing contract with the wireless network provider.

4. How would rates for the communication operators be set and/or collected?

   The rates for the communication operators would be built-in to the total recovery costs for the Smart Meter Initiative without exceeding the target cost goals desired by the OEB.

5. If there is a two-way communication network, would an open data protocol aid the development and availability of end-devices and services?

   More information on the target data protocol would be required to make a full assessment as to the benefits or disadvantages of an open data protocol.