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March 20, 2011

Ontario Energy Board  
P.O. Box 2319  
2300 Yonge Street  
27th Floor  
Toronto, ON M4P 1E4

Attention: Ms. Kirsten Walli, Board Secretary

Dear Ms. Walli:

Re: 2011 COS Rate Application  
EB-2010-0145  
Responses to Technical Conference Questions

Enclosed please find Woodstock Hydro Services Inc. responses to the Technical Conference Questions (TCQ's) filed by Board Staff in the above noted proceeding.

The TCQ Responses will be filed through the Board's web portal (PDF) and also sent by email and 2 paper copies.

Should there be any questions, please do not hesitate to contact me. Thank you.

Respectfully submitted,

*Original Signed By:*

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## 1. Computer Hardware and Software Requirements

Ref: Board staff Interrogatory # 6

- a) Please provide a more detailed description of a Storage Area Network (SAN), including the approximate capital and operating cost, and an analysis of whether this is a cost that could be shared economically amongst several distributors.

### **Response:**

For the past decade, the approach to information technology at WHSI has been to purchase an individual server for each enterprise application. Each server would be purchased in response to the supplier's stated requirements for processor type and capacity (CPU), memory (RAM) and hard drive storage space (MB or GB of file storage). Redundancy and failover functionality in the form of RAID configurations would be a typical requirement for an enterprise server, adding significant cost to the hard drives purchased for each server.

A storage-area network (SAN) can be thought of as one, very large hard drive that is accessed by and used to store critical data for all of the enterprise servers and their applications. All of the hard disk drives, and therefore all of the corporation's critical data, are in a single location (spread across multiple hard drives within the one unit). Redundancy is built into the SAN to ensure that if a single drive or even multiple drives fail, there is no data loss. Research shows that most enterprise servers have copious amounts of storage room that is never used. Because all data storage was located inside each individual server, there was no effective way to efficiently allocate storage space between all of the servers. Also, if one server grew exponentially, you could run the risk of running out of storage space entirely. The cost of a single SAN is less than the overall cost of individual hard drives on a number of disparate servers. By consolidating the storage into one location, the organization gains immediate access to available storage space, allowing for efficiency and cost-effectiveness in storage. In a disaster-recovery scenario, a single SAN allows for the software applications for an entire organization to be resurrected without having to purchase a full, parallel environment.

In terms of the actual look and feel of a SAN, it looks like a server and is maintained and operated in a server room much like a single server would be.

The purchase cost in 2010 for one Dell EqualLogic 6000E Storage Area Network was \$59,100. The SAN provides 16 terabytes of storage capacity (16 drives x 1 TB/drive), and included a five-year warranty. During the five-year warranty period, no additional costs are incurred.

Going forward, WHSI will not have to purchase costly hard drive technology for the server environment, as all storage is centralized on the SAN. In the past, 20 servers with an average cost of \$9,000 each for a conventional server with redundant hard drives would have amounted to a hardware investment of \$180,000. 6 “super servers” (allowing for up to 24 “virtual” servers in total) at a cost of \$10,000 each, along with a SAN at a cost of \$60,000, results in a total hardware investment of \$120,000 (savings of \$60,000 strictly with respect to hardware costs). In addition to the savings, the latter configuration is much more efficient, flexible, and easy to administer. A “super server” requires only processing and memory capability, allowing the cost to be approximately the same as a conventional server capable of supporting only one enterprise application. It would be virtually impossible to share a SAN with another distributor while at the same time ensuring the security, safety and privacy of customer and corporate data. The SAN purchased by WHSI was sized to meet our data requirements, and therefore would not have sufficient storage capacity to accommodate the needs of a partner LDC.

- b) Please provide a more detailed description of WHSI’s Disaster Recovery site, including an analysis of whether this is a cost that could be shared economically amongst several distributors.

**Response:**

- a) WHSI does not have or maintain its own private disaster-recovery site. We have signed a “Co-location Service Agreement” with a company that rents storage space at a highly-secure, private, guarded, Class A data centre located in southwestern Ontario. The support organization also assists WHSI with our disaster-recovery management needs at the data centre as part of their service offering. Rack-mount storage space is provided for WHSI’s DR hardware along with secure, remote access (via the Intranet) through which we administer and maintain our data at the DR site. Rack space is rented out in “U’s” (a shortform for “rack unit” which is a unit of measure for information technology equipment and references the height of equipment which will be rack-mounted – one rack unit is 1U). Since the operating cost is determined by “U’s”, and WHSI requires dedicated and secure access to our hardware located at the DR site, there would be no benefit to partnering with other LDCs. WHSI has made every effort to minimize the number of U’s of rental space required and obtained quotations from a number of suppliers before selecting our supplier.

## 2. Conservation Effect of Prepaid Meters

Ref: Board staff Interrogatory # 4

WHSI has provided its plan for the discontinuation of prepaid metering in Appendix D, dated February 13, 2009, which is a slide deck. At slide # 13 'Prepaid -> Conservation', the conservation effect of prepaid metering is identified at 15%, which is presumably lost over time with the discontinuation of the program.

- a) Does WHSI consider that this effect is reflected in the coefficients of its load forecast model, perhaps in the coefficient of the CDM Activity variable?

**Response:**

WHSI has no quantifiable information to test whether the effect of prepaid metering is reflected in the coefficients of the load forecast. However, in WHSI's view it could be reasonable to assume that the presumable lost of conservation effects of prepaid metering will be offset by the effects of TOU pricing and the implementation of CDM targets resulting from the Minister's Directive to the Board regarding CDM targets over a four-year period beginning January 1, 2011. The effect of TOU pricing and the four-year CDM targets have not been reflected in proposed load forecast outlined in the application.

- b) If so, does WHSI consider that the coefficient is unsuitable for the load forecast, considering the program has been discontinued?

**Response:**

Please see response to part a).

### **3. Effect of CDM Activity Level on the Load Forecast**

Ref: VECC Interrogatory # 3; Exhibit 3 / Tab 2 / Schedule 1 / p. 10

The methodology described in the response to the interrogatory results in a steady monthly addition to CDM activity, starting from 2008.

- a) How has WHSI ensured that the outcome is consistent with the expected results for 2009 of 423,250 kWh, as described in the application at 3 / 2 / 1 / p.10?

**Response:**

The outcome of the OPA CDM Activity variable is consistent with the expected incremental savings for 2009 of 423,250 kWh, as described in the application at 3 / 2 / 1 / p.10 since the difference in the year-end value of the OPA CDM Activity variable between 2009 and 2008 is 423,250 kWh.

- b) Please provide a comparison of the assumed CDM activity as constructed by WHSI for its load forecast model and the target CDM results allocated to WHSI.

**Response:**

In responding to the question it is assumed Board staff is referring to the target CDM results allocated to WHSI reflecting the Minister's Directive to the Board regarding CDM targets over a four-year period beginning January 1, 2011. Assuming this is the case; in the application the proposed load forecast assumes the annual incremental CDM savings will be 423,250 kWh. It is WHSI's understanding that the OPA has developed a method to record CDM savings over the four years to achieve the CDM targets in the Minister's Directive. This method assumes that if a distributor implements programs to save an additional 10% of the 2011-2014 Net Cumulative Energy Savings in each year and the results of the programs continue into the next year then the targets will be achieved. Under this assumption WHSI's annual incremental target will be 1,888,000 kWhs for 2011 to 2014 which is 10% of the 18,880,000 kWh of WHSI's 2011-2014 Net Cumulative Energy Savings.

#### **4. Streetlight Connections**

Ref: Board staff Interrogatory # 21

The tariff in Exhibit 1 / Tab 1 / Schedule 4 / Appendix A / Streetlights include a Monthly Service Charge of \$2.20 per connection. Using the nomenclature in the interrogatory response, please clarify whether the charge is per “device”, i.e per streetlight, or alternatively whether the charge is to be levied per connection as the word is used in the cost allocation study.

**Response:**

The \$2.20 per connection charge refers to the charge per “device”, i.e. per streetlight.

## 5. MicroFIT

Ref: Board staff Interrogatory # 24

The first paragraph of the response appears to have ended prematurely. Please provide the remainder of the intended response.

**Response:**

The last sentence of the first paragraph of WHSI's IRR to OEB Staff IR#24 should have read:

"WHSI would collect an additional \$252 in revenue over and above its base revenue requirement by billing microFIT rates to customers because the revenue offset accounts did not include an amount for microFIT revenue. Until the release of the OEB's Accounting Procedures Handbook FAQ on December 23, 2010, that directed LDC's to record microFIT revenues in account 4235, WHSI had presumed that microFIT revenues were to be included in a sub-account 4080. This has since been corrected and WHSI now recognizes microFIT revenues in account 4235, Miscellaneous Service Revenues.