

**Haldimand County Hydro Inc.  
2012 Smart Meter Cost Recovery  
EB-2012-0272  
Vulnerable Energy Consumers Coalition (“VECC”)  
Interrogatory Responses**

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**VECC Question # 1**

**Reference:** Application, Page 36

Preamble: Haldimand indicates that Util-Assist monthly consulting costs continued for the NEPA group of LDCs including specific items such as legal fees related to the ODS vendor.

a) Please provide the legal costs and explain the nature of these fees.

**Response**

**As referenced, the legal costs related to the ODS vendor incurred from Util-Assist totalled \$242. This represented Haldimand County Hydro Inc.’s (“HCHI”) share of the NEPA group of utilities final payment for the legal review of the ODS contract.**

## **VECC Question # 2**

**Reference:** Application, Page 39

Preamble: Haldimand indicates that some of the more difficult installation were required to be completed during regular hours and by HCHI's own employees.

- a) Please explain why HCHI's own employees undertook this work and why Rodan was unable to undertake this work.

### **Response**

**HCHI's employees were used in these installations as they often involved upgrades that required scheduled appointments for planned outages with customers. The nature of this work (347/600 voltage rated equipment) also required two staff. The logistics of planning this work was more convenient and cost effective for internal staff as HCHI has a very large service territory. Travel considerations were incorporated into the work plan.**

### **VECC Question # 3**

**Reference:** Application, Page 43, Costs Beyond Minimum Functionality

Preamble: Haldimand indicates it only incurred operational costs related to the deployment of smart meters for the residential and GS<50 kW customer rate classes.

- a) Please confirm why none of the \$48,374 operating costs beyond minimum functionality apply to the GS 50 to 4,999 kW customer class.

#### **Response**

**HCHI has recorded a portion of the operating costs beyond minimum functionality to the General Service 50 to 4,999 kW customer class. The total operating costs in section 2.6 of the Models is \$48,567 of which \$193 was allocated to the General Service 50 to 4,999 kW customer class. Refer to page 44 to 45 of the Application.**

**The allocation was completed on the proportional basis of the number of Smart Meters installed to each of the three customer classes. Refer to section 25 “Cost Allocation” pages 49 to 56 of the Manager’s Summary.**

**It should also be noted that 95% of the costs recorded in section 2.6 of the Models is related to TOU pricing and billing implementation and customer education on TOU pricing, all of which is not applicable to the General Service 50 to 4,999 kW customer class.**

#### **VECC Question # 4**

**Reference:** Board Guideline G-2011-0001, Smart Meter Funding and Cost Recovery – Final Disposition, dated December 15, 2011, Page 19

**Preamble:** The Guidelines state, “The Board also expects that a distributor will provide evidence on any operational efficiencies and cost savings that result from smart meter implementation.”

- a) Please identify any other operational efficiencies and cost savings (beyond manual meter read savings) that Haldimand has experienced or anticipates will result from smart meter implementation.

#### **Response**

**HCHI has experienced some additional operational and engineering efficiencies and cost savings resulting from the integration of the AMI system with the MDM/R and the AMI system with the ODS and with its Geographical Information System (“GIS”).**

**The implementation of the AMI system has provided, and should continue to provide, Engineering staff with useful information for engineering and design purposes. Some of the data has been used for the following purposes:**

- 1. Hourly kWh data from smart meters has been manually aggregated to determine maximum transformer loading, maximum loading on a number of Step-Down Transformers (16 kV to 4.8 kV) in areas where voltage problems were evident;**
- 2. Hourly kWh data from smart meters has been manually aggregated on a per phase basis for feeder balancing purposes. Previously, recording ammeters would be installed and removed by a line crew for a short period of time. This was more time consuming and did not always capture the worst case results;**
- 3. Voltage information from smart meters is used for investigation of low voltage complaints. The information in some cases avoided the need to dispatch a crew to install, and again to remove, a voltage logger from a customer site;**
- 4. High voltage information has been used to identify a defective transformer. The transformer was changed before customers were aware of a problem with respect to high voltage, possibly**

- preventing damaged equipment and potential damage claims from these customers; and
5. HCHI anticipates that the use of “click” counts from meters could be used to identify areas that are experiencing a high number of momentary power interruptions. This functionality has not been used to a great extent as of yet.

HCHI anticipates that integrating the smart meter data store with its GIS and Distribution Analysis software will provide the most accurate information to run feeder optimization studies, load flow studies and more automated feeder balancing studies.

HCHI also anticipates that this information will be helpful in planning and provide useful data to prioritize capital projects such as those proposing voltage conversions.

It was expected that the smart meters would be able to provide power outage and restoration information so that our Operations staff could plan and respond to outage calls during storm events. At this point, the outage data has not been reliable to the extent it can provide us with such useful information.

The data that is available has many potential uses. Continuing expenses related to the development of software integration, training of staff and resources to analyze the information need to occur for the full utilization of the AMI system and the data available from it.

## VECC Question # 5

**Reference:** Smart Meter Model

a) Please provide a summary of one-time costs in 2012.

**Response**

**HCHI has not included any one-time costs in the 2012 Test Year.**

b) Please provide a comparison of audited smart meter costs to original budgeted costs and provide an analysis of any significant variances.

**Response**

**The following Table 1 summarizes the audited versus budgeted Smart Meter capital costs as at December 31, 2011, and the resulting variances.**

**Table 1: Smart Meter Capital Costs  
Actual vs. Budget**

Capital Costs	Audited Costs as at December 31, 2011	Budgeted Costs as at December 31, 2011	Variance Over / (Under)	% Variance Over / (Under)
1. Capital Costs				
1.1 Advanced Metering Communication Device (AMCD)	\$ 2,958,174	\$ 2,930,785	\$ 27,389	0.9%
1.2 Advanced Metering Regional Collector (AMRC)	\$ 640,788	\$ 646,539	\$ (5,751)	(1.1)%
1.5 Other AMI Capital Costs Related to Minimum Functionality	\$ 101,033	\$ 133,350	\$ (32,317)	(24.1)%
1.6 Capital Costs Beyond Minimum Functionality	\$ 87,084	\$ 92,938	\$ (5,854)	(6.1)%
<b>Total Capital Costs</b>	<b>\$ 3,787,079</b>	<b>\$ 3,803,612</b>	<b>\$ (16,533)</b>	<b>(0.1)%</b>

Note: Budget prepared by Util-Assist Inc. dated November 12, 2008

**The significant variances in the capital costs may be explained as follows:**

- 1. 1.5 Other AMI Capital Costs Related to Minimum Functionality – 24.1% under budget**
  - a. Actual Professional Fees with Util-Assist were under budget; and**
  - b. The actual costs related to staff training and integration were significantly under budget.**
- 2. 1.6 Capital Costs Beyond Minimum Functionality – 6.1% under budget**
  - a. The Util-Assist budget did not include any costs related to the General Service 50 to 4,999 kW customer class whereas the actual includes \$50,945 of audited costs for this customer class. If this amount is removed from the above table, the variance changes to \$(56,799) or 61.1% under budget. This variance of 61.1% all relates to under spending for the TOU customer web presentment tools, TOU bill print modifications, TOU customer education tool “Customer Comparator”, and the software interface between CIS and the MDM/R.**

**The following Table 2 summarizes the audited versus budgeted Smart Meter operating costs as at December 31, 2011, and the resulting variances.**

**Table 2: Smart Meter Operating Costs  
Actual vs. Budget**

Operating Costs	Audited Costs as at December 31, 2011	Budgeted Costs as at December 31, 2011	Variance Over / (Under)	% Variance Over / (Under)
2. OM&A Costs				
2.1 Advanced Metering Communication Device (AMCD)	\$ 119,128	\$ 95,010	\$ 24,118	25.4%
2.2 Advanced Metering Regional Collector (AMRC)	\$ 346,250	\$ 555,187	\$ (208,937)	(38.1)%
2.5 Other AMI OM&A Costs Related to Minimum Functionality	\$ 215,245	\$ 180,272	\$ 34,973	19.4%
2.6 OM&A Costs Related to Beyond Minimum Functionality	\$ 48,567	\$ 77,209	\$ (28,642)	(37.1)%
<b>Total Operating Costs</b>	<b>\$ 729,190</b>	<b>\$ 907,678</b>	<b>\$ (178,488)</b>	<b>(20.1)%</b>

Note: Budget prepared by Util-Assist Inc. dated November 12, 2008

**The significant variances in the operating costs may be explained as follows:**

**1. 2.1 AMCD – 25.4% over budget**

- a. The budget amount for maintenance costs was not enough to account for the number of repairs required to customer-owned meter bases that were found to be unsafe during the installation of the Smart Meter and the additional costs associated with the installation of the more difficult Residential and General Service Less than 50 kW customer classes (page 39 of Manager's Summary).

**2. 2.2 AMRC – 38.1% under budget**

- a. The budget amount for the service fees on the four Tower Gateway Base Stations was significantly higher than actuals. The budget contained fees for a full 12 months in 2009, 2010, and 2011, whereas the actual fees incurred did not commence until May 2009 with partial payments as discussed in response to



**Board staff IR # 4 a) and on pages 35, 37, and 40 of the Manager's Summary.**

**3. 2.5 Other AMI OM&A Costs Related to Minimum Functionality – 19.4% over budget**

- a. The budget did not include any costs related to the temporary contract position hired in Customer Service as discussed on page 35 of the Manager's Summary. If this amount is removed from the above table, the variance changes to \$(53,960) or 30.1% under budget. The variance of 30.1% all relates to costs coming in lower than expected for the fees for the ODS and the costs associated with the AMI security audit.**

**4. 2.6 OM&A Costs Related to Beyond Minimum Functionality – 37.1% under budget**

- a. The variance of 37.1% all relates to under spending for the TOU customer education sessions, TOU customer mailers, TOU rate notifications to customers, and the software support fees for the interface between CIS and the MDM/R.**