

**Hydro One Networks Inc.**

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**Susan Frank**

Vice President and Chief Regulatory Officer  
Regulatory Affairs



BY COURIER

March 3, 2011

Ms. Kirsten Walli  
Secretary  
Ontario Energy Board  
Suite 2700, 2300 Yonge Street  
Toronto, ON.  
M4P 1E4

Dear Ms. Walli:

**EB-2010-0332 – Hydro One Networks' Board-Approved CDM Programs Application - Application and Evidence and Interrogatory Responses Update Filing**

I am attaching two (2) paper copies of the Hydro One Networks' updated Application and Prefiled Evidence that was filed with the Board on November 1, 2010 and an update to the Interrogatory Responses that were filed with the Board on January 27, 2011.

A detailed list of the updates for EB-2010-0332, are provided below:

Exhibit C1, Tab 1, Schedule 2	Update pages 52, 53
Exhibit I, Tab 1, Schedule 8	Update page 1, 2.
Exhibit I, Tab 7, Schedule 2	Update page 1
Exhibit TCJ1.4	Update page 1, 2

An electronic copy of the complete application, including the attached updates has been filed using the Board's Regulatory Electronic Submission System.

Sincerely,

ORIGINAL SIGNED BY SUSAN FRANK

Susan Frank

Attach

c. Intervenor

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BY COURIER

February 17, 2011

Ms. Kirsten Walli  
Secretary  
Ontario Energy Board  
Suite 2700, 2300 Yonge Street  
P.O. Box 2319  
Toronto, ON.  
M4P 1E4

Dear Ms. Walli:

**EB-2010-0332 – Hydro One Networks' Board-Approved CDM Programs Application – Technical Conference Undertaking Responses**

Attached are two copies of Hydro One Networks' responses to the Undertakings from the technical conference in the above-mentioned proceeding.

Sincerely,

ORIGINAL SIGNED BY SUSAN FRANK

Susan Frank

## **UNDERTAKING**

### **Undertaking**

**TO PROVIDE ORIGINAL BUDGETS SET FOR PROGRAMS FOR WHICH HYDRO ONE HAS PROVIDED BUDGET RESULTS IN ITS ANNUAL REPORTS.**

### **Response**

The table below is consistent with the existing evidence in EB-2010-0332, Exhibit I, Tab 9, Schedule 7 (page 5 of Attachment 1 and page 5 of Attachment 4). This table shows the original three-year projected budget compared with the actual spending at the end of the program.

<b>Market Adjusted Revenue Requirement ("MARR") Funding Variance between Budget and Spending</b>			
<b>PROGRAM</b>	<b>ORIGINAL 3- YEAR BUDGET (2005) (\$K)</b>	<b>REALLOCATED 3-YEAR BUDGET (\$K)* (2005-2008)</b>	<b>ACTUAL SPENDING TO DEC 2008 (\$K)</b>
<b>Residential</b>			
Smart Meters	7,800	7,800	7,800
Real Time Monitoring Pilot	425	470	466
Real Time Monitoring Program	1,400	5,085	5,082
Mass Market Coupon Initiative	1,500	2,465	2,467
LED	430	430	432
Low Income/Social Housing	5,000	3,200	3,167
Load Control Pilot	1,220	710	710
Load Control Program	3,500	4,660	4,536
Energy Audits/Analysis	230	215	213
<b>Total</b>	<b>21,505</b>	<b>25,035</b>	<b>24,873</b>
<b>Commercial/Industrial, Farm, MUSH</b>			
Interim Time of Use	475	1,130	1,145
C/I MUSH Conservation	600	1,040	1,015
C/I & Farm Load Control	3,500	2,390	2,339
Farm Energy Efficiency	750	510	458
<b>Total</b>	<b>5,325</b>	<b>5,070</b>	<b>4,957</b>
<b>Common</b>			
Distribution Loss Reduction	8,000	6,175	6,552
Program Management and Research	3,700	2,500	2,425
Communication and Education	1,000	765	749
Carrying Charge			25
<b>Total</b>	<b>12,700</b>	<b>9,440</b>	<b>9,751</b>
<b>Grand Total</b>	<b>39,530</b>	<b>39,545</b>	<b>39,581</b>

\* The Reallocated 3-Year Budget reflects adjustments for:

- 1 a) reduced expenditures in Distribution Loss Reduction based on the results of detail
- 2 technical studies,
- 3 b) higher/lower than expected program uptake (e.g. Real Time Monitoring Program),
- 4 and
- 5 c) Higher than expected process efficiencies (reduced costs in Program Management
- 6 and Research).
- 7

## **UNDERTAKING**

### **Undertaking**

TO PROVIDE FORECAST OF REDUCED ENERGY CONSUMPTION IN 2014 AS A RESULT OF ALL CDM PROGRAMS, AND A BREAKOUT OF FORECAST RESULTS FOR EACH PROGRAM INDIVIDUALLY.

### **Response**

The table below shows the energy savings associated with OPA-Contracted programs and OEB-Approved initiatives by year.

<b>Annual Energy Savings from OPA-Contracted and OEB Programs</b>					
<b>Savings</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>Total 2011 2014</b>
OPA Programs - Annual Energy Savings (MWh)	77,000	173,000	270,000	373,000	894,000
OEB Programs - Annual Energy Savings (MWh)	19,000	43,000	54,000	64,000	179,000
<b>Total - Programs - Annual Energy Savings (MWh)</b>	<b>96,000</b>	<b>216,000</b>	<b>324,000</b>	<b>437,000</b>	<b>1,073,000</b>

For the proposed OEB-Approved initiatives, the following table provides the estimated MWh energy savings in 2014:

	<b>Community Events</b>	<b>Neighbourhood Benchmarking</b>	<b>Small Commercial DR</b>	<b>Monitoring &amp; Targeting</b>	<b>Municipal &amp; Hospital</b>	<b>Double Return Plus</b>	<b>Total</b>
Contribution from 2014	1,170	18,400	2,700	1,700	2,950	6,700	33,620
Contribution from previous years (2011, 2012 nd 2013)	3,180	-	6,250	3,500	7,950	9,400	30,280
<b>Total Energy MWh reduction in 2014</b>	<b>4,350</b>	<b>18,400</b>	<b>8,950</b>	<b>5,200</b>	<b>10,900</b>	<b>16,100</b>	<b>64,000</b>

\*Note: numbers may not add up due to rounding

Below is the same information summarized by customer class:

<b>Board-Approved initiatives (Contribution of Energy Savings) MWh</b>				
	<b>Residential</b>	<b>Commercial</b>	<b>Industrial</b>	<b>Total</b>
Savings achieved in 2014	19,570	9,010	5,040	<b>33,620</b>
Savings achieved from previous years	3,180	19,360	7,740	<b>30,280</b>
<b>Total</b>	<b>22,750</b>	<b>28,370</b>	<b>12,780</b>	<b>64,000</b>

Estimates of the 2014 OPA programs energy savings by sector is shown in the table below:

<b>OPA programs (Contribution of Energy Savings) - MWh</b>				
	<b>Residential</b>	<b>Commercial</b>	<b>Industrial</b>	<b>Total</b>
Savings achieved in 2014	53,000	58,000	19,000	130,000
Savings achieved from previous years	99,000	108,000	35,000	243,000
<b>Total</b>	<b>153,000</b>	<b>166,000</b>	<b>54,000</b>	<b>373,000</b>

**UNDERTAKING**

**Undertaking**

TO PROVIDE DATE OPA PROVIDED AVOIDED COST NUMBERS TO HYDRO ONE.

**Response**

The source for the avoided supply costs is the OPA's IPSP filed in Q3 2007 reference: EB-2007-0707 Exhibit I, Tab 22, Schedule 28, Attachment 1 - TRC Test Results, Sheet "Total AC". A component of the avoided supply cost (generation capacity costs) was subsequently updated by the OPA in Q1 2009.

This updated information was incorporated into Hydro One's cost-effectiveness analysis.

## **UNDERTAKING**

### **Undertaking**

To provide the savings for the six programs (Board-Approved CDM programs) associated with the life of the equipment, annually, beyond 2014.

### **Response**

The following tables provide estimates for the kWh savings expected to persist during the life of the equipment used in the six proposed OEB initiatives.

#### Community Events:

Community Events (MWh Savings)										
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Annual Energy MWh Reduction in 2014 and Beyond	4,350	4,350	4,350	4,350	4,350	3,590	3,590	3,510	2,340	1,170

#### Neighbourhood Benchmarking\*:

Neighbourhood Benchmarking	
	2014
Annual Energy MWh reduction in 2014	18,400

\*No equipment is used in this program.

#### Small Commercial Energy Management and Load Control:

Small Commercial DR (MWh Savings)										
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Annual Energy MWh Reduction in 2014 and Beyond	8,950	8,950	8,950	8,950	8,950	8,950	8,950	7,750	5,200	2,700



Monitoring & Targeting:

Monitoring and Targeting (MWh Savings)								
	2014	2015	2016	2017	2018	2019	2020	2021
Annual Energy MWh Reduction in 2014 and Beyond	5,200	5,200	5,200	5,200	5,200	5,200	3,450	1,700

Municipal and Hospital:

Municipal and Hospital (MWh Savings)								
	2014	2015	2016	2017	2018	2019	2020	2021
Annual Energy MWh Reduction in 2014 and Beyond	10,900	3,900	3,900	3,900	3,900	3,900	3,900	3,900

Municipal and Hospital (MWh Savings) Continued								
	2022	2023	2024	2025	2026	2027	2028	2029
Annual Energy MWh Reduction in 2014 and Beyond	3,900	3,900	3,900	3,900	3,900	2,925	1,950	975

Double Return Plus:

Double Return Plus (MWh Savings)										
	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Annual Energy MWh Reduction in 2014 and Beyond	16,100	12,400	12,400	12,400	12,400	12,400	12,400	9,100	6,000	3,000

**UNDERTAKING**

**Undertaking**

Provide available Navigant advice on achievable participation rates for the six programs.

**Response**

Out of the six programs, only two were part of the consultant's proposed portfolio, M&T and MUSH programs. Due to the heterogeneous nature of the customer base for these two programs, specific modeling of participation rates by year was not performed by the consultant.

## **UNDERTAKING**

### **Undertaking**

Provide response to GEC interrogatory No. 8, without customer number information already provided.

### **Response**

The table below shows the mapping of CDM opportunities based on the Navigant proposed portfolio and Hydro One-identified opportunities:

Initiative name	Proposed by Navigant	Included in 2011-2014 proposed Board-Approved	Included in the 2011-2014 OPA-Contracted	Under consideration
<b>Residential</b>				
Neighbourhood Benchmarking		X		
Community Education Events		X		
Heat Pump Water Heater Incentive	X			X
In-Home Display	X		X	
Electric Thermal Storage Heater Promotion	X			X
<b>Commercial and/or Industrial</b>				
Re-Commissioning program	X		X	
Commercial Energy Audit program	X		X	
Small Commercial Energy Management and Load Control		X		
Support for the MUSH Sector (adopted as Municipal and Hospital Energy Efficiency Performance)	X	X		
Compressed Air Program	X			X
Monitoring & Targeting Initiative	X	X		
Industrial Energy Audit Program	X		X	
Double Return Plus		X		
<b>Agricultural</b>				
Energy Audit Program	X		X	

The table below shows the number of customers that are eligible for the six Board-Approved CDM programs and the expected number of participants:

<b>Initiative 1: Community Education</b>				
<b>Customer Type</b>	<b>Total # in Hydro One Service Area</b>	<b>Program Target Market - # of customers</b>	<b>Total Forecasted # of Participants by end of 2014</b>	<b>% of Target Market</b>
Residential	930,000	930,000	128,353	14%
Seasonal	150,000	150,000	21,647	14%
<b>Total</b>	<b>1,080,000</b>	<b>1,080,000</b>	<b>150,000</b>	
<b>Initiative 2: Neighbourhood Benchmarking</b>				
<b>Residential</b>	<b>930,000</b>	<b>930,000</b>	<b>50,000</b>	<b>5%</b>
<b>Initiative 3: Monitoring &amp; Targeting</b>				
Commercial	1,000	830	16	2%
Industrial	900	770	24	3%
<b>Total</b>	<b>1,900</b>	<b>1,600</b>	<b>40</b>	
<b>Initiative 4: Small Commercial Energy Management and Load Control</b>				
General Service less than 200kW	90,000	83,000	5,600	7%
<b>Initiative 5: Municipal and Hospital Energy Efficiency Performance</b>				
Municipalities	366	366	27	7%
Hospitals	79	79	6	8%
<b>Total</b>	<b>445</b>	<b>445</b>	<b>33</b>	
<b>Initiative 6: Double Return Plus</b>				
Commercial	550	450	52	12%
Industrial	450	430	78	18%
<b>Total</b>	<b>1,000</b>	<b>880</b>	<b>130</b>	

**UNDERTAKING**

**Undertaking**

Ask OPA whether it will consent to put on the record in this proceeding information on expected savings from codes and standards and other OPA initiatives, other provincial initiatives; to provide aggregated information by year.

**Response**

OPA's response to Hydro One Networks Inc. (received February 9, 2011):

"In response to Hydro One's request regarding Undertaking No. TCJ1.7, the OPA advises Hydro One that updated estimates of conservation savings expected to be met through programs and/or policy instruments, rather than OPA funded programs, are anticipated to be made available as part of the Integrated Power System Plan process."

## **UNDERTAKING**

### **Undertaking**

Provide sensitivity analysis showing sensitivity of each program to Hydro One's assumption of the participation rate.

### **Response**

The table below shows the participation sensitivity analysis for each of the six proposed OEB initiatives. In the far right column titled "Number of participants" there are two headings, one showing the participation assumptions used in the TRC and PAC estimates as presented in the evidence. The other heading shows the breakeven participation assumptions where TRC and PAC ratios equal one (the benefits and the costs are equal). For example, for the Community Education initiative, the expected participation is 77,000 customers (receiving energy efficiency giveaways). However, the breakeven sensitivity analysis shows that the actual number of participants could be as low as 42,000 customers (46% decrease) and the TRC ratio would still remain positive, maintaining the cost effectiveness of the program.

Initiative	Test	Ratio	Number of participants	
			Input Assumption	Breakeven Sensitivity** (TRC=1, PAC=1)
Community Education*	TRC	1.7	77,000	42,000 (~46% reduction)
	PAC	1.6	77,000	43,000 (~44% reduction)
Neighbourhood Benchmarking	TRC	1.2	50,000	NA (we control participation)
	PAC	1.2	50,000	NA (we control participation)
Monitoring & Targeting	TRC	1.6	40	16 (~60% reduction)
	PAC	1.5	40	18 (~55% reduction)
Small Commercial DR	TRC	1.7	5,600	2,800 (~50% reduction)
	PAC	1.9	5,600	2,500 (~55% reduction)
Municipalities & Hospitals	TRC	1.4	33	24 (~27% reduction)
	PAC	1.1	33	25 (~24% reduction)
Double Return Plus	TRC	11.3	130	13 (~90% reduction)
	PAC	7.4	130	13 (~90% reduction)

\* Out of 150,000 participants, 77,000 received products;

\*\*All breakeven numbers are approximate estimates

**UNDERTAKING**

**Undertaking**

Provide estimates of rate of inquiry through call centre, regarding Home Energy Report.

**Response**

Based on past experience in other jurisdictions, Hydro One expects less than 2% of the participants to send enquiries through the call centre per month (roughly 100 to 150 calls). The rate of enquiry through the call centre is expected to decrease after the first three to six months by approximately 30%.

**UNDERTAKING**

**Undertaking**

Advise how HONI/HOBNI will ensure the addition of employees to facilitate rollout of programs is funded through the global adjustment and not through distribution rates.

**Response**

Hydro One has separate accounts for OEB Approved and for OPA-Contracted programs. Resources added to facilitate the rollout of programs funded through the Global Adjustment Mechanism (“GAM”) will be tracked by program. For OPA-contracted programs, OPA will be invoiced. For Board-Approved programs, resources will be charged to the OEB account.



**UNDERTAKING**

**Undertaking**

Confirm whether amounts in chart include only salary plus benefits, or whether they include other overhead items and burdens.

**Response**

The amounts in the chart include base salary plus payroll burdens of pension, employment benefits, and government obligations.

**UNDERTAKING**

**Undertaking**

Show where budgets cover the costs of the five additional staff for OPA programs.

**Response**

Exhibit I, Tab 5, Schedule 13 which was provided orally on February 4, 2011 already:

The cost of the 5 additional staff for OPA-Contracted programs is captured in the allocated Program Administration Budget ("PAB") funding. Please refer to Board Staff Interrogatory # 1, Exhibit I, Tab 1, Schedule 1 for details.

**UNDERTAKING**

**Undertaking**

Provide a table to consolidate budget amounts.

**Response**

The table below provides the consolidated budget amounts.

Total Program					
Pogram costs	2011	2012	2013	2014	Total 2011-2014
<b>Marginal costs</b>					
<i>Total Fixed</i>	\$ 2,845,800	\$ 3,272,400	\$ 3,267,400	\$ 3,272,400	\$ 12,658,000
<i>Total variable</i>	\$ 1,779,200	\$ 2,723,600	\$ 2,733,600	\$ 2,073,600	\$ 9,310,000
<b>Total Marginal costs</b>	<b>\$ 4,625,000</b>	<b>\$ 5,996,000</b>	<b>\$ 6,001,000</b>	<b>\$ 5,346,000</b>	<b>\$ 21,968,000</b>
<b>Allocable costs</b>					
<i>Fixed Allocable</i>	\$ 387,300	\$ 441,300	\$ 436,300	\$ 440,300	\$ 1,705,200
<i>Variable Allocable</i>	\$ 222,500	\$ 352,500	\$ 352,500	\$ 287,500	\$ 1,215,000
<b>Total Allocable costs</b>	<b>\$ 609,800</b>	<b>\$ 793,800</b>	<b>\$ 788,800</b>	<b>\$ 727,800</b>	<b>\$ 2,920,000</b>
<b>Total Program Cost</b>	<b>\$ 5,234,800</b>	<b>\$ 6,789,800</b>	<b>\$ 6,789,800</b>	<b>\$ 6,073,800</b>	<b>\$ 24,888,000</b>
Financial Incentives	\$ 809,500	\$ 1,548,500	\$ 2,097,500	\$ 2,656,500	\$ 7,112,000
<b>Total Program Budget</b>	<b>\$ 6,044,300</b>	<b>\$ 8,338,300</b>	<b>\$ 8,887,300</b>	<b>\$ 8,730,300</b>	<b>\$ 32,000,000</b>

**UNDERTAKING**

**Undertaking**

Provide a breakdown, based on the existing assumptions, for the six proposed programs.

**Response**

The following table provides a breakdown of MWh energy savings in 2014 for the six proposed OEB initiatives:

	Community Events	N. Benchmarking	Small Commercial DR	Monitoring & Targeting	Municipal & Hospital	Double Return Plus	Total
MWh Savings - Contribution from 2011	840	-	1,200	-	2,250	3,300	7,590
MWh Savings - Contribution from 2012	1,170	-	2,550	1,750	2,750	3,100	11,320
MWh Savings - Contribution from 2013	1,170	-	2,500	1,750	2,950	3,000	11,370
MWh Savings - Contribution from 2014	1,170	18,400	2,700	1,700	2,950	6,700	33,620
<b>Total Energy MWh reduction in 2014</b>	<b>4,350</b>	<b>18,400</b>	<b>8,950</b>	<b>5,200</b>	<b>10,900</b>	<b>16,100</b>	<b>64,000</b>

\*Note: numbers may not add up due to rounding