

ONTARIO ENERGY BOARD

IN THE MATTER OF *the Ontario Energy Board Act, 1998*; AND IN THE MATTER OF an Application by Hydro One Brampton Networks Inc.

For an Order or Orders confirming the 2011 to 2014 Conservation and Demand Management Strategy and approving funding for the 2011 to 2014 Board-Approved Conservation and Demand Management Programs

APPLICATION

1. The Applicant is Hydro One Brampton Networks Inc. (“Hydro One Brampton”), a subsidiary of Hydro One Inc. The Applicant carries on the business as a local distribution company operating in Brampton Ontario.

2. Hydro One Brampton hereby applies to the Ontario Energy Board (the “Board”), pursuant to section 78 of the *Ontario Energy Board Act, 1998* (“the *OEB Act*”), for confirmation of the 2011 to 2014 Conservation and Demand Management Strategy (“CDM Strategy”). A Board confirmation of Hydro One Brampton’s CDM Strategy will endorse:

- a. the suite of Conservation and Demand Management Programs that Hydro One Brampton put forward to achieve its 2011 to 2014 Conservation and Demand Management Targets; and
- b. Hydro One Brampton’s anticipated energy and peak demand savings achievements for OPA-Contracted and Board-Approved CDM Programs for the 2011 to 2014 period.

3. Hydro One Brampton also seeks approval of the 2011 to 2014 Board-Approved Conservation and Demand Management Programs Application for 2011 to 2014 in accordance with the Conservation and Demand Management Code for Electricity Distributors. The six Board-Approved Conservation and Demand Management Programs included in this application are Community Education Events, Neighbourhood Benchmarking, Monitoring and Targeting, Small Commercial Energy Management and Load Control, Municipal and Hospital Energy Efficiency Performance, and Double Return Plus.

4. Hydro One Brampton seeks approval of its Board-Approved Conservation and Demand Management Application which will provide \$6.4 million to fund the six Board-Approved CDM programs that are listed above during the 2011 to 2014 period. The Board’s approval will enable payments from the Independent Electricity System Operator (the “IESO”) in accordance with section 78.5(1) of the *OEB Act*.

Figure 2 summarizes annual milestones for the combination of OPA-Contracted and Board Approved CDM Programs and shows that 100% of Hydro One Brampton's targets will be reached by the end of 2014.

Figure 2 – Annual Milestones

Milestone	2011	2012	2013	2014
Stage	Stage 1 - Program launch	Stage 2 - Programs settle/provide fine tuning	Stage 3 – Program matures	Stage 4 – Program full performance
% of target MW	20%	55%	90%	100.00%
% of target MWh	20%	55%	90%	100.00%

The stages that are identified include initiative launch, fine tuning, settling and full performance.

The forecasted budget requirement for OPA-Contracted and OEB- Approved programs is \$39.6 million and \$6.4 million respectively.

Currently, Hydro Brampton One has not included any CDM benefits that may result from the implementation of Time-of-Use pricing. Hydro One Brampton may revise its forecast to reflect CDM benefits in the future when more information is available on the CDM impacts of Time-of Use pricing.

Hydro One Brampton is applying for six Board-Approved programs:

- Community Education Program
- Neighbourhood Benchmarking
- Monitoring & Targeting
- Small Commercial Energy Management and Demand Response (“DR”) Initiative
- Municipal & Hospital Efficiency Performance
- Double Return Plus

The costs of the above programs are reflected in this Application. Detailed information on each proposed Board-Approved Program can be found at Exhibit B, Tab 1, Schedule 2, Section 4 and Exhibit C, Tab 1, Schedule 2.

Hydro One Brampton views the proposed Board-Approved CDM Programs as a key element for meeting its distributor licence condition. These proposed programs are cost-effective as they have all passed both the

Figure 4: Board-Approved CDM Programs

Initiative Name	Projected Budget (\$)	Total Projected Reduction in Peak Provincial Demand (MW)	Total Projected Reduction in Electricity Consumption (GWh)	Cost Effectiveness Tests	
				TRC Ratio	PAC Ratio
Community Education Events	177,000	0.02	1.4	1.5	1.5
Neighborhood Benchmarking	1,550,000	0.95	30.5	1.2	1.2
Monitoring & Targeting	1,435,000	1.62	3.5	1.6	1.5
Small Commercial Energy Management and Load Control	1,525,000	2.00	2.0	1.7	1.9
Municipal and Hospital Energy Efficiency Performance	794,000	.22	5.0	1.4	1.1
Double Return Plus	911,000	4.40	11.6	11.2	8.2
Total	6,392,000	9.20	54.0		

The MW and MWh estimates are based on Hydro One Networks Inc. past programs' and data from third party consultants.

Hydro One Brampton plan on offering the 6 proposed OEB Approved Programs, that were developed by Hydro One Networks Inc.. Hydro One Networks Inc. has carried out cost effectiveness tests, including Total Resource Cost ("TRC") and Program Administrative Cost ("PAC") tests.

The Program mix of the proposed OEB Approved Programs is essential for Hydro One Brampton to meet its CDM target. These programs offer a range of benefits including engagement of all customer sectors, CDM sustainability, and market transformation.

Figure 5: Board-Approved CDM Programs (Annual Results and Budget)

	2011	2012	2013	2014	Total
Annual MW by year end	2.3	5.0	7.1	9.2	9.2
Annual MWh	5,300	13,900	16,200	18,600	54,000
Total Budget (\$M)	1.42	1.70	1.72	1.55	6.39

Please refer to Exhibit C, Tab 1, Schedule 2 for the program descriptions for all of the OEB-Approved Programs.

4.2 Non-duplication with OPA-Contracted Program Initiatives

All Board-Approved CDM programs proposed in this Application were designed to target customer segments and/or customer needs that have not been addressed by the existing OPA programs and therefore they are not duplicative of the OPA CDM programs. Detailed descriptions of both the OPA Programs and the requested Board-Approved Programs can be found in Exhibit C, Tab 1, Schedule 1 and 2. As compared to OPA-Contracted Programs, Hydro One Brampton's proposed OEB-Approved Programs have the following distinct value proposition to Hydro One Brampton's customers.

Community Education

The OPA-Contracted programs do not provide an initiative similar to the Community Education Program. This program focuses on customer education and promotes the exchange of information between the utility and its customers at local community events. This program relies on a face-to-face interaction with the customer building on the history of Hydro One Brampton's customer outreach programs that have been in place since 2005. Hydro One Brampton has been very active in

2011 to 2014 Conservation and Demand Management Budget for Board-Approved Programs and Cost

Recover

1.0 Board Approval of Funding and Variance account

Hydro One Brampton seeks approval of CDM funding for Board-Approved CDM Programs of \$1.42 million for 2011, \$1.70 million for 2012, \$1.72 million for 2013 and \$1.55million for 2014.

In accordance with the CDM Code, Hydro One Brampton follows all of the Board's accounting policies and procedures specified for CDM activities. A fully-allocated costing methodology will be followed, in accordance with Appendix A of the CDM Code, for all CDM programs. Program funding and program expenditures from all Board-Approved CDM Programs will be kept separate from Hydro One Brampton's distribution operations.

After Board approval, payments from the Independent Electricity System Operator (the "IESO") in accordance with section 78.5(1) of the *Ontario Energy Board Act, 1998* will provide \$7.86 million to fund Board-Approved CDM programs during the 2011 to 2014 period.

Hydro One Brampton also seeks approval for a Board-Approved CDM Program Variance Account which will be used to record any differences between the funding awarded for Board-Approved CDM Programs and the actual spending for these programs.

2.0 Proposed Funding Process

In order to enable the completion of the Board Approved Programs, Hydro One Brampton requires funding. To achieve the required funding, Hydro One Brampton proposes that the funding for 2011 – 2014 Board-Approved CDM Programs be provided at the beginning of each month, over a four-year period starting January 1, 2011.

The following table provides the breakdown of Hydro One Brampton's CDM funding requirement for Board-Approved CDM Programs, by year:

Figure 7: Hydro One Brampton's Funding Requirement for Board-Approved CDM Programs

The proposed monthly payments are determined by dividing the projected annual budget requirement by 12.

Funding to be provided Annually	1,420,000	1,700,000	1,720,000	1,550,000	6,390,000
Corresponding monthly payments	118,000	142,000	143,000	129,000	

Hydro One Brampton has used the OPA's Measures and Assumptions Lists to calculate the peak demand reduction for the 2011 to 2014 period. Coincident peak demand reduction by the end of 2014 is projected to be 20kW.

Total Peak Reduction (MW) 2011-2014					
	2011	2012	2013	2014	Total Coincident Peak Demand Reduction by the end of 2014 (MW)
Community Education Initiative (MW)	0.004	0.009	0.015	0.02	0.02

7. Projected Reduction in Electricity Consumption (MWh):

Hydro One Brampton has used the OPA's Measures and Assumptions Lists to calculate the energy consumption reduction for the 2011 to 2014 period. Projected energy consumption reduction by 2014 is projected to be 1,394MWh

Total Energy Reduction (MWh) 2011-2014					
	2011	2012	2013	2014	Total Energy Reduction Cumulative (2011-2014)
Community Education Initiative (kW)	116	271	426	581	1,394

8. Projected Budget

The total projected budget for the four year initiative is \$176,880 inclusive of [REDACTED] in energy efficient giveaways.

Community Education Initiative - Budget (\$) 2011-2014*					
	2011	2012	2013	2014	Total 2011-2014
Marginal costs					
Fixed costs					
Event Planning and Administration	█ █████	█ █████	█ █████	█ █████	█ █████
Post-Event Reporting (Events Evaluation)	█ █	█ █	█ █	█ █	█ █
Total Fixed costs	█ █████	█ █████	█ █████	█ █████	█ █████
Allocable costs					
Fixed Costs					
Overhead	█ █████	█ █████	█ █████	█ █████	█ █████
Total Fixed Costs	█ █████	█ █████	█ █████	█ █████	█ █████
Total Program Costs	█ █████	█ █████	█ █████	█ █████	█ █████
Incentives (promotional giveaways)	\$ █████	█ █████	█ █████	█ █████	█ █████
Total Budget**	\$ 44,220	\$ 44,220	\$ 44,220	\$ 44,220	\$ 176,880

9. Cost-Effectiveness Tests Results

- TRC: 1.5
- PAC: 1.5

10. Draft Evaluation plan

Hydro One Brampton will ensure that the Community Events initiative will be evaluated in accordance with the OPA's EM&V Protocol guidelines. A Draft Evaluation Plan is attached. The initiative Final Evaluation plan will be prepared by an independent third party. The selection of the evaluation criteria and detailed elements of the Evaluation Plan will be determined by the independent third party. Measurement and verification of initiative peak demand savings (kW) and electricity savings (kWh) results will be conducted by a third party review contractor selected through an RFP process from the OPA's "Third Party Vendor of Record" list once the initiative is approved.

The following is a DRAFT EVALUATION PLAN TEMPLATE:

Program Budget (\$) 2011- 2014					
Pogram costs	2011	2012	2013	2014	Total 2011-2014
Marginal costs					
<i>Fixed</i>					
Administrative costs	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
Marketing & Site visits	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
EM&V	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
Total Fixed	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
<i>Variable</i>					
M&T System*	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	-	\$ [REDACTED]
Total variable	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ -	\$ [REDACTED]
Total Marginal costs	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
Allocable costs					
<i>Fixed Allocable</i>	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
<i>Variable Allocable</i>	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ -	\$ [REDACTED]
Total Allocable costs	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
Total Program Cost	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
Incentives 20 cents per kWh	\$ -	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]	\$ [REDACTED]
Total Program Budget	\$ 314,152	\$ 434,074	\$ 434,074	\$ 252,906	\$ 1,435,206

4. Cost Effectiveness Tests Results:

5.

- TRC: 1.6
- PAC: 1.5

9. Draft Evaluation Plan:

Hydro One Brampton will ensure that the Monitoring and Targeting Initiative will be evaluated in accordance with the OPA's EM&V Protocol guidelines. A Draft Evaluation Plan is attached. The initiative Final Evaluation Plan will be prepared by an independent third party. The selection of the evaluation criteria and detailed elements of the Evaluation Plan will be determined by the independent third party. Measurement and verification of initiative peak demand savings (kW) and electricity savings (kWh) results

**Board-Approved CDM Program
COMMERCIAL PROGRAM**

Initiative Number: 6

Initiative Name: Double Return Plus Initiative (DRP)

Initiative Frequency: Year round

Target Customer Type(s): Commercial and industrial interval metered customers with average peak load of 200 kW or above.

Years of Operation for the Initiative:

2011 to 2014, subject to annual reviews and approvals.

1. Initiative Description

The Double Return Plus Initiative (DRP) targets approximately 200 interval-metered commercial and industrial (C/I) customers with an average monthly peak load in excess of 200 kW. The objective of this Initiative is to reduce the customers' peak demand which, in turn, is expected to reduce the total system peak demand by up to 4.4 MW. This initiative has an expected program cost of \$200/kW inclusive of incentives.

The Double Return initiative has two components: a peak demand reduction and an energy efficiency component. This initiative encourages the customers to reduce their summer peak demand relative to their summer demand in the previous year by at least 5%. The energy efficiency savings will be achieved through the installation of a load management system. The proposed initiative will fund [REDACTED] of the cost of a load management system, up to a maximum of \$[REDACTED]. This initiative will enable customers to control and reduce their summer peak demand as well as achieve sustainable energy savings.

The performance incentive payments will be set equal to double the amount of reduction in distribution charges on the customer's bill resulting from achieving a 5-10% reduction in their peak load. For every dollar the customer saves in reduced distribution charges, the program will provide two dollars in incentive payments.

In addition to performance incentives, this initiative will offer a range of behind-the meter services including online technical services, on-site visits, energy efficiency and demand response workshops, and employee engagement kits.

4. Initiative Elements

While the key success factor for the Double Return has been its design simplicity, three additional components have been added to the original program:

- **Reply Card:** A requirement to submit a “Reply Card” by participating customers. The Reply Card ensures that the customer is interested and committed to the Initiative.
- **Action Plan:** A requirement to complete a multiple choice two-paged “Action Plan” The Action Plan identifies the steps which the customer plans to take to meet the minimum peak load reduction (of at least 5% of the average summer June-August peak load as compared to the previous year) to qualify for the financial incentive.
- **Load Management System:** The availability of financial incentives to enable participants to purchase a Load Management System. The financial incentives will cover ■■■ of the cost of the system up to a maximum of ■■■■.

Additional initiative offerings include:

- **Behind the meter services:** this initiative will offer on-going technical services including:
 - customized on-line information
 - expert site visits/assistance
 - Double return plus energy workshops
 - employee engagement kits

5. Purpose of the Incentives

The Double Return Plus Initiative will offer the key elements required to assist the medium to large C&I sectors in the successful pursuit of continuous and deeper energy savings beyond the traditional C/I CDM programs that focus only on technology or equipment replacement.

6. Projected reduction in Peak Electricity Demand (MW)

This initiative is projected to achieve approximately 4.4 MW peak reduction by the end of 2014. Peak reduction attributable to the portion of DRP for peak shaving will have one year persistence, while the load balancing component will enhance persistency of results achieved in the initiative

6. Projected reduction in Peak Electricity Demand (MW)

Total Peak Reduction (MW) 2011-2014					
	2011	2012	2013	2014	Total Coincident Peak Demand Reduction by end of 2014 (MW)
Double Return Plus (MW)	1.7	2.6	3.4	4.4	4.4

7. Total Projected Reduction in Electricity Consumption (MWh)

This initiative is projected to achieve 11.6 GWh cumulative energy reduction by 2014. Energy reduction attributable to the portion of DRP for peak shaving will have one year persistence, while the load balancing component will enhance persistency of results achieved in the initiative.

Total Energy Reduction (MWh) 2011-2014					
	2011	2012	2013	2014	Total Energy Reduction Cumulative (2011-2014)
Double Return Plus (MWh)	1,628	2,514	3,309	4,105	11,556

8. Projected Budget

The total cost estimate for the initiative is approximately \$.911M (inclusive of incentives), and includes administrative costs, marketing costs, behind the meter services and incentives against a load balancing system (covering [REDACTED] of the cost of the system up to a maximum of [REDACTED]) as well as performance incentives for achieved results for a total of [REDACTED] (roughly [REDACTED] per season).

Double Return Plus - Initiative Budget (\$) 2011-2014					
	2011	2012	2013	2014	Total 2011-2014
Marginal costs					
Fixed costs					
Administrative costs					
Marketing					
Site visits / Verifications					
EM&V					
Total Fixed Costs					
Variable Costs					
Turn-Key Vendor / Load Balancing					
Total Variable Costs					
Allocable costs					
Fixed Overhead					
Variable Overhead					
Total Program Costs					
Incentives					
Total Budget	\$ 226,956	\$ 228,067	\$ 228,067	\$ 228,067	\$ 911,156

9. Cost Effectiveness Test Results

- TRC ratio: 11.2
- PAC ratio: 8.2

10. Draft Evaluation Plan

Hydro One Brampton will ensure that the Double Return Plus Initiative will be evaluated in accordance with the OPA's EM&V Protocol guidelines. A Draft Evaluation Plan is attached. The initiative Final Evaluation plan will be prepared by an independent third party. The selection of the evaluation criteria and detailed elements of the Evaluation Plan will be determined by the independent third party. Measurement and verification of initiative peak demand savings (kW) and electricity savings (kWh) results will be conducted by a third party review contractor selected through an RFP process from the OPA's "Third Party Vendor of Record" list once the initiative is approved.

The following is a DRAFT EVALUATION PLAN TEMPLATE:

Ontario Energy Board (Board Staff) INTERROGATORY #7 List 1

Interrogatory

Community Education – Initiative #1

Reference: Exhibit C, Tab 1, Schedule 2, Page 5 of 55

Preamble: Hydro One Brampton shows the cost-effectiveness test results for the Community Education Initiative as TRC = 1.9 and PAC = 1.1.

a) Please confirm that Hydro One Brampton complied with Section 4.1.1 of the CDM Code and used the OPA's Cost Effectiveness Tests.

b) Please provide the specific calculations, both TRC and PAC, which yielded the cost-effectiveness results shown in the application.

Response

a) HOBNI confirms that the company complied with Section 4.1.1 of the CDM Code and used the OPA's Cost Effectiveness Tests

b) HOBNI having performed further analysis since its original submission has revised the TRC and PAC results as follows:

Total Resource Cost:

Total Resource Cost (TRC) Test			
Benefits	Costs	Net Benefit	Test Ratio
\$ 209,000	\$ 140,000	\$ 69,000	1.5

Where TRC Test Ratio = Benefits / Costs

Participant Administrator Cost:

Participant Administrator Cost (PAC) Test			
Benefits	Costs	Net Benefit	Test Ratio
\$ 209,000	\$ 143,000	\$ 66,000	1.5

Where PAC Ratio = Benefits / Costs

Participant Cost (PC) Test			
Benefits	Costs	Net Benefit	Test Ratio
\$463,000	\$34,000	\$429,000	13.8

This test is not required as part of the OPA EM&V Protocol.

Where PC Ratio = Benefits / Costs

The following table outlines the inputs and assumptions used for the calculations of the cost effectiveness tests.

Measure and Input Assumption Sheet

Measure Name: Community Events

Efficient Technology & Equipment Description
--

This Initiative focuses on customer education and promotes the exchange of information between the utility and its consumers at local community events. HOBNI projects attendance at these local community events to reach approximately 20,000 people per year¹. Customers will enter a contest (random draw, wheel of conservation) to receive prizes. Energy efficiency products provided will include CFLs, Power Bars and Indoor Lighting Timers. The delivery of the Initiative will rely on a community events partner to help represent Hydro One Brampton at local community events throughout the city.

Base Technology & Equipment Description

No utility participation in community events and no giveaways of energy efficiency products.

Resource Savings Assumptions:

¹ Based on past experience

Participants
HOBNI expects 20,000 attendees to visit our booth each year². The expected breakdown of energy efficiency products distributed to the participants by year is as follows; 2011: - [REDACTED] CFLs - [REDACTED] Power Bar with timers 2012 to 2014 - [REDACTED] Power Bar with timers per year - [REDACTED] Indoor lighting Timers per year
Electricity <i>kW and/or kWh</i>
Peak Demand savings (kW) assumptions were based on the 2010 OPA Measures and Assumption List - 1 W per CFL; (60W incandescent replaced with 15W CFL) - 4 W per Power Bar with timers - 7 W per Indoor Lighting Timer Based on the above assumptions, the overall impact of this initiative was estimated to be 0.2 MW to the end of 2014. Annually Energy savings (kWh) assumptions were taken from the 2010 OPA Measures and Assumption List - 44 kWh per CFL; (60W incandescent replaced with 15W CFL) - 53 kWh per Power Bar with Timers - 219 kWh per Indoor Lighting Timer Based on the above assumptions, the overall impact of this initiative was estimated to be 1,394 MWh to the end of 2014.
Natural Gas <i>m3 or Btu or CFM</i>

² Based on past experience

Updated: February 3, 2011

EB-2010-0331

Exhibit H

Tab 1

Schedule 7

Page 4 of 5



Other Input Assumptions:

Equipment Life (years)															
Equipment life assumptions were based on the 2010 OPA Measures and Assumption List:															
• CFL: 8 years • Power Bars with Timers: 10 years • Indoor Lighting Timer: 10 years															
Incremental Costs (including equipment, operations & maintenance)															
Incremental costs assumptions were based on the 2010 OPA Measures and Assumption List:															
• [REDACTED] for CFL; • [REDACTED] for Power Bar with Timers • [REDACTED] for Indoor Lighting Timer															
Free Ridership %															
Based on 2008 Every Kilowatt Counts EM&V Report:															
• 52% CFL; • 41% for Power Bars with Timers • 50% for Indoor Lighting Timer															
Incentives															
Incentives are based on actual 2008-2010 actual Hydro One purchase costs for the following measures:															
• [REDACTED] for CFL; • [REDACTED] for Power Bar with Timers • [REDACTED] for Indoor Lighting Timer															
Program Cost															
Includes Program Management, Event Planning & Administration, and Reporting															
<table border="1"> <thead> <tr> <th colspan="4">Program Cost by year</th></tr> <tr> <th>2011</th><th>2012</th><th>2013</th><th>2014</th></tr> </thead> <tbody> <tr> <td>[REDACTED]</td><td>[REDACTED]</td><td>[REDACTED]</td><td>[REDACTED]</td></tr> </tbody> </table>				Program Cost by year				2011	2012	2013	2014	[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]
Program Cost by year															
2011	2012	2013	2014												
[REDACTED]	[REDACTED]	[REDACTED]	[REDACTED]												

Ontario Energy Board (Board Staff) INTERROGATORY #25 List 1

Interrogatory

Monitoring and Targeting – Initiative #3

Reference: Exhibit C, Tab 1, Schedule 2, Page 23 of 55

Preamble: Hydro One Brampton has provided the cost-effectiveness test results for the Neighbourhood Benchmarking Initiative of: TRC = 1.6 and PAC=2.0.

c) Please confirm that Hydro One Brampton complied with Section 4.1.1 of the CDM Code and used the OPA's Cost Effectiveness Tests.

d) Please provide the specific calculations, both TRC and PAC, which yielded the cost-effectiveness results shown in the application.

Response

c) HOBNI confirms that the Company complied with Section 4.1.1 of the CDM Code and used the OPA's Cost Effectiveness Tests.

d) HOBNI having performed further analysis since its original submission of the Monitoring and Targeting Initiative, (we understand the reference to the Neighbourhood Benchmarking in the interrogatory above is a typographical error) has revised the TRC and PAC results as follows:

Total Resource Cost Test:

Total Resource Cost (TRC) Test			
Benefits	Costs	Net Benefit	Test Ratio
\$2,097,000	\$1,296,000	\$801,000	1.6

Where TRC Ratio = Benefits / Costs

Program Administrator Cost Test:

Program Administrator Cost (PAC) Test			
Benefits	Costs	Net Benefit	Test Ratio
\$2,097,000	\$1,440,000	\$657,000	1.5

Where PAC Ratio = Benefits / Costs

Participant Cost Test:

Participant Cost (PC) Test			
Benefits	Costs	Net Benefit	Test Ratio
\$1,927,000	\$780,000	\$1,147,000	2.5

This test is not required as part of the OPA EM&V Protocol.

Where PC Ratio = Benefits / Costs

The following table outlines the inputs and assumptions used for the calculations of the cost effectiveness tests.

Measure and Input Assumption Sheet

Measure Name: Monitoring and Targeting

Efficient Technology & Equipment Description

The proposed Monitoring & Targeting (“M&T”) Initiative is offered to commercial and industrial customers with average demand above 200kW. Potential participants will be offered financial incentives to install a monitoring and targeting system that assesses the energy use against key performance indicators such as productivity. M&T will assist these customers to better understand their energy performance. It will also give the participants an opportunity to benchmark their consumption against best practices by other similar businesses. The Initiative is intended to enable customers to achieve sustainable behavioural and continuous operational improvements. Behavioral changes have a key impact on the energy consumption, and they are often overlooked. This M&T initiative will enable customers to identify these behavioral measures and implement those changes in a rapid manner¹.

¹ The US Department of Energy has identified as the 10 top practices for “Industrial Technologies Program” behavioural and maintenance driven actions as a result of a thorough auditing and company’s data analysis. These initiatives lead to long-term savings and better maintenance practices

Base Technology & Equipment Description
Current operations and maintenance practices

1
2 **Resource Savings Assumptions:**

Participants
As the investment in an M&T system is relatively significant, we expect a 2% participation rate to be achievable in the four year program. Research in other jurisdictions has shown penetration rates² ranging between 2% and 5%. • 2011: 4, 2012: 3, 2013: 3, 2014: 3 = Total of 13 participants.
Electricity kW and/or kWh
The average energy (kWh) and peak demand (kW) savings are expected to be 10%. Hydro One Brampton arrived at these projections based on inputs from the following: 1) A UK experience shows energy savings for industrial installations ranging from 5-15%³. 2) a CIPEG study⁴ that estimated an average of 8% energy savings potential for M&T systems; Other utilities experiences in Ontario such as Enbridge indicates that our estimated savings from M&T projects is in line with industry average savings. Average Peak Demand Savings: At an average of 155kW savings with a total of 13 participants in the program we arrived at a total of 2MW load reduction, which after free-ridership discount (20%) will be 1.6MW as provided in the evidence. Average Energy Savings: On an annual basis the participants are expected to achieve an average of 10% energy

² PEI and Summit Building Engineering. California Commissioning Collaborative, (2007). California retro-commissioning

savings (165MWh). For the duration of the program 2011-2014, a participant is expected on average to save 327MWh. With a total of 13 participants in the program we arrived at a total of , 4,417MWh load reduction, which after free-ridership discount (20%) will be 3,533 MWh as provided in the evidence.

The energy savings in the TRC analysis are spread over 8 costing periods (3 winter periods, 3 summer periods and 2 shoulder periods) based on the end-use profile for savings associated with Commercial Base load which is the closest profile to approximate expected energy savings for this initiative (Source: 2010 OPA Measures and Assumption List).

Natural Gas *m3 or Btu or CFM*

Gas savings are not included in the TRC analysis at this time. However, Hydro One is currently exploring the opportunities for collaborating with the gas utilities on this initiative.

Water

Water savings are not included in the TRC analysis at this time. However, Hydro One will be exploring opportunities for including water savings in this initiative

Other Input Assumptions:

Incremental Costs (*including equipment, operations & maintenance*)

- The average incremental equipment cost for the M&T system is estimated at approximately [REDACTED] for Hydro One Brampton customer base including a large percentage of industrial customers (source: based on consultation with specialized M&T vendors in Ontario)

Equipment Life (*years*)

- Equipment Life is estimated at approximately 8 years (source: based on consultation with specialized M&T vendors in Ontario)

³ Source: Office of Energy Efficiency of Natural Resources Canada (2004). Energy Management Information System, CIPEC.

⁴ See above

Free Ridership %															
M&T systems require a relatively significant investment on the part of customers and typically they require financial assistance to convince them to undertake projects of this size. Consequently, the free-ridership for this program is expected to be relatively low. However, to be conservative, HOBNI has assumed 20% Free Ridership in the TRC analysis.															
Incentives															
5 cents per kWh will be offered on an annual basis for incremental savings to the end of 2014															
Program Cost (excluding incentives)															
Program cost includes program management, marketing.															
<table border="1"> <tr> <td colspan="4"> Program Cost by year </td></tr> <tr> <td>2011</td><td>2012</td><td>2013</td><td>2014</td></tr> <tr> <td></td><td></td><td></td><td></td></tr> </table>				Program Cost by year				2011	2012	2013	2014				
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