CHATHAM-KENT HYDRO
A Chatham-Kent Energy Company

January 11, 2010

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

Re: Chatham-Kent Hydro Inc. 2010 Cost of Service Application EB-2009-0261

Dear Ms. Walli:

Please find enclosed the Chatham-Kent Hydro Inc. responses to the Board Staff Interrogatories 63 to 68.

If you have further questions please contact me at the number provided.

Yours truly,

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CC: Dave Kenney, President of Chatham Kent Hydro
Chris Cowell, Chief Financial and Regulatory Officer

Chatham-Kent Hydro Inc.

EB-2009-0261

Responses to Board Staff Interrogatories Questions 63 to 68

Question #63

Ref: Exhibit 1/page 30 and Exhibit 10/Tab 1/Schedule 2 – Proposed Deferral of LRAM and SSM to 2011

In this application, CK Hydro is seeking approval of amounts for LRAM of $569,637 (covering the period 2005 to 2009) and SSM of $204,557 totalling $774,194. CK Hydro has proposed that recoveries be from the customer classes that have directly benefited from the programmes associated with the LRAM and SSM. The affected customer classes are: Residential, GS < 50 kW and Streetlighting.

CK Hydro has summarized its proposed rate riders for May 1, 2011 to recover the estimated LRAM and SSM amounts in Table 10-1.

Further, CK Hydro has proposed to implement the LRAM and SSM rate riders for May 1, 2011 rates, for a period of three years.

a) Please provide further explanation of the "rate mitigation" reason that CK Hydro discusses to support its proposal to defer implementation beyond the 2010 rate year that is the subject of this application.

b) In Table 10-1, CK Hydro has used proposed demand for the 2010 year to determine the rate riders. Please provide CK Hydro's views on an alternative where, if the Board were to approve recovery beginning in 2011, the rate riders would be calculated based on 2011 forecasted billing determinants (kWh or kW).

Answer:

a) CK Hydro is proposing two mitigation measures to address potential customer impacts: the deferral of the recovery of the proposed LRAM and SSM until 2011 and the recovery period being 3 years. Both of these items are being proposed to reduce the customer impacts in 2010. The bill impacts as a result of this Application are minimal; however, with the introduction of the HST in 2010 it is expected to cause an increase in the customers' bills. Customers in the CK Hydro service territory have been impacted by the current economic downturn and delaying the implementation of the riders for one year will assist them in 2010.

b) CK Hydro proposes that the 2010 forecasted load is the best determinant for the setting of the rates. The 2010 demand, kWhs and kWs are being tested in this Application, and introducing another variable being the 2011 forecasted load will require an additional regulatory process or item to test, therefore creating an additional regulatory burden. CK Hydro does not expect the demand to change materially between 2010 and 2011 and therefore 2010 is a good approximation of the demand for 2011. In addition, CK Hydro's 2011 rate application will be an Incentive Rate Mechanism ("IRM") application which is a mechanistic application process. As a result, it is CK Hydro's understanding that a forecast for the year in which the IRM application applies to is not typically presented as evidence and tested before a decision is rendered by the Board.

Question #64

Ref: Exhibit 10/Tab 1/Schedule 2/pp. 1-3

Chatham-Kent is seeking approval for recovery of $569,637 related to the Lost Revenue Adjustment Mechanism ("LRAM") for Conservation and Demand Management ("CDM") programs it undertook between 2006-2009 and $204,557 related to the Shared Savings Mechanism ("SSM") for CDM programs it undertook between 2006-2008.

a) Please provide a complete list of the input assumptions used for all prescriptive measures within Chatham-Kent's total LRAM and SSM claim. Please include the source of the input assumption and the rationale for their use.

b) Please confirm that Chatham-Kent has used the best available input assumptions at the time of the third party assessment when calculating its LRAM amount.

Answer:

a) The input assumptions for the OPA programs, which were prescriptive programs, are provided in the following table:

#	Year	Program Name	Measures & Assumptions Source(s)
1	2006	Every Kilowatt Counts (Spring)	OEB Measures & Assumptions List AND OPA
2	2006	Cool Savings	OEB Measures & Assumptions List AND OPA
3	2006	Secondary Refrigerator Retirement	OEB Measures & Assumptions List
4	2006	Every Kilowatt Counts (Autumn)	OEB Measures & Assumptions List AND OPA
5	2006	Demand Response 1	Contracted Nameplate Capacity
6	2007	Great Refrigerator Roundup	Third Party EM&V
7	2007	Cool Savings	Third Party EM&V
8	2007	Aboriginal	OEB Measures & Assumptions List AND OPA
9	2007	Every Kilowatt Counts	Third Party EM&V
10	2007	peaksaver	Ontario Power Authority
11	2007	Summer Savings	Third Party EM&V
12	2007	Affordable Housing	Ontario Energy Board Measures & Assumptions List
13	2007	Social Housing	Ontario Energy Board Measures & Assumptions List
14	2007	Energy Efficiency Assistance for Houses	Ontario Energy Board Measures & Assumptions List

15	2007	Toronto Comprehensive	Third Party EM&V and Toronto Hydro
16	2007	Electricity Retrofit Incentive	Ontario Power Authority
17	2007	Demand Response 1	Third Party EM&V
18	2007	Other Demand Response	Contracted Nameplate Capacity
19	2007	Renewable Energy Standard Offer	Contracted Nameplate Capacity

Demand response programs were also verified by reviewing the billing data.

CK Hydro's third traunche programs did not have any programs that were similar to the OPA programs and therefore the prescriptive measures were not used. CK Hydro used the following measures:

- Smart Meters – Direct Input - Data was estimated based upon the Navigant and Navigator reports
- Street Lights - Direct Input - Data was provided by CK Hydro based upon the number and wattage of the street lights that were replaced.

Rationale for the measures and assumptions:

- OPA programs – used OPA measures and assumptions as the OPA had the best information for the program
- CK Hydro Smart Meters – used information from the independent third party reports; Navigant and Navigator reports
- CK Hydro Street Lights – actual, verifiable activity of the number of units and wattage differential for the replacement program

b) CK Hydro used the best available input assumptions for the applicable years.

Question #65

Ref: Exhibit 10/Tab 1/Schedule 1/Appendix A/pg. 8

Attachment A details the CDM load impacts by class and program for the years 2006-2009. In the Board's Guidelines for Electricity Distributor Conservation and Demand Management (the "Guidelines"), issued on March 28, 2008, section 9.2 outlines the information that is required when filing an application for an LRAM.

(a) Please provide the gross kW and kWh impacts of each program and for each customer class.

(b) Please provide the free rider rate applied to each program (both OPA-funded and funded through distribution rates). Where different activities within a program have different free rider rates, please provide the free rider rate for each activity.

Answer:

(a) For an updated Attachment A from page 8 of the Enespectrum report which provides the details of the gross kW and kWh impacts for the programs by rate class, please see Appendix A.

(b) The free rider rate that was used third tranche programs were:
Smart Meters – 30%
Street Lights – 30%
These rate riders are CK Hydro's best estimates.

The free rider rate that was applied to the OPA funded programs can be found at CK Hydro's response to VECC Question #28 b) . The free riders are provided from the OPA.

Question #66

Ref: Exhibit 10/Tab 1/Schedule 1/Appendix A/pp. 8-9

CK Hydro is seeking approval for both an LRAM and SSM claims related to Smart Meter installation from 2007-2009.

Section 6.1 of the Guidelines outlines the eligible programs a distributor may include in its SSM claim and states that the SSM is not available for utility-side expenditures.

a) How much approved third tranche CDM funding has CK Hydro included in its rate base between 2006 and 2009? Please confirm the amounts included in each year separately.

b) If CK Hydro has included any approved third tranche CDM funds in its rate base between 2006 and 2009, please confirm how much was dedicated to smart meter programs and discuss the rationale for its inclusion in rates.

c) If CK Hydro has included approved third tranche CDM funds in rates base that were dedicated to smart meter programs, please discuss the appropriateness to earn an incentive for Smart Meters, given that it earns a return on the Smart Meters through rate base.

d) Please indicate any legislation, Board policies or past decisions that CK Hydro is relying on to support its proposal.

Answer:

a) Smart meter third tranche funding has been included in rate base for a total $348,720, which were expenditures of $77,153 in 2005 and $271,567 in 2006.

b) CK Hydro has included the smart meter pilot in rate base, which totalled $348,720, and which was funded by the third tranche funding. These assets were included in rate base as they were investments made by CK Hydro. These assets are "used and useful" and will be in service for approximately 15 years.

c) Rate base covers the investment in smart meters; however, the smart meter investment is driven by the Provincial Government's mandate to bring a conservation culture to Ontario. The recovery of this investment is for the asset itself, not the impact it has on neither CK Hydro consumption nor the additional incentive to invest in conservation programs. CK Hydro is one of the first LDCs to complete the residential Smart Meter program resulting in greater conservation impacts from the customers. The SSM is the additional incentive and benefit that CK Hydro should be eligible for given CK Hydro's success in early deployment of Smart Meters.

d) CK Hydro does not know of any legislation, Board policies or past decisions that relate to the SSM proposal.

Question #67

Ref: Exhibit 10/Tab 1/Schedule 1/Appendix A/pages 4 and 8

In its report filed in Appendix A, EnerSpectrum provides a summary on the reduction in consumption levels based on the education activities undertaken by CK Hydro surrounding smart meter installations and states:

> EnerSpectrum Group believes that it is both consistent with the review of multiple TOU studies undertaken by Faruqui and Sergicil, and specifically the OEB's Smart Price Pilot, that a 4% reduction in energy consumption can be reasonably attributed to the 28,522 smart meters installed, combined with its customer education and awareness programs. Based on customer feedback, the education activities undertaken motivated them to behave as though they were already on TOU rates once a smart meter was installed. Therefore it is reasonable to attribute some savings for LRAM purposes to all smart meters installed. This attribution recognizes that the LDC was both an early promoter of conservation and implementer of smart meter technology. It is also reasonable to attribute the largest energy savings under TOU rates during peak demand periods when electricity prices also peak. However, the magnitude of the savings at peak load periods over different times of year are not known, so savings have been assumed to be distributed equally over a 24-hour period for the purpose of LRAM and SSM calculations. Although it appears to be an oversimplification, it is more prudent for the purposes of this evaluation.

The table on page 8 summarizes the estimated savings by programme.

a) Did CK Hydro see a decrease in consumption for every customer who had a smart meter installed?

b) Please provide details as to when the CDM programmes listed in the table on page 8 ran, and how each programme overlapped with CK Hydro's smart meter deployment.

c) If a customer were to decide to behave as if they were on TOU rates and decides to attempt to reduce their consumption, please comment on whether this would motivate them and increase their probability of taking advantage of other CDM programmes being offered, such as refrigerator roundups or CFL light conversions. In such a situation, please provide CK Hydro's views on whether the savings attributed to smart meters may double count, at least in part, savings attributed to other CDM programmes occurring over this same period.

d) The EnerSpectrum analysis appears to be based on applying a 4% reduction due to smart meters and on the assumption that the smart meter conversion motivated CK Hydro customers to behave as if they were on time-of-use rates, even though TOU rates will not be introduced until 2010, with the exception of the pilot study in 2005-6. Further, the pilot study in 2005-6 indicates that there was no apparent difference between the test and control groups, as noted in the Navigant study (**Exhibit 10/Tab 1/Schedule 2/Appendix C/page 2/bullet 2**). What other evidence about CK Hydro's customers' behaviour is CK Hydro relying on to support the assumption that a 4% reduction in consumption should be attributable solely to deployment of smart meters?

e) Is CK Hydro aware of whether smart meter deployment by other Ontario distributors, and particularly distributors named in legislation, O. Reg. 427/06 and O. Reg. 428/06, and who have been deploying smart meters since 2006 and 2007, have seen similar consumer behaviour and consumption reductions?

Answer:

a) The average consumption for residential customers decreased with the installation of Smart Meters. Therefore, most customers saw a reduction in their kWh consumption, but not every household reduced their usage of electricity. The average conservation was 8% which was 5% better than reported from LDCs that are comparable to CK Hydro, which were the findings in the Navigant report, Exhibit 10, Tab 1, Schedule 2, page 2, lines 17 to 20.

b) The CDM programs ran during the years identified in the first column "Year Implemented" in the period 2006-2008. The CK Hydro smart meter pilot and education program began in 2005. Full deployment and additional education programs began in 2006. The smart meter program was fully deployed and demonstrating results in advance of the launch of these CDM programs.

c) Due to the possibility that customers conservation efforts could be double counted, smart meters and other programs such as those supported by the OPA, CK Hydro is proposing that the smart meter conservation impact is only 4%. This is a reasonable estimate as the Ottawa Hydro study has identified a 6% conservation impact and the Navigant report identified an 8% reduction in consumption (Exhibit 10, Tab 1, Schedule 2, Appendix C). CK Hydro's proposal of 4% conservation impact is only 50% of the total conservation impact by the customers. By using a conservative estimate of the impact attributable to smart meters this will avoid any potential double counting with other existing conservation programs.

d) CK Hydro agrees with the Navigant report in that there was no apparent difference between the test and control group. Therefore both groups behaved the same and conserved energy as if they were all being charged the TOU prices.

The Navigator report, initiated by the IESO, conducted a focus group directly with customers to understand what motivated their behaviour. The report identifies how customers "believed that the installation of the meters marked their live date. We heard of load shifting and the resulting drop in their monthly electricity bill because of the efforts they had taken" (Exhibit 10, Tab 1, Schedule 2, Page 2, Line 25 – 27). Customers experienced a drop in their monthly electricity bills as a result of changes in their behaviour which we have defined as the Smart Meter Effect. As a result of education and awareness program launched by CKE, customers changed their consumption behaviour rather than relying on changes in the pricing regime. This is supported by the fact that TOU prices were not in effect at that time.

The Smart Meter Effect has been identified as the sole contributor to the 4% reduction in consumption because a number of other factors were ruled out as possible contributors. These include:

- **Housing Stock** - there has been no significant changes in the size of number of homes in the CKE area over that period;

- **Unidentified CDM Efforts** – all impacts of past CDM programs have been accounted for in program results;
- **Changes in Industrial Load** – all changes in industrial load have been addressed both in volume of consumption and number of customers in the class;
- **Occupation Rates** – there has been no material change observed through unusually high vacancies or longer than normal vacancy periods in rental housing stock;
- **Fuel Switching** – there has been no observed trend in conversions to other fuels (e.g. electric heat to natural gas);
- **Weather** – although the actual consumption is not weather normalized, the conservative estimate of 4% for the conservation impact rather than the 8% observed, addresses some of this impact; See number of degree days in VECC Question #31 d).

It is therefore proposed that the increased awareness of conservation options created through CK Hydro education campaigns to support their smart meter launch, contributed to the observed reduction in electricity consumption. Included in the customer education and conservation awareness CK Hydro had invested in two major programs. The first was the introduction of the energy conservation slogan "the 3 T's of Energy Conservation, **T**urn it Off, **T**urn it Down, **T**rade it In. The second major program was the smart meter and TOU education. CK Hydro spent $118,053 on the customer awareness program with funds from the third traunche funding and a further $74,107 on smart meter and TOU education recovered as part of the Board's Decisions in the smart meter proceedings (EB-2007-0063 and EB-2007-0155).

The impact of the programs offered by CK Hydro's was addressed in the IESO's stakeholder study performed by Navigator. The Navigator report acknowledged the success of the education programs and suggested that "It may be useful to look at what Chatham-Kent has done". The information can be found in Exhibit 10, Tab 1, Schedule 2, Appendix B, page 4 as well as in the application on Exhibit 10, Tab 1, Schedule 2, page 2, lines 4 to 8.

The Navigant and Navigator findings highlights the reductions in customers' consumption and resulting savings on their electricity bills; Exhibit 10, Tab 1, Schedule 2, Page 2, lines 11 to 14 and lines 25 to 27.

Enerspectrum provided in their report that 4% is an expected conservation result from TOU prices. The report used in their support was the HOUSEHOLD RESPONSE TO DYNAMIC PRICING OF ELECTRICITY—A SURVEY OF THE EXPERIMENTAL EVIDENCE - Ahmad Faruqui and Sanem Sergici (January 10, 2009). This further supports what is possible when consumers believe they are responding to a TOU price signal.

e) CK Hydro is not aware of whether smart meters deployed by other Ontario distributors who have been fully deployed since 2006 and 2007 have seen similar behaviour and consumption reductions. However, CK Hydro believes that it is one of the first LDCs to have fully deployed smart meters to the residential class going before the OEB for a cost of service application.

Question #68

Ref: Exhibit 10/Tab 1/Schedule 2/pp. 1-3

It is not clear whether CK Hydro is attributing the energy savings and associated revenue loss from smart meters to themselves, time-of-use pricing, or consumer education, or a combination of all three.

a) Please confirm to what factor(s) CK Hydro is attributing the energy savings and associated revenue loss.

b) How has CK Hydro measured and determined the individual contribution of each factor towards the energy savings and associated revenue loss?

Answer:

a) CK Hydro is attributing the additional conservation efforts and associated revenue loss to all three factors as they all contributed to conservation results by CK Hydro's customers. While TOU pricing was being charged to 200 customers, customers believed that the installation of smart meters was the beginning of TOU pricing. This was the point when customers changed their behaviour. This is consistent with the findings presented in both the Navigant and Navigator reports; Exhibit 10, Tab 1, Schedule 2, Page 2, lines 11 to 14 and lines 25 to 27.

b) CK Hydro has measured the total impacts of the conservation efforts and has not measured on an individual factor basis. It is the combination of all three items that resulted in energy savings. The heightened awareness of conservation was prompted by the installation of the equipment and the presentation of TOU rates, but supported by the education programs that provided customers with helpful hints and recommendations to take advantage of the potential savings opportunities.

Appendix A

APPENDIX A

CDM Load Impacts by Class and Program

Class / Program	Year Implemented	NET 2006 kWh	NET 2006 kW	GROSS 2006 kWh	GROSS 2006 kW	NET 2007 kWh	NET 2007 kW	GROSS 2007 kWh	GROSS 2007 kW	NET 2008 kWh	NET 2008 kW	GROSS 2008 kWh	GROSS 2008 kW	NET 2009 kWh	NET 2009 kW	GROSS 2009 kWh	GROSS 2009 kW	NET Total kWh	NET Total kW	GROSS Total kWh	GROSS Total kW
Residential																					
Third Tranche																					
Smart Meters (1,000 meters)	2006					4,535,875		6,479,822		10,126,540		14,466,485		10,126,540		14,466,485		**14,662,415**	**0.00**	35,412,792	0.00
Street Lighting																					
Third Tranche																					
Street Lights	2006					1,866,950	443	2,667,072	443	1,866,950	443	2,667,072	443	1,866,950	443	2,667,072	443	**3,733,900**	**886**	**8,001,215**	**1,330**
Subtotal Third Traunche		**0**	**0**	**0**	**0**	**6,402,825**	**443**	**9,146,894**	**443**	**11,993,490**	**443**	**17,133,557**	**443**	**11,993,490**	**443**	**17,133,557**	**443**	**18,396,315**	**886**	**43,414,007**	**1,330**
Residential																					
OPA Conservation Programs																					
Every Kilowatt Counts (spring)	2006	813,348.19	5.30	903,720.21	5.89	813,348.19	5.30	903,720.21	5.89	813,348.19	5.30	903,720.21	5.89	813,348.19	5.30	903,720.21	5.89	**2,440,044.56**	**15.90**	**3,614,880.83**	**23.56**
Cool Savings Rebate Program	2006, 2007, 2008	61,992.72	63.50	68,880.80	7.06	235,408.05	177.34	398,984.02	298.78	338,027	260	577,777	443	338,027	260	577,777	443	**635,427.74**	**501.05**	**1,623,418.29**	**1,192.45**
Secondary Fridge Retirement Pilot	2006	33,297.71	7.55	36,997.46	8.39	33,297.71	7.55	36,997.46	8.39	33,298	8	36,997	8	33,298	8	3,700	8	**99,893.14**	**22.64**	**114,692.12**	**33.54**
Every Kilowatt Counts (fall)	2006	1,319,497.16	19.85	1,466,107.95	22.06	1,319,497.16	19.85	1,466,107.95	22.06	1,319,497	20	1,466,108	22	1,319,497	20	1,466,108	22	**3,958,491.47**	**59.56**	**5,864,431.80**	**88.24**
Great Refrigerator Roundup	2007 & 2008					152,797.07	17.24	381,104.80	42.41	330,186	34	768,224	79	330,186	34	768,224	79	**482,983.38**	**51.36**	**1,917,553.58**	**200.82**
Aboriginal – Pilot	2007 & 2008					0.00	0.00		0.00	0	0	0	0	0	0	0	0	**0.00**	**0.00**	**0.00**	**0.00**
Every Kilowatt Counts	2007					758,448.66	29.12	1,075,070.62	42.17	749,251	26	1,058,347	37	749,251	26	1,058,347	37	**1,507,699.52**	**55.51**	**3,191,765.32**	**116.56**
peaksaver®	2007 & 2008					0.00	61.09		67.88	0	131	0	145	0	131	0	145	**0.00**	**191.93**	**0.00**	**358.62**
Summer Savings	2007					454,501.19	252.50	3,787,509.88	2,104.17	454,501	253	3,787,510	2,104	0	0	0	0	**909,002.37**	**505.00**	**7,575,019.75**	**4,208.34**
Affordable Housing – Pilot	2007					93,753.67	3.09	93,753.67	3.09	93,754	3	93,754	3	93,754	3	93,754	3	**187,507.34**	**6.18**	**281,261.01**	**9.27**
Social Housing – Pilot	2007					68,353.88	8.04	68,353.88	8.04	68,354	8	68,354	8	68,354	8	68,354	8	**136,707.75**	**16.08**	**205,061.63**	**24.12**
Energy Efficiency Assistance for Houses – Pilot	2007					0.00	0.00	0.00	0.00	0	0	0	0	0	0	0	0	**0.00**	**0.00**	**0.00**	**0.00**
Summer Sweepstakes	2008									0	1	0	3	0	0	0	0	**0.00**	**1.01**	**0.00**	**2.88**
Every Kilowatt Counts Power Savings Event	2008									256,618	17	359,012	35	254,509	17	355,177	34	**256,618.37**	**17.16**	**714,188.94**	**68.24**
Commercial																					
OPA Conservation Programs																					
Toronto Comprehensive	2007 & 2008					0.00	0.00	0.00	0.00	0	0			0	0			**0.00**	**0.00**	**0.00**	**0.00**
Electricity Retrofit Incentive Program	2007 & 2008					0.00	0.00	0.00	0.00	142,653	63	203,789	89	142,653	63	203,789	89	**142,652.61**	**62.57**	**407,578.88**	**178.76**
High Performance New Construction	2008									2,090	1	2,986	1	2,090	1	2,986	1	**2,090.21**	**0.92**	**5,972.04**	**2.62**
Power Savings Blitz	2008									5,186	1	7,408	1	5,186	1	7,408	1	**5,185.84**	**0.71**	**14,816.70**	**2.02**
Chiller Plant Re-Commissioning	2008									0	0	0	0	0	0	0	0	**0.00**	**0.00**	**0.00**	**0.00**
Demand Response 1	2006, 2007, 2008	0.00	1,430.45		2,090.66	0	2,311.62		2,311.62	0	2,312	0	2,312	0	0	0	0	**0.00**	**6,053.90**	**0.00**	**6,714.20**
Other Demand Response	2007 & 2008					0.00	192.27			0	213	0	213	0	0	0	0	**0.00**	**405.01**	**0.00**	**212.74**
Demand Response 3	2008									0	581	0	581	0	0	0	0	**0.00**	**581.47**	**0.00**	**581.47**
LDC Custom	2008									0	0	0	0	0	0			**0.00**	**0.00**	**0.00**	**0.00**
Other Customer Based Generation	2008									0	0	0	0	0	0			**0.00**	**0.00**	**0.00**	**0.00**
Renewable Energy Standard Offer Program (RESOP)	2007 & 2008					0.00	0.00			0	0	0	0	0	0			**0.00**	**0.00**	**0.00**	**0.00**
TOTALS		2,228,136	1,527	2,475,706	2,134	10,332,231	3,528	17,358,496	5,358	16,600,253	4,379	26,467,544	6,535	16,143,642	1,019	22,642,901	1,321	**29,160,619**	**9,434**	**68,944,648**	**15,348**