



July 30, 2010

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

Dear Ms. Walli:

Re: Hydro One Networks Inc.
Change to Electricity Transmission Revenue Requirement and Rates
Submission of AMPCO Interrogatories
Board File No. EB-2010-0002

Pursuant to the Board's Procedural Order No. 1 dated June 28, 2010, attached please find AMPCO's interrogatories in the above proceeding.

Please do not hesitate to contact me if you have any questions or require further information.

Sincerely yours,

(ORIGINAL SIGNED BY)

Adam White
Association of Major Power Consumers in Ontario

Copies to: Hydro One Networks Inc. (via email)
Intervenors (via email)

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Hydro One Networks Inc. (HONI)

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1 **1. GENERAL**

2

3 **1.1 Has Hydro One responded appropriately to all relevant Board directions from previous**
4 **proceedings?**

5

6 Interrogatory # 1

7

8 **Ref: Ex H1/Tab 5/Schedule 1/Page 2**

9

10 Please provide the following information with respect to Hydro One's forecast of export
11 transmission service revenues:

12

13 A) A list of export transmission service revenues, by year, for the years 2005-2009.

14

15 B) The original Independent Electricity System Operator (IESO) transmission export
16 revenue forecasts for the years 2005-2009.

17

18 C) A detailed description of the forecasting methodology used by the IESO to forecast
19 export transmission revenues.

20

21 D) In a format similar to what Hydro One provides to confirm its load forecast accuracy (Ex
22 A/Tab 12/Schedule 3/Page 21/Table 5), please illustrate the historical forecast accuracy
23 for the Hydro One/IESO export transmission tariff revenue forecasts.

24

25

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1 Interrogatory # 2

2

3 **Ref: Ex H1/Tab 5/Schedule 1**

4

5 Please indicate what the export transmission tariff would be for 2011 and 2012, if the tariff had
6 increased in step with Hydro One's revenue increases since it was first implemented in 1999.

7

8 Interrogatory # 3

9

10 **Ref: Ex H1/Tab 5/Schedule 2/Page 3/Note 2**

11

12 A) Please indicate when the IESO first attempted to negotiate reciprocal export tariff
13 reductions with neighbouring jurisdictions.

14

15 B) Please indicate the status of negotiations or agreements between the New York
16 Independent System Operator and the IESO with respect to mutual elimination of
17 export transmission tariffs, including when, in the IESO's estimation, such mutual
18 elimination will occur.

19

20 C) If the IESO cannot provide an estimate of when a mutual tariff elimination will
21 occur between New York and Ontario, please indicate the past and current schedule
22 of meetings specifically dedicated to this topic that have been held between the
23 NYISO and the IESO since the IESO report was issued in August of 2009.

24

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1 D) Please indicate whether the IESO is in current negotiations with jurisdictions other
2 than New York with respect to mutual export tariff reductions and what the status
3 is of these negotiations.
4

5 Interrogatory # 4
6

7 **Ref: Ex G1/Tab 2/Schedule 1**

8 **Ref: EB-2006-0501, Ex G1/Tab 1/Schedule 1/Page 5**
9

10 In the current application, Hydro One refers to the rate making methodology articulated and
11 approved in EB-2006-0501 and EB-2008-0272. The reference to EB-2006-0501 is the articulation
12 of Bonbright's "Principles of Public Utility Rates" for rate making and Hydro One's use of same.
13 The IESO study and summary do not appear to discuss standard rate making principles.
14

15 A) Please discuss how the cost allocation and rate design principles that have been
16 approved by the Board have been reflected in the IESO study and recommendation.
17

18 B) Please discuss the decision criteria employed by the IESO and whether Hydro One
19 provided any direction to the IESO with respect to how its own rate making
20 principles were to be reflected in the IESO study.
21

22 Interrogatory # 5
23

24 **Ref: Ex H1/Tab 5/Schedule2/Page 6**
25

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1 Please break out the effects on Ontario consumers and generators in 2011 and 2012 of selecting
2 Option 2, in terms of higher and/or lower costs relative to the status quo.

3

4 Interrogatory # 6

5

6 **Ref: H1/Tab 5/Schedule2/Attachment 1**

7

8 A) Please identify any external (i.e., non – IESO or Hydro One) sources of funding for
9 the ETS study, as well as the amount and purpose of the external funding.

10

11 B) Please describe how the IESO canvassed for and supported stakeholder involvement
12 for the ETS study, particularly by groups representing customer interests.

13

14 C) Appendix B of Attachment 1 lists Hydro Quebec as a stakeholder participant in the
15 ETS study process. Please indicate whether in this study proceeding Hydro Quebec
16 expressed an interest in a mutual elimination of export tariffs and whether
17 discussions have ensued.

18

19 **1.2 Are Hydro One's economic and business planning assumptions for 2011/2012**
20 **appropriate?**

21

22 Interrogatory # 7

23

24 **Ref: Ex A/Tab 12/Schedule 1/Page 5**

25

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1 HONI states that “the 2010-2012 Budget and Outlook was subsequently modified to take into
2 account customer concerns with respect to the level of increases proposed for the 2011 and
3 2012 test years.”

4

5 A) Please identify the specific modifications Hydro One made to the 2010-2012 Budget and
6 Outlook to address customer concerns.

7

8 B) What criteria was used to determine the modifications identified in A) above. How
9 were the modifications prioritized?

10

11 C) What spending was cancelled and why? What spending was deferred and why?

12

13 D) For the work that has been deferred, does Hydro One intend to complete this work in
14 future years? If yes, what is the schedule for completion?

15

16 **1.3 Is the overall increase in 2011 and 2012 revenue requirement reasonable?**

17

18 Interrogatory # 8

19

20 **Ref: Ex E1/Tab 1/Schedule 1/Page 2/Table 2**

21

22 Table 2 on page 3 compares the Revenue Requirements for 2010, 2011 and 2012. Please
23 complete the following Table to include the Board Approved Revenue Requirements for historic
24 years.

25

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1

Revenue Requirement (\$ M)							
Description	Year 2006	Year 2007	Year 2008	Year 2009	Bridge Year 2010	Test Year 2010	Test Year 2011
OM&A							
Depreciation							
Capital Taxes							
Cost of Capital							
Total Revenue Requirement							
Less External Revenues							
Less Export Revenue Credit							
Less Other Cost Charges							
Add Low Voltage Switch Gear							
Rates Revenue Requirement							
% Change (year to year)							

2

3

4 **2. LOAD FORECAST AND REVENUE FORECAST**

5

6 **2.1 Is the load forecast and methodology appropriate and have the impacts of**
 7 **Conservation and Demand Management initiatives been suitably reflected?**

8

9 Interrogatory # 9

10

11 **Ref: Ex A/Tab 12/Schedule 3/Page 7/Table 2**

12

13 A) Before Table 2, (lines 4-6), it is stated that the IPSP CDM figures were adjusted for
 14 the recent recession, yet the figures for Maximum Peak Demand for the recession
 15 years (2008 and 2009) do not seem to have been changed in Table 2. Please
 16 explain.

17

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1 B) Please explain the basis for calculating the difference between the IPSP Maximum
2 peak demand incremental CDM of 787MW in 2010 versus the 387Mw used in this
3 forecast. Please identify which programs are expected to deliver an additional 787
4 MW of peak demand reduction in 2010.

5

6 Interrogatory # 10

7

8 **Ref: Ex A/Tab 12/Schedule 3/Page 19/ Table 3**

9

10 For 2009, the Ontario Demand forecast less CDM and Embedded Generation seems to equate to
11 exactly 21,340 MW.

12

13 A) Is this a coincidence or were one of the forecast figures adjusted after the actual
14 results were realized?

15

16 B) Is the 21,340 MW figure actual or weather-corrected? If weather corrected, please
17 provide the actual number.

18

19 Interrogatory # 11

20

21 **Ref: Ex A/Tab 12/Schedule 3/Pages 12-13/Figures 1 & 2**

22

23 A) These figures show temperatures over a 57 year period. Please confirm that the
24 average temperatures shown are for the entire period and not for the current 31
25 year period used to establish weather normal conditions.

26

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1 B) Please provide and additional line on these charts showing a linear trend line of the
2 31 year average (e.g., starting in 1983).

3

4 Interrogatory # 12

5

6 **Ref: Ex A/Tab 12/Schedule 3/Page 21/Table 5**

7

8 A) For the same years as shown on this table, please provide columns showing the
9 original (current year) forecast, the actual average monthly peak Ontario demand
10 and the amount of weather correction applied that resulted in the calculation of
11 forecast accuracy.

12

13 B) The note at the bottom of Table 5 seems unclear. Please provide a sample
14 calculation for 2009 that illustrates how the calculation works to consider CDM
15 impacts.

16

17 **3. OPERATIONS MAINTENANCE & ADMINISTRATION COSTS**

18

19 **3.1 Are the proposed spending levels for, Sustaining, Development and Operations OM&A**
20 **in 2011 and 2012 appropriate, including consideration of factors such as system**
21 **reliability and asset condition?**

22

23 Interrogatory # 13

24

25 **Ref: Ex C1/Tab2/Schedule 2/Appendix A**

26

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1 Please provide the most recent health index information for the different asset components
2 categories, as previously provided in EB-2008-0272 Ex D1/Tab 2/Schedule 1 and also in EB-2006-
3 0501.

4

5 Interrogatory # 14

6

7 **Ref: Ex A/Tab 13/Schedule 1/Appendix B**

8

9 Please augment Figures B1, B2 and B3 with linear trend lines for the periods shown.

10

11 Interrogatory # 15

12

13 **Ref: Ex A/Tab 14/Schedule 1/Page 12**

14

15 A) Please provide a sample of the transmission unit cost KPI reports for Operations,
16 Maintenance & Administration and Capital.

17

18 B) Please provide a list of the Key Performance Indicators (KPI) that is currently in use
19 by Hydro One.

20

21 **3.2 Are the proposed spending levels for Shared Services and Other O&M in 2011 and**
22 **2012 appropriate?**

23

24

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1 Interrogatory # 16

2

3 **Ref: Ex C1/Tab 2/Schedule 9**

4

5 A) Does the three year extension to the Inergi contract include requirements for
6 continuous efficiency improvements?

7

8 B) Page 2: Has Hydro one conducted any recent reviews of the value for money it has
9 received from the Inergi contract?

10

11 C) Page 2: Does this extension entitle Inergi to specific work in the 2013-2015 period
12 on software projects that may not yet have been approved by the Board (e.g.,
13 replacement of legacy systems, Cornerstone 3, etc.)?

14

15 D) Page 9: it is stated that SAP maintenance costs will hold at \$9M for 2010 and 2011.
16 Is this amount contractually guaranteed with SAP or can SAP unilaterally raise this
17 cost?

18

19 E) Page 19/Table 6: Please identify the amounts Hydro One has spent/is planning to
20 spend on external consultants, contract staff and service providers in the IT
21 Management and Project Control category over the years shown.

22

23 Interrogatory # 17

24

25 **Ref: Ex C1/Tab 2/Schedule 1/Page 2/Table 1**

26

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- 1 Table 1 provides a summary of Hydro One’s Transmission’s actual OM&A expenditures for the
 2 historical, bridge and test years. Please complete the following table to compare historical
 3 OM&A costs to the Board Approved amounts.
 4

OM&A Costs (\$M)														
Description	2006 BA	2006 Actual	2006 Var	2007 BA	2007 Actual	2007 Var	2008 BA	2008 Actual	2008 Var	2009 Actual	2009 BA	2010 Bridge	2011 Test	2012 Test
Sustaining														
Development														
Operations														
Shared Services & Other OM&A														
Customer Care														
Property Taxes & Rights Payments														
SUB-TOTAL														
Dev Work for Tx Projects (Gov Instruction)														
TOTAL														

5 Notes: BA = Board Approved; Var = Variance

6

7 B) Please provide an explanation of the variances for 2006 to 2008.

8

9 **3.3 Are the 2011/12 Human Resources related costs (wages, salaries, benefits, incentive**
 10 **payments, labour productivity and pension costs) including employee levels**
 11 **appropriate? Has Hydro One demonstrated improvements in efficiency and value for**
 12 **dollar associated with its compensation costs?**

13

14 Interrogatory # 18

15

16 **Ref: Ex C1/Tab 2/Schedule 7/Page 10**

17

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1 A) Please provide a table of the number of employees that have been eligible for
2 undiscounted retirement for the past 5 years (up to and including 2009) and the
3 number of employees that have taken undiscounted retirement.

4

5 B) Please provide a table of the median age of employees eligible for undiscounted
6 retirement for the past 5 years (up to and including 2009) and the median age of
7 employees that have taken undiscounted retirement.

8

9 **4. CAPITAL EXPENDITURES and RATE BASE**

10

11 **4.2 Are the proposed 2011 and 2012 Sustaining and Development and Operations capital**
12 **expenditures appropriate, including consideration of factors such as system reliability**
13 **and asset condition?**

14

15 Interrogatory # 19

16

17 **Ref: Ex D1/Tab 3/Schedule 2/ Page 19**

18 **Ref: Ex D2/Tab 2/Schedule 3/ISD # S 16**

19

20 Please provide a table listing the operating spares that have been placed into active service (i.e.,
21 activated as replacements for failed transformers or for transformers requiring refurbishment)
22 annually for the period 2005-2009, along with the current spares inventory, by primary voltage
23 and MVA Rating .

24

25

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1 Interrogatory # 20

2

3 **Ref: Ex D2/Tab 2/Schedule 2**

4

5 For those projects and programs over \$3M that were also present in this schedule in the EB-
6 2008-0272 application, please provide a revised version of this schedule with three columns
7 added, indicating the amounts requested for 2009, spent in 2009 and projected for 2010.

8

9 Interrogatory # 21

10

11 **Ref: Ex D2/Tab 2/Schedule 3**

12

13 A) Project S3 appears to be virtually identical to project S2 in EB-2008-0272, the
14 replacement of 4 EOL metalclad circuit breakers in the GTA, along with protections and
15 15kV cables. At the same tie, the proposed budget of \$23.5M appears to be almost
16 triple the \$8.0M budgeted for the same work description and the same level of
17 accomplishment in EB-2008-0272. Please explain this large variance.

18

19 B) Project S4 appears to be the same project S4 described in EB-2008-0272. Please explain
20 the project extension and budget increase.

21

22 C) Project S7 (Orangeville TS ABCB Re-investment):

23 i) Is this project identical to project S5 in EB-2008-0272, or is it for an
24 additional set of breakers?

25 ii) If this is a continuance of the previous S5, is the station service being
26 replaced twice?

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- 1 iii) If this is the same project, please explain the delay in completion and
2 the cost increase of \$5.3M.
- 3 iv) If this is a continuing program, please explain the significantly increased
4 unit cost versus the previous \$5.
- 5
- 6 D) Project S6 appears to be the completion of project S7 from EB-2008-0272, budgeted
7 then at \$35.0M. If this is correct, please identify what the total budget was for this
8 project and the variance, if any.
- 9
- 10 E) Project S15 appears to be for the same replacement work identified in Project S12 in EB-
11 2008-0272 and scheduled for completion in 2009. If this is accurate, please provide an
12 explanation of the variance and in-service delay.
- 13
- 14 F) Project S13 appears to be identical to Project S15 in EB-2008-0272, originally scheduled
15 for completion in 2010 at a gross cost of \$9.5M. If this is accurate, please explain the
16 cost escalation and the delay.
- 17
- 18 G) Project S20 (spill containment refurbishment): Please identify 2009 and 2010 costs and
19 accomplishments (systems refurbished) for this program.
- 20
- 21 H) Project D2 (Kirkland Lake & Porcupine SVCs): Please explain the schedule extension and
22 variance for this project.
- 23
- 24 I) Project D35 (Northwest Transmission Reinforcement):
- 25 i) Please identify the current load in the Pickle Lake area that is served by Hydro
26 One and which this reinforcement will also serve.

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- 1 ii) Please identify how Hydro One plans to recover cost of this reinforcement from
 2 new customers, both load and renewable generators.
 3 iii) Please provide a breakout of the cost of the line, separating the cost to reach LJF
 4 and the wind generation on the East Side of Lake Nipigon from the extension to
 5 Pickle Lake loads.
 6 iv) Please provide the expected capacity of the portion of the line from Lake
 7 Nipigon to Pickle Lake.

8

9 Interrogatory # 22

10

11 **Ref: Ex D1/Tab 3/Schedule 1/Page 2/Table 1**

12

13 Table 1 on page 2 provides a summary of Hydro One’s Transmission’s actual capital expenditures
 14 for the historical, bridge and test years. Please complete the following Table to compare
 15 historical capital costs to the Board Approved capital amounts.

16

Capital Costs (\$ M)														
Description	2006 BA	2006 Actual	2006 Var	2007 BA	2007 Actual	2007 Var	2008 BA	2008 Actual	2008 Var	2009 Actual	2009 BA	2010 Bridge	2011 Test	2012 Test
Sustaining														
Development														
Operations														
Shared Services Capital														
TOTAL														

17 BA – Board Approved; Var = Variance

18

19 B) Please provide an explanation of the variances for 2006 to 2008.

20

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1 **8. CHARGE DETERMINANTS**

2 **8.1 Is it appropriate to implement "AMPCO's High 5 Proposal" in place of the status quo**
3 **charge determinants for Network service?**

4

5 Interrogatory # 23

6

7 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 1/Section 1**

8

9 The Introduction section of the Power Advisory Report includes the Board's directive. In its
10 Decision With Reasons (EB-2008-0272), the OEB directed Hydro One to come forward at its next
11 application with:

12

- 13 1. further analysis of AMPCO's proposal; and
14 2. a suitable proposal for implementation for the OEB's consideration in the event the OEB
15 decides to change the charge determinant.

16

17 A) Please explain why the second item was excluded from the scope of the Consultant's
18 report.

19

20 B) Please indicate when the applicant intends to file material fulfilling this aspect of the
21 Board's direction in EB-2008-0272.

22

23

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1 Interrogatory # 24

2

3 **Ref: Ex H1/Tab 3/Schedule 1/Page 1/Section 1.1, sub (1) "comprehensive impact analysis"**

4

5 HONI requested that the Consultant provide a comprehensive impact analysis of the likely and
6 potential effects, costs and benefits of implementing AMPCO's proposal.

7

8 A) Please provide estimates of the costs of implementing AMPCO's proposal, if any costs
9 have been identified and such estimates have been made. If costs have not been
10 estimated, please explain why such estimates were determined not to be within the
11 scope of the required analysis of AMPCO's proposal.

12

13 B) Please provide estimates of the benefits of implementing AMPCO's proposal, if benefits
14 have been identified and such estimates have been made. If benefits have not been
15 estimated, please explain why such benefits were determined not to be within the
16 scope of the required analysis of AMPCO's proposal.

17

18 C) Please explain, in the Consultant's opinion, the extent to which the AMPCO proposal is
19 more or less likely, compared to the status quo scheme for network charge
20 determinants, to promote efficiency in transmission or to promote efficient demand
21 management.

22

23 D) Please provide an analysis, if any has been done, of the "localized transmission system
24 impacts" of implementing AMPCO's proposal.

25

26

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1 Interrogatory # 25

2

3 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1**

4

5 Please provide the Consultant's analysis, including assumptions, input data sets, calculations and
6 results with respect to the effect of the AMPCO proposal on the economic efficiency of the
7 Ontario electricity market in total, relative to the status quo.

8

9 Interrogatory # 26

10

11 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page vi-vii**

12

13 A) On table ES-3, the estimated load shifting is shown as 86 MW. Please identify the
14 economic value to Ontario ratepayers that the Consultant has attributed to the
15 avoidance of additional peaking generation, and include relevant assumptions, input
16 data sets, and calculations.

17

18 B) The Consultant estimates that the average bill impact for a LDC residential customer
19 would be \$2.40 per year. Please provide analysis in support of this estimate, including
20 assumptions, input data sets and calculations.

21

22 C) Did the Consultant consider and quantify the extent to which rate increase for LDC
23 customers could be implemented by way of changes to Time of Use rates so as to
24 enhance load shifting? If so, Please provide the relevant analysis, including
25 assumptions, input data sets, calculations and results.

26

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1 Interrogatory # 27

2

3 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 10/Section 2.1/Footnote 22**

4

5 A) The Consultant suggests that the AMPCO proposal may result in a “reduction in market
6 revenues to generators.” Please provide analysis in support of the potential aggregate
7 impact on generators (net of revenue changes and transmission cost changes) of
8 implementing the AMPCO proposal, including assumptions, input data sets, calculations
9 and results.

10

11 B) It is unclear whether the Consultant predicts that the net effect of the AMPCO proposal
12 on the amount of Global Adjustment is likely to be positive or negative. Please clarify
13 and provide supporting analysis, including assumptions, input data sets, calculations and
14 results.

15

16 Interrogatory # 28

17

18 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 16/Section 2.2.5**

19

20 The last sentence of the first paragraph in Section 2.2.5 says, “A change in the charge
21 determinants for all LDCs (and not just HONI) as a result of the High 5 Proposal would likely have
22 dramatic impacts on the cost responsibility among all customers.”

23

24 Please clarify whether this sentence is intended to characterize Hydro One's views as expressed
25 in EB-2008-0272 or is a statement of the Consultant's opinion? If it is intended to characterize
26 Hydro One's views, please provide the appropriate references. if it is a statement of the

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1 Consultant's opinion, please provide supporting analysis, including assumptions, input data sets,
2 calculations and results.

3

4 Interrogatory # 29

5

6 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 17/Section 2.3.1**

7

8 Section 2.3.1 of the Consultant's report discusses consistency with cost responsibility principles.

9 Please confirm that "cost responsibility" as used through the report, has the same meaning as

10 "cost causality" in common usage before the Board. If not, please explain the difference.

11

12 Interrogatory # 30

13

14 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 18/Section 2.3.1**

15

16 The Consultant report says, "However, HONI's transmission system does not peak at the same
17 time in every area and regional peaks frequently occur on days that vary from the system peak
18 days" and further provides that, "With respect to recovery of past investments, the transmission
19 network was built to serve Ontario's transmission peak demands throughout the year and in
20 each local region ..."

21

22 Please provide analysis, including relevant data sets, on which the Consultant relies to support
23 these statements, including analysis based on actual historical demand showing when system
24 peaks and local peaks, expressed in absolute terms, are most likely to occur.

25

26

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1 Interrogatory # 31

2

3 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 18/Section 2.3.1**

4

5 On page 18 (Section 2.3.1), Power Advisory states, "These resources tend not to experience
6 their maximum output at the time of peak demands and the transmission network must be
7 designed accordingly."

8

9 A) Please provide the data and analysis of generation technologies and fuel types in
10 Ontario, identifying which generation produces what during peak times, including
11 information related to installed and/or available capacity (MW) and production (MWh).

12

13 B) Please identify (by dollar value and proportion of total) the existing assets in the
14 network pool that can be attributed to accommodating generation that experiences
15 maximum output at times other than the time of peak demand.

16

17 Interrogatory # 32

18

19 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 18/Section 2.3.1/Footnote 61**

20

21 The footnote says, "However, the circumstances in Ontario are distinct from those in the
22 Northeast United States and Texas."

23

24 Please explain how and/or why Ontario is materially distinct.

25

26

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1 Interrogatory # 33

2

3 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 19/Section 2.3.2**

4

5 The report says, "AMPCO essentially assumes that the current transmission shadow price is
6 zero, thus overstating the price change used to calculate the elasticity response."

7

8 A) Please identify the number of customers in each month of 2007, 2008 and 2009, whose
9 network charge determinant is based (i) on that customer's peak during the hour of
10 system peak, or (ii) on 85% of the non-coincident peak during the working weekday
11 hours 7:00 am to 7:00 pm.

12

13 B) Please compute the shadow price of network services for each customer in each month
14 of 2007, 2008, and 2009, based on the data provided in (A).

15

16 Interrogatory # 34

17

18 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 19/Section 2.3.2**

19

20 The report says, "Even setting aside the relatively low explanatory power of the industry-specific
21 equations, greater effort should be devoted to addressing potential econometric model
22 specification problems."

23

24 Please identify the potential econometric model specification problems to which this statement
25 refers.

26

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1 Interrogatory # 35

2

3 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 19/Section 2.3.3**

4

5 Section 2.3.3 of the report reads in part, "Moreover, the econometric equation used to estimate
6 this relationship is based on a data set that does not suffer from the same shortcomings of the
7 industry-specific elasticity equations."

8

9 Please identify and describe the shortcomings to which this statement refers.

10

11 Interrogatory # 36

12

13 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 19/Section 2.3.3**

14

15 The report says, "Nonetheless, Power Advisory believes that an econometric model does not
16 properly analyze the impact of relatively small changes in total demand."

17

18 A) Please clarify or confirm that it is the Consultant's opinion that no econometric model
19 can be used to assess the impacts of small changes in demand.

20

21 B) Please clarify or confirm that it is the Consultant's opinion that econometric analysis,
22 generally speaking, cannot be used to "properly analyze" the impact of small changes in
23 demand.

24

25 C) Please identify and explain the Consultant's preferred methodology, approach or model
26 to properly analyze the impact of small changes in demand, including an appropriate

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1 reference or source for the necessary data and assumptions to estimate such a model

2

3 Interrogatory # 37

4

5 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 20/Section 2.3.5**

6

7 A) Please provide any information that the Consultant or HONI has with respect to the
8 prevalence of demand ratchets as a feature of network charges in other jurisdictions , in
9 particular whether the use of ratchets is widespread, increasing or decreasing.

10

11 B) Please provide any comparative analysis, including assumptions, data sets, calculations
12 and results that the Consultant has performed with respect to the effect of ratchets for
13 network charges. Such comparative analysis may include before-and-after comparisons
14 within a jurisdiction before and after adopting a ratchet or between jurisdictions with
15 and without ratchets.

16

17 Interrogatory # 38

18

19 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 20/Section 2.3.4**

20

21 On page 20 (Section 2.3.4) of the report, Power Advisory states, "However, as discussed in
22 Chapter 4, the transmission cost shift impacts from changing the methodology are quite
23 dramatic and many times larger than the impact from load shifting..."

24

25 Please provide analysis, including assumptions, data sets, calculations and results, quantifying
26 how much of the cost shifting as a result of changing the methodology can be attributed (i) to

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1 moving from a monthly 1CP charge determinant to an annual 5CP charge determinant, and (ii)
2 to removing the 85% ratchet aspect of the current scheme.

3

4 Interrogatory # 39

5

6 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 20/Section 2.3.4**

7

8 The Consultant's report states, "A central question is whether or not LDCs have the ability to
9 respond to this impact by promoting load shifting by their customers."

10

11 Please explain whether, and, if so, how, the recent announcement by the Ontario Energy Board
12 of new license conditions for LDCs relating to compulsory CDM targets to reduce demand
13 measured during system peak times might be relevant to the "central question" posed by the
14 Consultant.

15

16 Interrogatory # 40

17

18 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 20/Section 2.3.5**

19

20 The Consultant's report states, "The ratchet captures the fact that the transmission system has
21 been built over time based on the need to meet system peaks but also to meet the peaks of
22 large customers, regardless of when those peaks occur."

23

24 Please provide appropriate references to substantiate the statement of fact contained in this
25 sentence.

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1

2 Interrogatory # 41

3

4 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 22/Section 2.3.5.1**

5

6 The Consultant's report states, "There may be other, more targeted approaches that accomplish
7 greater demand response in a more efficient manner and without such unintended
8 consequences."

9

10 Please explain the mechanism by which the Retail Transmission Service Rates charged by LDCs
11 to Large Users and other monthly-billed customers are adjusted and how they might vary from
12 the network charge determinant methodology approved by the Board for transmission
13 customers.

14

15 Interrogatory # 42

16

17 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 23/Section 2.3.5.2**

18

19 The Consultant's report states, "For example, an increase in demands placed on the
20 transmission network from extreme weather may lead to greater unplanned outages of
21 equipment that requires maintenance, repair or replacement that exceed the budgeted
22 amounts."

23

24 Please explain, with supporting analysis, whether the AMPCO proposal is more or less likely,
25 compared to the current scheme, to create incentives for demand response during periods of
26 extreme weather-related increases in demand.

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1

2 Interrogatory # 43

3

4 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 24/Section 2.3.5.2**

5

6 The Consultant's report states, "The determination of the High 5 hours, and network charge
7 determinants would not be available until some time after the beginning of the year. As it is
8 possible that a High 5 hour could occur in January or February, it is important the new rates be
9 established as early in the year as possible. If this can only be accomplished with a hearing
10 process, in order for stakeholders to comment on the calculations, then this becomes
11 problematic."

12

13 A) Please provide analysis, including assumptions and data sets, in support of the
14 statement that the determination of the High 5 hours would not be available until
15 "some time" after the end of the year.

16

17 B) Under the High 5 proposal, a customer's charge determinant is based on demand in the
18 previous year. Please explain why the High 5 could not be implemented in a way that is
19 consistent with the notion that "it is important that new rates be established as early in
20 the year as possible".

21

22 C) Please confirm that the Consultant expects that new rates would necessarily be set
23 through an annual hearing process.

24

25

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1 Interrogatory # 44

2

3 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 27/Section 3.1.1, first bullet**

4

5 The first bullet under section 3.1.1 on page 27 reads, "The customer cannot know when its
6 reduction in demand will actually affect its network transmission costs, and..."

7

8 Please explain this statement.

9

10 Interrogatory # 45

11

12 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 31/Section 3.1.3**

13

14 The last sentence on page 31 reads, "In a year with particularly mild summer weather, a high 5
15 load hour could be experienced in May or September."

16

17 Please provide an analysis, based on weather-normalized load data, of which months are most
18 likely to experience the highest five hourly demands.

19

20 Interrogatory # 46

21

22 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 32/Section 3.1.3/Footnote 83**

23

24 Please clarify the year based on which the 1912 MW figure was calculated.

25

26

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1 Interrogatory # 47

2

3 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 32/Section 3.1.3/Footnote 84**

4

5 Please provide the data/analysis or an appropriate reference for the 550 MW per degree Celsius
6 figure.

7

8 Interrogatory # 48

9

10 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 36/Section 3.2.1**

11

12 The Consultant's report states, "For the analysis of the AMPCO High 5 proposal, the appropriate
13 elasticity of substitution is therefore the elasticity of substitution between peak and off-peak
14 electricity."

15

16 Please provide the analysis deriving elasticity of substitution values from data from the most
17 recent 3 years. Include data sets and calculations supporting the analysis.

18

19 Interrogatory # 49

20

21 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 37/Section 3.2.1**

22

23 "Under the AMPCO High 5 proposal, the effective price at the time of load shifting is not well
24 known until after the fact."

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1

2 Please clarify and/or describe the time frame within which a customer can reasonably be
3 expected to know the effective price, financial impact, or benefit, of load shifting.

4

5 Interrogatory # 50

6

7 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 37/ Section 3.2.1**

8

9 On page 37 of the report, Power Advisory states, "In essence, customers have to incur costs in
10 the hope of reducing costs..."

11

12 Please explain, and provide examples, of the costs that customers might incur to reduce demand
13 during system peak periods.

14

15 Interrogatory # 51

16

17 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 38/Section 3.2.2**

18

19 On page 38, the Consultant's report states, "Chief among the problems is the lack of a properly
20 formulated production function to constrain the system and the failure to consider that the
21 response to price change is to change the ratios of the inputs. The customer is reacting to a
22 change in the relative price of two of its inputs by rebalancing their use, shifting away from the
23 one that became relatively more expensive and towards the one that is now relatively cheaper.
24 At the same time, we are assuming that the customer plans to maintain its total output, which
25 places a restriction on the way that the substitution occurs. To represent this situation properly
26 requires development of a production function in a form consistent with the assumptions. Dr.

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1 Sen failed to construct any production function and therefore places no constraints on the
2 results.”

3

4 Please provide the economic theory behind using a production function with respect to
5 analyzing consumption data.

6

7 Interrogatory # 52

8

9 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 38/ Section 3.2.2**

10

11 A) Please provide data and/or analysis to support the assumption that customers who
12 undertake load shifting will be constrained by maintaining output constant.

13

14 B) Please explain whether the assumption requires daily output to be held constant, or
15 output within a week, month, quarter or year.

16

17 C) Please provide data, or appropriate references to a source of publicly available data,
18 that would enable the following proposed models to be estimated: (i) a production
19 function with a constant output constraint, or (ii) a production function with a
20 constant electricity budget constraint.

21

22 D) Please explain how a firm production function can be used to estimate aggregate
23 industry responses to changes in relative prices.

24

25

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1 Interrogatory # 53

2

3 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 38/ Section 3.2.2**

4

5 The report states, "This would imply that the customer is reducing its output in response to the
6 transmission price increase, which violates the assumptions of the analysis".

7

8 Please clarify that the analysis of which the assumptions are supposed to be violated in this
9 sentence refers to the hypothetical analysis of a production function model as recommended by
10 the Consultant, and not to any analysis which has actually been performed by AMPCO.

11

12 Interrogatory # 54

13

14 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 38/Section 3.2.2, second bullet**

15

16 The report asserts, "There is multicollinearity because the independent variables are correlated
17 with each other, but Dr. Sen did not report the degree of correlation. Multicollinearity can make
18 the coefficient estimates suspect in relation to each other."

19

20 Please provide analysis, including assumptions, data sets, and calculations, demonstrating such
21 multicollinearity.

22

23 Interrogatory # 55

24

25 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 39/ Section 3.2.2, first bullet**

26

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1 The first bullet on page 39 reads, "Dr. Sen's estimated coefficients are not robust under different
2 estimation time frames and different specification of the independent variables."

3

4 A) Please clarify that by "robust", the Consultant means "the same", or if a different
5 meaning is intended please explain what the statement is intended to express.

6

7 B) If by "robust", the Consultant means "the same", please explain why one would expect
8 that coefficients estimated using different data sets, based on different assumptions,
9 according to models specified differently, should be the same.

10

11 Interrogatory # 56

12

13 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 41/ Section 3.2.3/Footnotes 103 & 106**

14

15 Please provide copies of the reports cited in footnotes 103 and 106.

16

17 Interrogatory # 57

18

19 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 41/ Section 3.2.5**

20

21 The Consultant states, "The Cheng and Mountain results are the best available empirical
22 estimates of substitution elasticities in Ontario".

23

24 Please provide the criteria by which the results obtained in this study are judged to be the best
25 estimates available.

26

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1 Interrogatory # 58

2

3 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 41/ Section 3.2.5**

4

5 The report says, "They may therefore overstate the current customers' reaction to changes in
6 prices because there is less scope for shifting that at the time of their estimation."

7

8 Please provide analysis, including assumptions, data sets and calculations, to substantiate the
9 statement that "there is less scope" for shifting now than in 1993.

10

11 Interrogatory # 59

12

13 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 41/ Section 3.2.5/Table 10**

14

15 In Table 1, the Consultant applies an elasticity of 0.02 in the high case.

16

17 Please explain the rationale to apply an elasticity for industries for which no statistical evidence
18 of elasticity was found.

19

20 Interrogatory # 60

21

22 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 50/ Section 3.3/Table 12**

23

24 Please provide the formulas used to calculate load shifts.

25

26

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1

2 Interrogatory # 61

3

4 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 50/ Section 3.3/Footnote 121**

5

6 Please provide the details of the finding that explains the Consultant's conclusion that AMPCO
7 appears to have misapplied the elasticity formula.

8

9 Interrogatory # 62

10

11 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 58/ Section 5/Footnote 131**

12

13 A) Please explain whether, in the Consultant's opinion, the "commodity cost" includes the
14 Global Adjustment.

15

16 B) Please explain why the Consultant did not calculate the effect on the Global Adjustment
17 of a reduction in HOEP.

18

19 Interrogatory # 63

20

21 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 59/Section 5.1/Figure 4**

22

23 A) How did Power Advisory construct the Ontario Electricity Supply Curve shown in Figure
24 4?

25

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1 B) Please reproduce figure 4 based on actual generation capacity and unit costs for
2 Ontario.

3

4 Interrogatory # 64

5

6 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 60/ Section 5.1**

7

8 The Consultant's report says, "Since gas is the fossil fuel with the highest marginal cost,"

9

10 A) Please clarify whether this sentence refers to natural gas as a fuel compared to other
11 fossil fuels, or the variable fuel costs, or marginal costs, of fossil-fueled electricity
12 generation.

13

14 B) In either case, please provide the data and analysis to substantiate this statement, for
15 2007, 2008 and 2009.

16

17 Interrogatory # 65

18

19 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 60/ Section 5.2.1**

20 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 61/ Section 5.2.2**

21

22 On page 60, the report states, "Dr. Sen's model cannot model price spikes." On page 61, the
23 report states, "We have used this model to provide electricity market price forecasts for clients."

24 Explain the extent to which the Consultant's model models price spikes?

25

26 Interrogatory # 66

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1

2 **Ref:** Ex H1/Tab 3/Schedule 1/Attachment 1/Page 62/Section 5.3

3 **Ref:** Ex H1/Tab 3/Schedule 1/Attachment 1/Page 63/Section 5.4/Table 16

4

5 Robust forecasting is accomplished through structural econometric or statistical models. On
6 page 62, the Consultant discusses a forecasting model that it has constructed to forecast load
7 shifts in 2011. On page 63, Power Advisory the total commodity cost changes are shown in
8 Table 16.

9

10 A) Please provide a working version of the Consultant's forecasting model (or a description
11 of the econometric equations that drive the model).

12

13 B) Please provide a copy of the data set described in Section 5.2 that was used to derive
14 the value in Table 16.

15

16 C) Please clarify that the data in the Table 16 labelled "Commodity Cost Saving Estimates",
17 refers only to estimated average Hourly Ontario Energy Prices.

18

19 Interrogatory # 67

20

21 **Ref:** Ex H1/Tab 3/Schedule 1/Attachment 1/Page 63/ Section 5.4

22

23 Power Advisory states at the bottom of Page 63, "The average price reductions in the off-peak
24 periods are always lower than the average price increases in the peak periods,....."

25

26 Please confirm that the words "reduction" and "increases" in this sentence should be reversed.

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1

2 Interrogatory # 68

3

4 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 72-73/ Section 5.4**

5

6 The report states, "Therefore, reductions in load in on-peak periods can exacerbate congestion,
7 rather than alleviate it."

8

9 A) Please provide specific examples where this has occurred, including supporting data or
10 references.

11

12 B) Please provide an estimate of the congestion costs (e.g., via increases in Congestion
13 Management Settlement Credits) incurred as a result of demand reductions during
14 periods of peak system demand.

15

16 Interrogatory # 69

17

18 **Ref: Ex H1/Tab 3/Schedule 1/Attachment 1/Page 76/Section 8**

19

20 The Consultant's report indicates that, "For those network transmission facilities that may be
21 deferred by demand reductions, it may be more effective and efficient to design and implement
22 such programs to do this."

23

24 A) Please provide an example of such a program, if any exists, in other jurisdictions.

25

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1 Where such a program exists, please provide estimates of costs and benefits, if any estimates
2 are available. Please explain how the costs of such a program would be recovered from
3 customers.

4

5 **9. GREEN ENERGY PLAN**

6

7 **9.1 Are the OM&A and capital amounts in the Green Energy Plan appropriate and based**
8 **on appropriate planning criteria?**

9

10 Interrogatory # 70

11

12 **Ref: Ex A/Tab 11/Schedule 4/Appendix A/Page 1**

13 **Ref: Ex A/Tab 11/Sch 4/Page 3**

14

15 The letter dated September 21, 2009 from the then Minister of Energy and Infrastructure
16 (Appendix A) includes a number of major projects to upgrade the transmission and distribution
17 systems in anticipation of renewable generation likely to come from the Feed-In-Tariff (FIT)
18 program. The Minister's letter directs Hydro One to proceed with the planning, development
19 and implementation of transmission projects outlined in the letter and to collaborate with the
20 OPA in defining scope of work and with the IESO regarding System Impact Assessments and
21 reliability impacts.

22

23 On page 3, the evidence states "Hydro One continues to consult collaboratively with the Ontario
24 Power Authority ("OPA") in defining the scope of work associated with the GE projects."

25

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1 A) Please provide a summary of the collaboration that has taken place between Hydro One
2 and the OPA and the IESO since September 2009. Please include supporting
3 documentation such as dates of meetings, directives from meetings, correspondence
4 between parties as well as a description of how this collaboration has informed Hydro
5 One's Green energy Plan.

6

7 B) Has the scope of work or prioritization of specific projects changed as a result of the
8 collaboration between Hydro One and the OPA and the IESO since 2009? If yes, please
9 describe the change and the projects affected?

10

11 C) Have any of the target in-service dates shown on Schedules A and B attached to the
12 Minister's letter been altered as a result of this collaboration?

13

14 Interrogatory # 71

15

16 **Ref: Ex A/Tab 11/Schedule 4/Appendix A/Page 3**

17

18 The then Minister of Energy and Infrastructure, in his letter dated September 21, 2009, indicates
19 that Hydro One is to report back on a semi-annual basis on planning, development and
20 implementation activities undertaken and the progress made in connection with Transmission
21 and Distribution projects. Hydro One was asked to submit a first report by no later than the end
22 of November 2009.

23

24 Please provide copies of all progress reports submitted to the Minister of Energy and
25 Infrastructure in November 2009 and beyond in connection with the Transmission and
26 Distribution projects outlined in the Minister's letter.

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1

2 Interrogatory #72

3

4 **Ref: Ex A/Tab 11/Schedule 4/Page 2**

5

6 The evidence states on page 2 that the GE Projects are required to connect new renewable
7 generation facilities procured through the FIT program and “other means”.

8

9 A) Please provide a definition of “other means”.

10

11 B) What is the historical and forecasted capacity (test years and beyond) for renewable
12 generation contracted through “other means”? How has Hydro One incorporated this
13 capacity in its Green Energy Plan?

14

15 Interrogatory #73

16

17 **Ref: Ex A/Tab 11/Schedule 4/Page 2**

18

19 The evidence states, “While the timing and nature of some GE projects will depend on the
20 results of the FIT program, this Plan encompasses transmission investments that will form the
21 backbone of an electricity system re-designed to integrate up to 10,000 MW and beyond of
22 potential renewable generation”.

23

24 A) For the GE projects referenced above that depend on the results of the FIT program,
25 please provide the latest FIT program results related to these projects.

26

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1 B) What impacts do the current results have on these projects with respect to timing,
2 spending and prioritization? What are the forecasted FIT program results related to
3 these projects?

4

5 C) Please explain how the estimated 10,000 MW and beyond of potential renewable
6 generation was derived.

7

8 Interrogatory # 74

9

10 **Ref: Ex A/Tab 11/Schedule 4/page 5**

11

12 The evidence states, in addition to current FIT applications under review by the OPA, many more
13 applications are expected to be submitted in the future.”

14

15 Please complete the following table to summarize the total renewable energy potential (FIT +
16 Other Means) by green energy project in Sept 21, 2010 Minister’s letter for: a) the test year
17 period and b) for the period 2013-2016.

18

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1

Renewable Energy Potential – Schedule A Projects												
Item # (by project category)	Item # as per Sch A	Investment Description	Solar Ground (MW)	Solar Roof (MW)	Wind (MW)	Wind (MW)	Water (MW)	Bio-Gas (MW)	Biomass (MW)	Landfill (MW)	Other (MW)	Total
1	1											
2	5											
3	2 & 3											
4	8											
5	4											
6	7 & 9											
7	14											
8	18											
9	10											
10	11											
11	12											
12	13											
13	15											
14	16											
15	17											
16	19											
17	6											
18	20											
Sub-total												
Renewable Energy Potential – Schedule B Projects												
Item # (as per Table 2 A/11/4)	Item # as per Sch B	Investment Description	Solar Ground (MW)	Solar Roof (MW)	Wind (MW)	Wind (MW)	Water (MW)	Bio-Gas (MW)	Biomass (MW)	Landfill (MW)	Other (MW)	Total
1												
2												
3												
4												
5												
Total												

2

3

4 Interrogatory #75

5

6 **Ref: Ex A/Tab 11/Schedule 4/Page 5**

7

8 Hydro One indicates on page 5, “This will require new approaches to project prioritization to
 9 properly assess the importance of aging asset issues relative to the Green Energy projects.”

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1

2 Please describe the new approaches to project prioritization that Hydro One is considering.

3

4 Interrogatory #76

5

6 **Ref: Ex A/Tab 11/Schedule 4/Page 7**

7

8 The evidence states, "Hydro One will need to be prepared to adopt to changes in plans brought
9 about by the GEGEA. The FIT program is essentially a customer driven program so that project
10 location and sizes are not predetermined."

11

12 Please explain how Hydro One plans to adapt to changes during the test period should the OPA
13 or the government redefine the needs and scope of work associated with green energy projects
14 based on emerging and ongoing FIT information or new policy directions that affect anticipated
15 transmission needs.

16

17 Interrogatory #77

18

19 **Ref: Ex A/Tab 11/Schedule 4/Page 8**

20

21 Hydro One indicates that the Green Energy Plan will constitute a major portion of the
22 Transmission development Capital work program with spending of \$2.5 B in the near term
23 (2010-2014) and \$4.5 B over the longer term (2015-2020) for a total of \$7 B in spending.

24

25 What specific approvals is Hydro One seeking for spending that will occur beyond the 2011/2012
26 test years?

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2
3
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Interrogatory # 78

Ref: Ex A/Tab 11/Schedule 4/Section 4/Pages 10 to 18

Pages 10 to 18 briefly describe the major green energy projects in the following groupings: where development work is underway; where development work will begin once the OPA confirms project need; and where development work is not planned in the test years. Total OM&A development work and capital expenditures are provided for each project. Please complete the following table to show the total OM&A and capital costs and the test year costs by project category.

Project Category	Total OM&A	OM&A 2011 Test Year	OM&A 2012 Test Year	Total Capital	Capital 2011 Test Year	Capital 2012 Test Year
Development work is underway						
Development work will begin once the OPA confirms project need						
Development work is not planned in the test years						
Total						

13
14
15
16

Interrogatory #79

Ref: Ex A/Tab 11/Schedule 4/Page 9/Section 4/Table 1

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1 **Ref: Ex A/Tab 11/Schedule 4/Page 46/Table 5**

2

3 Table 1 on page 4 (Summary of Major Green Projects) lists the projects from Schedule A of the
4 Minister's September 21, 2009 letter and groups the projects in three categories. The
5 description of each project in the evidence on pages 10 to 28 follows the Item #'s used in Table
6 1. Table 5 on page 46 (Summary of Development Work for Major Green Projects in Bridge and
7 Test Years) shows Hydro One's planned expenditures on OM&A Development projects but the
8 projects are listed in a different order using a different numbering system.

9

10 Please complete the following Table.

11

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1

Summary of Development OM&A for Schedule A Green Energy Projects (\$ M)							
Item #	Investment Description	Item Number as per Schedule A	OM&A 2010	OM&A 2011	OM&A 2012	Total Cost	Target In-Service Year
Projects where Preliminary Development Work is Underway							
1							
2							
3							
4							
5							
6							
7							
Projects where Development Work will begin once OPA confirms Project Need							
8							
9							
10							
11							
12							
13							
14							
15							
Projects where Development Work is Not Planned in the Test Years							
16							
17							
18							
Total Costs							

2

3 Interrogatory #80

4

5 **Ref: Ex A/Tab 11/Schedule 4/Page 30/Table 2**

6

7 Table 2 (Expenditures for Schedule B Projects) shows the total capital expenditures required for
 8 Schedule B (Projects to Enable Distribution System Connected Generation) of the September 21,
 9 2009 Minister's Letter and the target in-service year based on five item numbers.

10

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1 Please provide a breakdown of these estimates for each of the five item numbers by year to
2 arrive at the totals shown in Table 2.

3

4 Interrogatory # 81

5

6 **Ref: Ex A/Tab 11/Schedule 4/Page 47**

7

8 Hydro One is considering the need for a mechanism to recover OM&A development costs as
9 incurred and might propose a rate rider mechanism. The rider mechanism would recover the
10 costs in a deferral account each year.

11

12 Given the materiality of these development costs, currently projected at \$160 M for Green
13 Energy Projects (\$82.4 M) in the Test Years, has Hydro One considered a variance account to
14 track the difference between the forecast and actual expenditures?

15

16 **9.2 Are Hydro One's accelerated cost recovery proposals for the Bruce-to-Milton line and
17 for Green Energy projects appropriate?**

18

19 Interrogatory # 82

20

21 **Ref: Ex A/Tab 11/Schedule 5/Page 6**

22

23 A) Please identify the reduced borrowing cost benefits that will accrue to ratepayers
24 from this proposal.

25

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1 B) Please provide an analysis that identifies the incremental customer cost benefit of
2 this proposal over the projected life of the asset, using Hydro One's best estimates
3 of future borrowing cost, tax rates and ROE.

4

5 Interrogatory # 83

6

7 **Ref: Ex A/Tab11/Schedule 5/Page 8/Table 2**

8

9 Please provide a pro forma version of this Table that compares the customer's impact of
10 requirement for revenue from Hydro One's proposed Construction Work In Progress (CWIP)
11 treatment with a treatment whereby the Board would allow Hydro One to expense interest
12 costs throughout the project life.

13

14 Interrogatory # 84

15

16 **Ref: Ex A/Tab11/Schedule 5/Page 1**

17

18 The evidence indicates that 100% of annual CWIP expenditures for the 500 kV Bruce to Milton
19 Double Circuit Line project are to be treated as if they were added to rate base until the project
20 is placed in service.

21

22 Did Hydro One consider the option of applying CWIP into rate base on a staged basis as
23 construction proceeds? If no, please explain.

24

25

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1 Interrogatory # 85

2

3 **Ref: Ex A/Tab 11/Schedule 5/Page 10/Section 6**

4

5 Table 3 on page 10 lists two projects proposed for Accelerated Cost Recovery of CWIP for annual
6 expenditures in their individual Section 92 applications:

7

8 - Northwest Transmission Reinforcement; and

9 - Algoma x Sudbury Transmission Expansion.

10

11 A) Please identify the specific investment risks associated with each of the above projects.

12

13 B) Please explain why Hydro One does not feel conventional mechanisms are adequate in
14 connection with the above proposed investments to address investment risk.

15

16 C) Please indicate the cost of each project in proportion to current rate base.