



VIA RESS

October 2, 2009

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. 2010/11 Electricity Distribution Rate Changes
Submission of AMPCO Interrogatories
Board File No. EB-2009-0096**

Pursuant to Procedural Order #1, issued September 9, 2009, attached please find AMPCO's interrogatories in the above proceeding.

Please contact me if you require additional information or have any questions.

Sincerely yours,

ORIGINAL SIGNED BY

Adam White

President
Association of Major Power Consumers in Ontario

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

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1 **1. GENERAL**

2
3 **Issue 1.1 Has Hydro One responded appropriately to all relevant Board directions from**
4 **previous proceedings?**

5
6 Interrogatory # 1

7
8 **Reference:** Exh A/Tab 16/Sch 1
9

10 Part of the Board's direction to Hydro One on compensation was "to improve on
11 its cost allocation accounting processes with the objective of being able to demonstrate
12 improvements in efficiency and the value for dollar associated with its compensation costs."
13

- 14 a) Please identify what specific changes Hydro One has made in its cost allocation
15 accounting processes that will enable identification of improvements in the cost
16 efficiency of work.
17 b) Has Hydro One made accounting changes that will enable it to identify labour cost
18 efficiency improvements by project, program, or work order? For example, can Hydro
19 One now identify trends in the labour cost efficiency of line clearing or recloser
20 maintenance?
21 c) If Hydro One has not made changes to its accounting processes to accommodate
22 comparison of cost efficiency related to compensation, please indicate if such changes
23 are planned, what level of detail will be available (e.g., by program, work type, work
24 order, etc.) and if so, when they will be operational.
25
26

27 **2. LOAD and REVENUE FORECAST**

28
29
30 **Issue 2.1: Is the load forecast and methodology appropriate and have the impacts of**
31 **Conservation and Demand Management initiatives been suitably reflected?**

32
33 Interrogatory #2

34
35 **Reference:** Exh A/Tab 14/Sch 4/Page 9, lines 9-20
36

37 Please provide Hydro one's estimates for CDM results over the period 2006-2010, broken out by
38 the causes listed (i.e., Hydro One Programs, OPA programs, Self-motivated) as per the
39 anticipated consultant's report.
40
41

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1 **3. OPERATIONS, MAINTENANCE and ADMINISTRATION COSTS**

2
3 **Issue 3.1 Are the overall levels of the 2010/2011 Operation, Maintenance and**
4 **Administration budgets appropriate?**

5
6 Interrogatory #3

7
8 **Reference:** Exh C1/Tab 2/Sch 2/Page 6, Section 2.1.2

- 9
10 a) Please identify separately the amounts planned for spending on PCB testing and retro-
11 filling for 2010 and 2011, and actual spending for these activities in 2008.
12 b) Please provide an estimate of what percentage of the equipment with PCB
13 concentrations of less than 500ppm Hydro One would expect to normally retire by Dec
14 31, 2025 given that PCBs have not been imported into Canada since 1977.
15 c) Please indicate the rough project outline, schedule and key milestones within for Hydro
16 One's planned removal of PCBs in stations at concentrations between 50ppm and
17 500ppm by 2025.

18
19 Interrogatory #4

20
21 **Reference:** Exh C1/Tab 2/Sch 3/Page 8, lines 19 to 21

22
23 For the Smart Grid Standard and Technology Program the 2010 and 2011 spending
24 requirements are \$ 10 million per year of which \$5 million per year is associated with the OM&A
25 spending in the Smart Zone and \$5 million per year is to fund a number of studies.

26
27 Please provide a detailed list of the studies planned for 2010 & 2011 and include the cost of
28 each study, why the study is necessary, the expected benefits and who will undertake the work
29 (i.e. Hydro One staff or external consultants).

30
31 Interrogatory #5

32
33 **Reference:** Exh C1/Tab 2/Sch 5/Page 10, Section 2.1.5

- 34
35 a) Please break out the cost of additional Customer Care Management activities
36 anticipated in 2010 and 2011 for serving new distributed generator customers.
37 b) Please identify how many additional staff Hydro One plans to add to Customer Care
38 Management to provide service to new distributed generator customers.
39 c) Please indicate what proportion of the increase in Customer Care Management costs
40 will be outsourced to Inergi.
41

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1 Interrogatory #6

2
3 **Reference** : Exh C1/Tab 2/Sch 5/Page 4, Table 2

4
5 Please provide, as accurately as practical, the cost of meter reading for demand meters from the
6 balance of meter reading activity for the historic, bridge and test years.

7
8 Interrogatory #7

9
10 **Reference** : Ex. C1/Tab 2/Sch 5/Page 5, Section 2.1.1.1

11
12 Does this budget proposal include billing changes related to implementation of the harmonized
13 sales tax?

14
15
16 **Issue 3.2 Is the 2010/2011 vegetation management budget appropriate?**

17
18 Interrogatory #8

19
20 **Reference**: Exh C1/Tab2/Sch2/Section 2.1.2

21
22 Please identify separately the amounts planned for spending on PCB testing and retro-filling for
23 2010 and 2011, and actual spending for these activities in 2008.

24
25 Interrogatory #9

26
27 **Reference** : Exh A/Tab 15/Sch 2, Attachment 1

- 28
29 a) Please provide the terms of reference for the benchmarking project conducted
30 by CN Consulting.
31 b) Please confirm that Figures R8 and R9 both refer to the same type and quantity
32 of work; that is, that Fig R8 refers to the 3 yr average labour hours per tree
33 pruned or removed and that Fig R9 presents labour cost for the same unit of
34 work, averaged over the same period.
35 c) The text below Fig R12 states, in discussing the higher cost per km for Hydro
36 One unplanned distribution UVM, that "This suggests Hydro One is undertaking
37 greater amounts of unplanned work than the peer utilities and indicates that
38 Hydro One's system can be better controlled". Please provide a chart for this
39 activity equivalent to R9 (p21), indicating labour hours per Km for unplanned
40 UVM.

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- 1 d) The text below Fig R14 indicates that Hydro One has the longest cycle of any
2 utility in the peer group. However, only 7 of the 14 utilities in the peer group
3 (ref p11) are represented on this chart. Please provide the cycle data for the
4 remaining peer group utilities.
- 5 e) The text following R14 indicates that cycle length is contributing to higher unit
6 cost in Hydro One. At the same time, Fig R12 as well as figs R10, R11 and R13
7 indicate that utility #76 appears to be a significant outlier in terms of higher
8 than average unit cost, yet its cycle length is 4 years according to Fig R14.
9 Without breaching confidentiality, please discuss what other factors besides
10 cycle length may be contributing to much higher than average UVM costs for
11 utility #76.
- 12 f) On Figs R8 and R9, utility #45 shows higher than average labour hours and cost
13 per tree treated. On fig R15, utility #45 shows a higher density of treatment per
14 kilometre than all peers except H1 North. On fig R16, utility #45 shows a higher
15 than average removal rate, including higher than the Hydro One average. On fig
16 R13, utility #45 has the second lowest of total UVM costs per system kilometre
17 in the peer group. It would seem to be counter-intuitive that a utility within a
18 similar peer group, that has relatively high unit costs and a high removal rate
19 could have such a low program cost. Please discuss.
- 20 g) Please discuss to what extent differences in pay rates may be affecting Hydro
21 One's relatively higher costs per km and per tree.
- 22 h) Please provide relative average unit labour costs (e.g., per hr.) for Hydro One
23 and the peer group utilities, or indicate why such is not available.
- 24 i) Please indicate which utilities in the peer group contract their UVM program
25 partially or totally to outside contractors.
- 26 j) Please provide a chart indicating the total UVM costs per customer for the years
27 2006-2008, by company.
- 28 k) Please confirm that Fig 36 on page 72 refers to the total number of trees on the
29 utility's right of way that require either pruning or removal over the course of a
30 multi-year cycle.

31
32 Interrogatory #10

33
34 **Reference:** Exh C1/Tab 2/Sch 2/Page 34, Table 10

35
36 Please provide brush control and line clearing accomplishment data (km) for the historic and
37 (projected) bridge years.

38
39

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1 Interrogatory #11

2
3 **Reference:** Exh C1/Tab2/Sch 2/Page 34, lines 23-25

4
5 Please provide the Hydro One experience data that supports the statement that begins
6 "Experience has shown,,,"

7
8 **3.3 Is the proposed level of 2010/2011 Shared Services and Other O&M spending**
9 **appropriate?**

10
11 Interrogatory #12

12
13 **Reference:** Exh C1/Tab 2/Sch 7/Page 1, Table 1

14
15 The total Common Corporate Functions and Services costs have increased by approximately \$11
16 million in 2009 due mainly to meet expanded work field programs driven by the Green Energy
17 and Green Economy Act (GEGEA) related to distributed generation and smart grid.

18
19 **Reference:** Exh C1/Tab 2/Sch 7/Page 4, lines 14 to 16

20
21 Increases in 2010 and 2011 in the Corporate Management Function are mainly due to additional
22 work requirements driven by the GEGEA.

23
24 **Reference:** Exh C1/Tab 2/Sch 7/Page 16, lines 6 to 8

25
26 The increase in costs in 2009 and 2010 for General Counsel and Secretariat are driven mainly by
27 increased work programs related to the GEGEA and the records management project expected
28 to begin in 2009 and continue through 2010.

29
30 Please identify the specific work programs and related costs including number of additional
31 staff included in the expenditures for corporate management, finance, human resources,
32 corporate communications & services, general counsel and secretariat, regulatory affairs,
33 corporate security and internal audit that are driven by the initiatives of the GEGEA. Please
34 identify the specific GEGEA initiatives that these work programs correspond to.

35
36 Interrogatory #13

37
38 **Reference:** Exh C1/Tab 2/Sch 8, Pages 7 to 10

39
40 System investment costs have increased in 2009, 2010 and 2011 in part due to a significantly
41 increased work program resulting from the initiatives of the GEGEA.

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1
2 Please identify the specific work program activities and include a breakdown of costs for system
3 investment work that correspond directly to initiatives driven by the GEGEA.

4
5 Interrogatory #14

6
7 **Reference:** Exh C1/Tab 2/Sch 8/Pages 10 & 11

8
9 Work Program Optimization has experienced year over year increases of \$0.4 million in both
10 2010 and 2011 due in part to significant increased work program resulting from the GEGEA.

11
12 Please identify the specific work program activities and include a breakdown of costs for work
13 optimization programs that correspond directly to initiatives driven by the GEGEA.

14
15 Interrogatory #15

16
17 **Reference:** Exh C1/Tab 2/Sch 8/Pages 12 to 14

18
19 The Business Integration function has experienced a year over year increase of 6% in 2010 and
20 15% in 2011. The increase is due to Business Integrations overall support for the growing work
21 program including the initiatives of the GEGEA.

22
23 Please identify the specific work program activities and include a breakdown of costs for work
24 optimization programs that correspond directly to initiatives driven by the GEGEA.

25
26 Interrogatory #16

27
28 **Reference:** Exh C1/Tab 2/Sch 8/Pages 16 to 19

29
30 The Real Estate & Facilities function is proposing year over year OM&A increases in 2010 and
31 2011 in anticipation of the need for work space accommodation requirements driven by
32 increased workload and staff levels that include the recent initiatives of the GEGEA.

33
34 Please identify the specific OM&A expenditures in 2010 and 2011 needed to accommodate the
35 initiatives of the GEGEA.

36
37

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1 Interrogatory #17

2
3 **Reference:** Exh C1/Tab 2/Sch 9/ Page 18

4
5 The Voice Services component of Business Telecom will see increases in 2010 and 2011 that
6 reflect an increase in headcount and new site builds to accommodate increased core SDO work
7 programs, largely due to the GEGEA.

8
9 Please provide a breakdown of costs related to the GEGEA to support the proposed increases.

10
11 Interrogatory #18

12
13 **Reference:** Exh C1/Tab 2/Sch 9/Page 1, Table 1

14
15 The proportion of the corporate OM&A budget for IT that will be consumed by IT management
16 seems to be more than doubling from 2008 to 2010.

- 17
18 a) Please provide any supporting studies that Hydro One has conducted or commissioned
19 to support such a large proportionate increase in IT management.
20 b) Please indicate what portion of the IT management budget is planned to be spent on
21 consultant and professional services.

22
23 Interrogatory #19

24
25 **Reference:** Exh A/Tab16/Sch 1/Page 5, Table 1

26 **Reference:** Exh C1/Tab2/Sch 9/Table 1

27
28 In Exh A/Tab 16/Sch 1/Page 5, Table 1, incremental savings attributable to Cornerstone in 2010
29 and 2011 appear to total \$7.6M, including both capital and OM&A. In Exh C1/Tab2/Sch 9, Table
30 1, incremental OM&A for IT rises by approx \$50M between 2008 and 2010, with slightly over
31 half of the total corporate OM&A allocated to Distribution. On the surface, it would appear that
32 the cost to maintain IT is greater than the benefits being ascribed to its implementation.

33
34 Please identify whether or not the productivity improvements identified in Exh A/Tab16/Sch 1
35 attributable to Cornerstone are net of the cost to maintain and operate the Cornerstone
36 systems.

37
38

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1 **Issue 3.5** **Are the 2010/2011 Human Resources related costs (wages, salaries, benefits,**
2 **incentive payments, labour productivity and pension costs) including**
3 **employee levels, appropriate? Has Hydro One demonstrated improvements in**
4 **efficiency and value for dollar associated with its compensation costs?**
5

6 Interrogatory #20
7

8 **Reference:** Exh A/Tab14/Sch 1/ Page 2, lines 18-20
9

10 Please provide the details of the COLA trigger that may apply to Society represented staff in
11 2011.
12

13
14 **Issue 3.6** **Is Hydro One's depreciation expense appropriate?**
15

16 Interrogatory #21
17

18 **Reference:** Exh C2/Tab1/Sch 1
19

20 Please complete the following table, for those investments proposed within or justified by the
21 Green Energy Plan.
22

Asset Category	2010 Investment	2011 Investment	Depreciation Rate
Major Fixed Assets			
Minor Fixed Assets			

23
24
25 **Issue 3.9** **Is the proposed spending on loss reduction efforts appropriate?**
26

27 Interrogatory #22
28

29 **Reference:** Exh A/Tab 14/Sch 4/Page 19, Table 4

30 **Reference:** Exh G1/Tab 10/Sch 1/Page 2, Table 1
31

32 Hydro One's load forecast suggest a decline in total energy demand from 40,609 GWh in 2006 to
33 38,049 GWh in 2011, a drop of slightly over 6%. Physical law suggests that, all other factors
34 being equal, load related losses vary as the square of the current, which in turn varies directly
35 with energy delivered. On its own, this would suggest slightly over a 12% reduction in load losses
36 during this period. In addition, Hydro One has or will have made considerable incremental

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1 investments in distribution assets over the 2006-2011 period, presumably much of it in more
 2 efficient equipment such as larger conductor, higher distribution voltages, etc.

3
 4 Why is Hydro One proposing to leave its calculated loss factors unchanged?
 5
 6

7 **4. CAPITAL EXPENDITURES and RATE BASE**
 8

9 **Issue 4.2 Are the amounts proposed for 2010/2011 Capital Expenditures appropriate**
 10 **including the specific Sustaining, Development and Operations categories?**
 11

12 Interrogatory #23
 13

14 **Reference:** Exh D1/Tab 3/Sch 2/Page 26, Section 2.3
 15

16 Hydro One is required (as per the Distribution System Code) to upgrade an existing customer's
 17 demand meter to an interval meter when the average monthly peak demand is equal to or
 18 greater than 1000 kW.
 19

20 a) What is the total number of demand meters to be upgraded to interval meters?
 21

22 b) Please complete the following table.
 23

Description	2006	2007	2008	2009 Bridge	2010 Test	2011 Test
# of Interval Meter Upgrades for customers > 1000 kW						
Program costs (customers > 1000 kW)						
# of Interval Meter Upgrades for customers > 5000 kW						
Program costs (customers > 5000 kW)						

24
 25

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1 Interrogatory #24

2
 3 **Reference:** Exh D1/Tab 3/Sch 2/Page 26, Section 2.3
 4 **Reference:** Exh D2/Tab 2/Sch 3/IDS S31

5
 6 Hydro One is proposing to replace about 7,500 “dumb meters” with electronic demand meters
 7 that have communications capability to eliminate manual meter reading. The proposed OM&A
 8 investments of \$ 1.3 million in 2010 and \$1.7 million in 2011 are to replace the first 4,250
 9 meters.

- 10
 11 a) What plans does Hydro One have beyond 2011 to replace the balance of the meters and
 12 when will the Program be complete?
 13 b) Please complete the following table regarding the Demand Meter Conversion Program .
 14

Description	2010	2011	2012
# of Meter conversions: Customers > 250 kW			
Program Costs(Customers > 250 kW)			
# of Meter conversions : Customers >1000 kW			
Program Costs (Customers > 1000 kW)			
# of Meter Upgrades: Customers > 5000 kW			
Program Costs (Customers > 5000 kW)			

15
 16 Interrogatory #25

17
 18 **Reference:** Exh D2/Tab2/Sch 3/IDS S31

- 19
 20 a) Please explain the difference between the 7,500 demand metered accounts and the
 21 proposal to replace only 4,250 legacy demand meters with new electronic meters.
 22 b) Please indicate whether the new electronic demand meters proposed in this project will
 23 provide the affected customers with the same opportunities to obtain meter
 24 information and manage their consumption that formed the rationale for the residential
 25 Smart Meter program.
 26 c) Please provide an estimate of the savings in meter reading and meter management
 27 costs that will occur as a result of this project being implemented, by year.
 28

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1 Interrogatory #26

2
3 **Reference:** Exh D1/Tab 3/Sch 2/Page 26, Section 2.3

4 **Reference:** Exh D2/Tab 2/Sch 3/IDS S30

5
6 Hydro One is converting approximately 71,000 legacy meters with 4 jaw bases that are eligible
7 for a Smart Meter replacement, to 5 jaw bases in order to accommodate Smart Meters. The
8 OM&A investment of \$1.3 million in 2010 is to retrofit the remaining 24,000 meters with a 4 to 5
9 jaw adaptor and install a Smart Meter.

- 10
11 a) For each applicable customer class, please quantify the number of adaptor and smart
12 meter installations from the beginning of the Program until Program completion in 2010
13 and provide the cost of this work for each customer class.
14 b) Is the cost of the Smart Meter included in the Program costs or are they funded
15 separately under the Smart Meter Program?

16
17
18 **4.3 Is the proposed level of 2010/2011 Shared Services and Other Capital expenditures**
19 **appropriate?**

20
21 Interrogatory #27

22
23 **Reference:** Exh D2/Tab 2/Sch 3/IDS IT5

24
25 The proposed Enterprise GIS Program needs to be understood in terms of the full cost
26 commitment that will be required to make it fully effective.

- 27
28 a) Please provide the business case for this project.
29 b) Does the proposed budget include gathering data that is not already available? If not,
30 what are the expected data acquisition and/or data conversion/data cleanup costs that
31 would be required to deliver the benefits described on the project summary?
32 c) Has Hydro One selected a vendor for this project?
33 d) Has Hydro One chosen a particular approach to this project, such as using pre-existing
34 proprietary mapping databases, partnering with Google, etc? If so, please provide the
35 evaluation of alternatives that were considered?
36 e) The project description identifies increased safety as a benefit if the project is approved
37 and a safety risk if it is not. Please identify where current safety procedures fail to
38 safeguard worker safety when operating or system configuration information is
39 inaccurate or incomplete.
40

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1 Please confirm that the proposed budget for this project includes all necessary associated
2 activities, such as data collection and data cleanup.

3
4 Interrogatory #28

5
6 **Reference:** Exh D1/Tab 3/Sch 9/Page 9, Section 2.0
7 Exh D2/Tab2/Sch 3/IDS C4

- 8
9 a) Please identify the specific transport and work equipment budget requirement
10 increment attributable to GEGEA-driven activity.
11 b) Please identify the number of licensed (self powered) vehicles Hydro One will have in
12 service at the end of 2011, if this budget is approved.
13 c) Please provide a copy of Hydro One's vehicle use policies that set the conditions
14 whereby staff may take vehicles home at night and that identify when staffs are to be
15 assigned specific vehicles for regular use.

16
17 Interrogatory #29

18
19 **Reference:** Exh D1/Tab 3/Sch 8/Page 4

20
21 The Shared Services Facilities & Real Estate capital program (Head Office & GTA Facilities) shows
22 capital investment of \$32 million in 2010 and \$32.4 million in 2011 to secure accommodation
23 (including furniture systems) for additional staff resulting from expanded work programs
24 including GEGEA initiatives.

25
26 Please identify the number of additional work spaces and furniture systems required and costs
27 to accommodate the initiatives of the GEGEA.

28
29 Interrogatory #30

30
31 **Reference:** Exh D2/Tab 2/Sch 3/IDS C3

32
33 Project C3 (Shared Services Capital – Service Equipment) shows capital and minor fixed assets
34 of \$12 million in 2010 and \$8.8 million in 2011. The investment is required to replace end of life
35 and obsolete equipment and to provide new equipment consistent with the planned work
36 program levels including initiatives of the GEGEA. The investment includes purchases of: minor
37 specialized transportation equipment such as snowmobiles, all terrain vehicles, boats etc. to
38 transport crews to off-road work sites; measuring and testing equipment; tools; and relatively
39 large tanker units.

40

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1 Please provide details on the purchases and costs related to service equipment in 2010 and
2 2011 that are attributable to specific initiatives of the GEGEA.

3
4 Interrogatory #31

5
6 **Reference:** Exh D1/Tab 3/Sch 9/Page 5

7 **Reference:** Exh D2/Tab 2/Sch 3/IDS C4

8
9 IDS C4 (Shared Services Capital – Transport and Work Equipment) shows capital expenditures of
10 \$133.4 million in 2010 and \$74.1 million in 2011. The investment is required to meet vehicle
11 fleet requirements arising from increasing work programs and required staff levels including
12 support for the GEGEA.

13
14 a) Please provide details and costs for the additional equipment requirements for the
15 Distribution and Transmission internal work requirements for the GEGEA (\$83 million).

16
17 b) Please provide information on the number of additional vehicles and light and heavy
18 equipment required to support the initiatives of the GEGEA.

19
20 Interrogatory #32

21
22 **Reference:** Exh D2/Tab 2/Sch 3/IDS C2

23
24 The budget for the Head Office Real Estate project seems quite large. It would appear to exceed
25 \$200/ft².

26
27 a) Please identify the major activities includes in this project, along with cost and timing
28 (2010 or 2011).

29 b) Please identify which of the proposed project costs are totally non-deferrable (such as
30 furniture for new staff) and which are potentially deferrable.

31
32
33 **7. COST ALLOCATION and RATE DESIGN**

34
35 **Issue 7.4 Are the proposed rate impact mitigation plans appropriate and are the**
36 **resulting customer bill impacts reasonable?**

37
38 Interrogatory #33

39
40 **Reference:** Exh G1/Tab 7/Sch 2

41

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1 This Schedule makes no mention of Hopper foundry, which time of use rates were to be left in
2 place until April 30, 2010 (ref: EB-2007-0681 Decision With Reasons, page 43).

- 3
4 a) Please explain Hydro One's proposal for rates for Hopper Foundry effective January 1,
5 2010 and May 1, 2010 if Hopper Foundry's rates are not to change on Jan 1, 2010.
6 b) Please calculate the total bill impact on Hopper Foundry when Hydro One proposes its
7 rates to change.
8

9 **8. SMART METERS**

10
11 **Issue 8.1 Is the 2010/2011 smart meter O&M and Capital budget appropriate?**

12
13 Interrogatory #34

14
15 **Reference:** Exh F1/Tab 1/Sch 3/Page 2

16
17 Hydro One's target is to have Smart Meters installed for all 1.2 million customers by the end of
18 2010.

19
20 Please provide a summary of the number of smart meter installations (in service and planned)
21 by customer class and by year.

22
23 Interrogatory #35

24
25 **Reference:** Exh F1/Tab 1/Sch 3/Page 2

26
27 Hydro One indicates that "In 2010 we plan to install 115,000 smart meters in locations that are
28 feasible using current technology."

29
30 Please complete the following table.
31

Customer Class	# of Smart Meter Installations Not Feasible	% of Total	Explanation of "Not Feasible"

32
33

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1 **9. GREEN ENERGY PLAN**

2
3 **Issue 9.1 Does Hydro One's Green Energy Plan meet the Board's filing guidelines and**
4 **the objectives set out in the Green Energy and Green Economy Act, 2009?**

5
6 Interrogatory #36

7
8 **Reference:** Exh A/Tab 14/Sch 2/Page 1 and 6

9
10 On Page 1 Hydro One states that the Green Energy Plan is based on the Company's experience
11 with the development of renewable energy generation connections since 2006. The table on
12 page 6 shows the status of processing requests for Connection Impact Assessment (CIAs). The
13 number of CIAs requested (1553) represent about 12,000 MW of capacity; however 42% of the
14 CIA requests are outside the threshold for processing because of technical limitations.

- 15
16 a) What is the estimated capacity (MW) of the 869 CIAs completed since 2006? What is
17 the estimated capacity of the 147 CIAs with connection cost estimates completed?
18 b) Please provide a project list and breakdown of the total number of CIAs completed by
19 generator size, type, location and cost.
20 c) Please expand the table to show dates ending: Dec 2009, Dec 2010, Dec 2011, Dec 2012,
21 Dec 2013, and Dec 2014.

22
23 Interrogatory #37

24
25 **Reference:** Exh A/Tab 14/Sch 2/Page 5

26
27 Hydro One indicates that the Green Energy Plan follows the Company's strategic drivers of
28 Innovation, Stewardship, Excellence and Safety and that Innovation drives reductions in the
29 carbon footprint of the electricity industry.

- 30
31 a) Does Hydro One have an established carbon quantification /monitoring program in
32 place to track and evaluate Hydro One's existing and proposed initiatives in order to
33 quantify reductions in its carbon emissions.
34 b) If so, what are the anticipated carbon offsets resulting from the initiatives/expenditures
35 in the Green Energy Plan?
36
37

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1 Interrogatory #38

2
3 **Reference:** Exh A/Tab 14/Sch 2/Page 10

4
5 On page 10, Hydro One states that it has taken an active role in development forums to develop
6 concepts and standards of Smart Grid and regularly commissions universities and other
7 consultants to examine, test and report on specific aspects of Smart Grid initiatives and
8 technologies.

- 9
10 a) What specific aspects of Smart Grid initiatives have been examined, tested and reported
11 on?
12 b) Please provide a detailed list of the commissioned work, the objectives of the work, cost
13 of each study, and the completion dates.
14 c) How have the results from these studies been incorporated into the development of
15 Hydro One's Green Energy Plan?

16
17 Interrogatory #39

18
19 **Reference:** Exh A/Tab 14/Sch 2/Page 9

20
21 Hydro One has identified regions where the potential for renewable generation development is
22 the highest.

- 23
24 a) Please provide a schematic showing the areas of the Province where generation
25 development is the highest and show the existing and proposed generation connections
26 in these areas by capacity category (large, mid-size, small).
27 b) What is the number of technically feasible renewable generation projects where there
28 are no transmission constraints?

29
30 Interrogatory #40

31
32 **Reference:** Exh A/Tab 14/Sch 2, Page 6

33
34 Hydro One projects that over 3,500 MW of renewable generation will be connected by 2011 and
35 an additional 3,500 MW will be connected by 2014.

36
37 Based on Hydro One's experience, what percentage of this capacity will be made up of wind,
38 solar, waterpower, renewable biomass, bio-gas, landfill gas?

39
40

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1 Interrogatory #41

2
3 **Reference:** Exh A/Tab 14/Sch 2, Page 7

4
5 Hydro One indicates that the renewable energy generation forecasts of 3,500 MW to be
6 connected by 2011 and an additional 3,500 by 2014 were based in part on Hydro One's
7 experience with the timeline for the different stages of the connection process.

8
9 Please provide an estimated outline of the typical timelines to connect large (10 MW to 50 MW),
10 mid-size (500 kW to 10 MW), small generators (<500 kW) and micro-generators (< 10 kW).

11
12 **9.2 Has Hydro One appropriately addressed the Green Energy Plan expenditures in the**
13 **context of its overall Capital and O&M budgets?**

14
15 Interrogatory #42

16
17 **Reference:** Ex A/Tab 14/Sch 2/Page 28, Section 4.3

- 18
19 a) Please identify whether the investments in systems discussed on page 28 lines 25 to
20 page 29, are separate and apart from the capital projects listed as IT4 and IT 5 in Exhibit
21 D2/Tab 3/Schedule 3, or are part of these projects.
22 b) Does Hydro One plan to purchase PHEVs as part of the Owen Sound Smart Zoe project,
23 or are third party suppliers providing the vehicles.
24 c) If Hydro One is planning to purchase PHEVs, please indicate proposed quantity and cost.
25 d) If Hydro One is planning to purchase PHEVs, please indicate whether the purchase cost
26 is included in the Transport and Work Equipment capital budget or is it a separate
27 purchase.

28
29 If Hydro One is planning to purchase PHEVs, please indicate how it plans to gain evaluation
30 experience. For example, how will Hydro One assign or allocate PHEVs to evaluators

31
32 Interrogatory #43

33
34 **Reference:** Ex D1/Tab 3/Sch 3/Page 23

35
36 Hydro One indicates that the "Smart Zone work will be implemented through a combination of
37 work performed by Hydro One Distribution staff and external service providers.

38
39 Please provide a list of the specific work activities in 2010 and 2011 that will be performed by
40 Hydro One staff and external service providers and include a breakdown of costs.

41

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1 Interrogatory #44

2
3 **Reference:** Exh A/Tab 14/Sch 2, Page 29

4
5 Hydro One plans to establish a “Smart Zone” sandbox in the Owen Sound area as a testing
6 ground for piloting new Smart Grid technologies and systems.

- 7
8 a) Please provide the geographical boundaries for the study.
9 b) Spending on the Owen Sound Smart Zone Pilot is forecast to cost \$12.5 million in 2010
10 and \$42.8 million in 2011. Please provide a complete and detailed list of pilot projects
11 and expenditures.
12 c) Please rank the projects in order of importance.

13
14 Interrogatory #45

15
16 **Reference:** Ex D1/Tab 3/Sch 3/Page 2, Table 1

17
18 Table 1 provides a summary of net development capital including Smart Grid expenditures.
19 Please provide an update/status on the proposed Smart Grid activities and expenditures in 2009
20 of \$15.2 million and include the anticipated actuals at year-end.

21
22 Interrogatory #46

23
24 **Reference:** Ex D1/Tab 3/Sch 3/Page 23

25
26 As part of Hydro One’s Smart Grid Plan, Hydro One is working on an RFP “to seek interest from
27 vendors to participate in SG investments”.

- 28
29 a) When does Hydro One expect to complete the RFP and issue the RFP?
30 b) Please provide a terms of reference for the RFP to show the purpose, objective,
31 timelines, key milestones and expected benefits of the RFP?

32
33 **Issue 9.3** **Is Hydro One’s methodology for allocating Green Energy Plan O&M and**
34 **Capital costs between the OPA (Global Adjustment Mechanism) and Hydro**
35 **One appropriate?**

36
37 Interrogatory #47

38
39 **Reference:** Ex A/Tab 14/Sch 2/Page 2

40

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- 1 Hydro One assumes that expansion and enabling investments for renewable generation
- 2 contained in the plan will be recovered through an external funding mechanism such as the
- 3 Global Adjustment Mechanism (GAM).
- 4
- 5 What would the bill impacts be if an external funding mechanism was not available and Hydro
- 6 One had to include the cost of the Green Energy Plan in the rate base for 2010 and 2011?