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August 11, 2016

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Our File No. 163660

**VIA RESS, EMAIL AND COURIER**

Ontario Energy Board  
2300 Yonge Street  
27th Floor  
Toronto, Ontario  
M4P 1E4

Attention: Kirsten Walli,  
Board Secretary

Dear Ms. Walli:

**Re: EB-2016-0160: Hydro One Networks Inc., Transmission Cost of Service Application**

Pursuant to Procedural Order No. 1, please find enclosed BOMA's Interrogatories.

Yours truly,

**FOGLER, RUBINOFF LLP**

Thomas Brett

TB/dd

Encls.

cc: All Parties (*via email*)

**ONTARIO ENERGY BOARD**

**Hydro One Networks Inc. Transmission**

**Application for electricity transmission revenue requirement and  
related changes to the Uniform Transmission Rates beginning  
January 1, 2017 and January 1, 2018**

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**Interrogatories of Building Owners and Managers Association,  
Greater Toronto ("BOMA")**

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August 11, 2016

**Tom Brett**  
Fogler, Rubinoff LLP  
77 King Street West, Suite 3000  
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Counsel for BOMA

**Interrogatories of BOMA**

1. ***Ref: Exhibit A, Tab 3, Schedule 1, Page 9***

Please explain how the Load, described as "twelve month average peak in MW" is calculated.

2. ***Ref: Ibid, Page 9***

Please explain how the "forecast base year" was established.

3. ***Ref: Ibid, Page 10***

Please confirm:

- (a) that Hydro One Networks Inc. ("HONI") is only seeking approval of the capital expenditures for 2017 and 2018 in this application. It is not seeking approval for capital expenditures referred to in the five year transmission plan;
- (b) that approval of such expenditures will be sought in its next rate application; and
- (c) to what extent do the proposed 2017 and 2018 sustainment investments represent the completion of projects begun in 2016 or 2015, for example, integrated refurbishment of a station? For each of the 2017 projects, please indicate the extent to which the project completes a project begun in 2016 or 2015, which, if not done would render the 2016 project investment worthless, or of severely diminished value, or would substantially increase the cost of doing the total project.

Please provide a sufficient project description to demonstrate in each case that it is one project done over two years, rather than separate projects.

4. ***Ref: Ibid, Page 13, Table 5***

Please back out separately the AFUDC for each year and each type of capital expenditure.

5. ***Ref: Ibid, Page 17***

(a) Please provide the NERC/NPCC documents (or a link to them) that specify reliability standards, and define what constitute high impact compliance violations and medium impact compliance violations.

(b) Please provide, for the last four years, the number of each type of compliance violation HONI has experienced, what penalties, if any, have been imposed, and what measures it has taken to ensure future compliance.

(c) Please discuss the extent to which the IESO has a role in the enforcement of the new NERC/NPCC standards. Does HONI deal directly with NERC/NPCC, or through the IESO? Please discuss.

6. ***Ref: Exhibit A, Tab 5, Schedule 1, Page 2***

Please provide a copy of the Governance Agreement dated November 5, 2015 between HONI and the Province of Ontario, its majority shareholder.

7. **Ref: *Ibid, Page 5, Lines 10-11***

Please provide a copy and description of the systems, processes, and models, provided for the isolation of costs related to transmission work. Please show clearly the allocation of each type/category of costs as between transmission and distribution for the test year.

8. **Ref: *Ibid, Page 2***

(a) Please confirm that HONI, Hydro One Inc., and Hydro One Limited have the same senior management team. If not, or if there are exceptions, please provide details of the senior management team of each.

(b) Please describe each step in the transaction which effected the transfer of the shares of Hydro One Brampton to Hydro One Inc. (a company wholly owned by the Province of Ontario), including any consideration, if any, paid by the Province of Ontario for such shares.

9. **Ref: *Exhibit A, Tab 5, Schedule 2, Page 3***

Please explain why HONI does not have a separate Board committee for First Nations matters.

10. **Ref: *Ibid, Page 12***

Please provide a copy of the annual risk assessment document.

11. **Ref: *Ibid, Page 13***

Please provide a copy of the Inergi Outsourcing Agreement.

12. **Ref: *Ibid, Page 15***

Please provide a copy of most recent confirmation/study by Inergi on the integrity of financial controls of all HONI transactions.

13. **Ref: *Exhibit A, Tab 5, Schedule 3, Attachments***

Attachment 1

- (a) Please provide explanation for the sharp increase in fees for General Counsel, CEO/Chairman, and Chief Financial Officer from 2016 to 2017.
- (b) Please provide what specific amounts are included in each of the above, including the amounts that are constitute the compensation of the CEO, CFO, and General Counsel.
- (c) Please explain why HONI is paying via an agreement for its own CEO, CFO, and General Counsel, rather than as direct salaries of HONI itself.
- (d) Do ratepayers benefit or lose by such an arrangement?
- (e) Please provide any other changes in the nature of the services provided in 2017 and 2018, compared to 2016.
- (f) When the President of HONI and Hydro One Inc. are the same person, how do you ensure a dispute resolution process that is fair for HONI ratepayers?
- (g) Please provide updates, if any, made to the Attachments 1 through 12, for the years 2017 and 2018.

Attachments 1 and 2

- (h) Please explain why General Counsel and corporate secretarial services provided flow in both directions. Please detail the differences in these services provided by, and to, HONI.
- (i) Have the Service Agreements all been revised? Have the terms been extended? Describe each Telecom Service Agreement.

Attachment 3

- (j) Please justify the increase in fees under the Agreement to \$17,450 (and \$17,970 in 2018).
- (k) Are these fees fixed in advance, or do they vary with the nature and volume of services provided?
- (l) Please explain the apparent duplication in the description of Power Systems operation of Telecom Services and all Business System operations of the Telecom Services Agreement.
- (m) Please explain, in detail, how the amounts in respect of each of the four services are arrived at, on Page 7 of Schedules A and B, respectively.

Attachment 4

- (n) HONI for Remotes: Exhibit A, Tab 5, Schedule 3, Page 3: Please provide the amount paid to HONI from Remote Under the Master Agreement for Utility

Operation Services. Please explain why the compensation for 2018 is essentially the same as for 2017.

Attachment 5

- (o) Why are the amounts paid to HONI from B2M LP nominal? Please detail the services provided, including the fully allocated costs of providing the services.
14. **Ref: *Exhibit A, Tab 6, Schedule 5, Accounting Information***
- (a) Please provide a copy of Accounting Standards Codification 718 – Compensation – Stock Compensation.
  - (b) Please provide the amount of each regulatory asset in the most recent HONI annual and quarterly corporate financial statements, and the years in which these costs will be recovered in rates. Please reconcile any difference between the corporate statements and the regulatory numbers.
15. **Ref: *Ibid, Page 3***
- (a) Please provide a copy of the Directors' Deferred Share Unit Plan and the Long Term Incentive Plan.
  - (b) Please provide copies of the Accounting Order referred to in paragraphs 3.1 and 3.2.



16. **Ref: Exhibit A, Tab 8, Schedule 1 – Hydro One Inc. 2015 Audited Financial Statements**

Please explain how the use of non GAAP measure in the financial statements affect, or will affect, regulatory financial statements:

- (a) in 2015;
- (b) in 2016;
- (c) in 2017 and 2018.

17. **Ref: Exhibit A, Tab 8, Schedule 2**

Please provide the second quarter (first half) unaudited Financial Statements and Hydro One Inc.'s Management Discussion and Analysis.

18. **Ref: Exhibit A, Tab 9, Consultation with Customers**

- (a) Please confirm that the consultation did not include industrial or large commercial/institutional companies not directly connected to HONI.
- (b) Page 33: Is the summary document available? What comments were made (are they the ones stated above)?

19. **Ref: General Distributed Generation**

Please explain how HONI monitors the growth of distributed generation, including cogeneration in the province, and how it incorporates those developments into its transmission plan.

20. **Ref:** *2015 Annual Report*

- (a) Please provide a copy of HONI's Code of Business Conduct, and a copy of its Whistleblower's policy.
- (b) Please describe how the seventy to eighty percent target for dividend payout ratio compares with other major electrical utilities in North America. Please provide HONI's definition of payout ratio. Does it differ from the way other major electricity or electricity/gas utilities define in North America? Please define payout ratio.

21. **Ref:** *Exhibit B1, Tab 2, Schedule 4, Attachment 1, Page 6*

To what extent has HONI responded to:

- (a) hardware failures by replacement of the conductor rather than simply replacing the hardware over the last ten years? Please quantify.
- (b) how are units of conductor defined and demarcated for monitoring, repair purposes, for example, in spans between towers? Is each span numbered? Please explain.

22. **Ref:** *Exhibit B1, Tab 1, Schedule 1*

Page 1: Please explain what HONI means by "top quartile reliability". In relation to what groups are you speaking? Please provide the companies that are the comparators, and if possible, which quartile they are in, but in any event, list the companies by name and location that are the comparators.

23. **Ref: *Ibid, Page 2***

Please provide a clear and detailed schedule, showing the forecast planned outage period (please describe in words, the commencement, outage term, and return date, in addition to any graphical representation) for:

- (a) each of the nuclear units to be refurbished;
- (b) the planned dates for the retirement of the remaining Pickering units;
- (c) if there is some variability around any of these dates, in other words, a range of dates, please provide.

24. **Ref: *Ibid***

Please provide the details of the "more stringent performance management system". What do you mean by the word "stringent" in the context of the paragraph at lines 11-14?

25. **Ref: *Ibid***

Please provide the current IESO/HONI Operating Agreement or its equivalent.

26. **Ref: *Ibid, Page 11***

In light of comments about power quality from its customers, reflected in the customer satisfaction surveys during the stakeholder process, what steps does HONI plan to take to improve power quality at its delivery points? Please provide details (See Question 32 also).

27. *Ref: Exhibit B1, Tab 1, Schedule 3*

Figure 2

- (a) Please provide figures for 2015 for both HONI and CEA composites.
- (b) Please list the utilities that make up the CEA composite, and their relative contribution to that composite. How is the weighting done?

28. *Ref: Ibid, Page 17*

Please explain the drop in customer satisfaction with the Ontario Grid Control Centre in 2015.

29. *Ref: Ibid, Page 19*

- (a) Please provide a list of each of HONI's delivery points by category, eg. LDCs, Hydro One Distribution, large end users. Please distinguish between HONI owned stepdown transformers and transformer stations owned by transmission load customers.
- (b) Page 22: Indicate which of the above delivery points are multi-circuit supplied and which are single-circuit supplied.
- (c) Please provide the reliability data for each category of delivery point in (b) separately.

30. **Ref: *Cost of Capital***

Please explain why Hydro One Transmission's actual ROEs have exceeded its allowed ROE by at least 200 basis points over each of the last several years.

31. **Ref: *Ibid, Attachment 1, Page 7***

Please explain what the first sentence in the third paragraph means.

32. **Ref: *Exhibit B1, Tab 2, Schedule 2, Page 9***

"Overall power quality and transmission capacity were, aside from reliability, also raised as major issues, especially in the North".

(a) Please provide minutes of the Power Quality Working Group and the proposed steps it has made over the last five years to improve power quality for industrial customers and LDCs. Which of those recommendations has been implemented by HONI and at what cost? Has HONI paid all of the costs? Have the customers paid some of the costs? To what extent? Please discuss the nature of the power quality concerns and the extent to which have been alleviated, or still remain. How many of the ninety-six odd end users connected directly to HONI continue to raise power quality issues?

(b) Are there any non-industrial end users connected directly to transmission line? How many, what categories, eg. university, hospital, office complex, etc.? Are these parties members of the Power Quality Working Group?

33. **Ref: *Exhibit B1, Tab 2, Schedule 1***

Please provide a copy of the customer satisfaction surveys conducted by:

- (a) Northstar for each of the last five years;
- (b) OGCC for each of the last five years.

34. **Ref: *Ibid, Page 11***

Please provide a detailed analysis, beyond the comments on that page, of how the consumers' needs and preferences with respect to reliability (frequency of unplanned outages and duration of unplanned outages (LDCs)), and power quality (end users and LDCs) were addressed in the transmission plan and the proposed capital and OM&A expenditures in the test year. Please be as specific as possible.

35. **Ref: *Ibid, Page 8***

Why did HONI not, in addition to choosing candidates for one on one meetings, also issue a general invitation to all direct connect customers to attend to have one on one meetings?

36. **Ref: *Ibid, Page 9***

The consultations with customers were done not long before the application was filed (eight to ten weeks). What specific amendments were made to the application to reflect their concerns?

37. **Ref: *Ibid, Attachment 1***

- (a) Page 1: What day in April was the IPSOS Public Affairs Customer Consultation Report published? When was it delivered to HONI?

- (b) Page 8: Please comment on why the attendance at the group session was rather small. Thirty-three individuals representing twenty-two customers from two hundred and sixty three invitees.
- (c) Page 9: Why did HONI not present the rate impacts of OM&A costs, load forecasts, or borrowing costs in the operating investments in the presentation to customers?
- (d) Page 14: In the IPSOS study, rate increases above five percent were mentioned, along with reliability, as customers' top two concerns, yet HONI's transmission plan and capital investments result in a transmission rate increase of 5.2% in 2018, on top of a 4.7% increase in 2017, in the test year(s). Please discuss.
- (e) Can HONI (IPSOS) provide the number of responses falling into each category of response rather than using words such as "few" or "most"?

38. **Ref: *Ibid***

- (a) Customers stated (page 14) that, for the additional expenditure being proposed, they expected to see an increase in reliability performance (fewer, shorter outages), not just a reduced reliability risk, yet HONI has not promised a specific increase in reliability performance. Please discuss.
- (b) Why cannot HONI commit (guarantee) a higher reliability performance, in other words, with a specific numerical target or at least range? If it cannot do so for the test year, when will it be able to do so?

- (c) Page 36: What does HONI conclude from comments reported that the customers were divided on whether the engagement:

"got to the right issues, achieved sufficient detail on the issues, the customers are important in the investment plan in order to make a judgement on their preferred investment plan"?

39. **Ref: *Ibid***

- (a) Page 6-Page 9: HONI speaks about managing reliability risk through increased investments but the customers are focused on reliability performance. Please discuss how HONI's planned capex will improve reliability performance, and by how much (target numbers), over what period of time, and at what total cost?

- (b) Page 18: Metrics for Power Quality: Some end user parties have asked for a report on power quality every quarter or six months. Will HONI offer this report to all end users? If not, please explain why. What targets and metrics does HONI employ for power quality to its end user customers; to the LDC it supplies, and to what extent have these targets been achieved? What are the issues around power quality? Please discuss thoroughly.

- (c) Page 20: Please discuss the comment stated in the middle column, that:

"The challenge is lack of transparency regarding operational load flow control so that we can conduct analysis in house".

- (d) Please advise what steps HONI is taking to reduce planned outages.



40. **Ref:** *Exhibit B1, Tab 2, Schedule 5, Page 4*

Asset Utilization

- (a) How does HONI define "utilization" for each of its major asset classes, transformer (by type), breakers (by type), and lines (by voltage 500, 230, 115). It is loading, over time, frequency of off/on switching, and ramp up, ramp down requirements, the internal cohesion of the assets. What other factors are included in assessing utilization?
- (b) Please describe HONI's Asset Risk Assessment methodology in detail, showing what personnel are involved in the process, their qualifications, their numbers, where they fit in the organization, what computer systems, if any, they use, and the output of the exercise? Is there a single document displaying the results of the analysis? What is the process within HONI to review, adopt, amend the output?

41. **Ref:** *Exhibit B1, Tab 2, Schedule 3 – Regional Plans*

- (a) Please provide a list of subregions for each of the twenty-one regions.
- (b) Aside from the North of Dryden Regional Plan, do any of the other plans completed or in progress have a representative for them from parties other than the IESO, the LDCs, and HONI (or another transmitter)? If not, why not? Why are direct connect customers, APPrO, other producer associations, and other stakeholders not invited to attend?

- (c) How do the regional plans, IRRPs, infrastructure plans, ascertain and reflect actual and proposed distributed generation and cogeneration projects in the region? Please discuss fully.
- (d) How do the IRRP plans reflect the impact of proposed CDM projects and plans for the region, especially targeted DSM (DSM focussed on the need to avoid a new wires build)?
- (e) Are any capital projects not recommended in the various completed regional plans included in the transmission plan:
  - (i) over the first two years;
  - (ii) the latter two years.

If so, please identify the project and explain why they are in the plan.

42. **Ref:** *Exhibit B1, Tab 2, Schedule 4*

- (a) Page 3, Figure 1: Why do customer needs and preferences drive only eight percent of the \$1.169 billion in planned sustaining capex in the test years? Please list the investments that respond to customer needs and preferences, and constitute the eight percent, and discuss in what way they respond.
- (b) Page 6: Please provide the reliability risk approach used in specific jurisdictions that have informed HONI's decision to begin to use this concept. Please provide the experience in those other specific jurisdictions, available studies, regulatory decisions supporting the approach, and the like (or links to these documents).

- (c) Page 12: Please explain the wide variation in ESL of different types of transformers. Please provide the data, or source, for Ontario, on which these estimates are based. Does it take into account asset condition assessment?
- (d) Page 14: Please explain where the data cited in line 6 comes from. Please explain fully, including how Figures 2, 3, and 4 should be interpreted. What is the useful life for each category of asset? How many in each category of asset will be beyond ESL in each of the years between 2017 and 2030.

43. **Ref:** *Attachment 1 – Reliability Risk Model*

- (a) Why are retirements included as a failure? Please explain fully.
- (b) Please provide a copy of the Foster Associates 2014 Asset Failure Analysis dated August 19, 2014, and any update to that study.
- (c) The probability of failure seems low on the hazard curve across a long period. What are the increases in the probability of failure year over year for each year depicted in the curve? What is the significance of the ceiling (4.6%)?
- (d) What does it mean to say that in 2017, conductors will have a reliability risk of 1.01% (if the investments are approved)?
- (e) Does not the fact that the reliability risk index does not determine investments seriously constrain its usefulness?
- (f) HONI states at Exhibit A, Tab 3, Schedule 1, Page 10 that:

"since its last filing, Hydro One has focused on developing an improved understanding and knowledge of the condition of its transmission system".

What specific steps has HONI taken to improve its understanding of the condition of its transmission system in the last two years?

44. **Ref:** *Exhibit B1, Tab 2, Schedule 6*

- (a) Page 1: Is increased maintenance the preferred option? In other words, is the first option to extend the asset life through increased targeted maintenance? Please discuss the trade-offs.
- (b) Page 2: Please define each class of transformer and the use(s) to which they are put.
- (c) Page 4: Please describe the basis of HONI's estimate of the expected service life of each type of transformer. What has been the actual experience of useful life of transformers installed over the last seventy-five years by transformer type?
- (d) Page 3: What type of transformer makes up the 27 and 22 units in transformer replacements in 2017 and 2018?
- (e) Page 4: Please provide the age profile of the transformer fleet in each year from 2006 to 2015, by type of transformer. What has been the replacement rate for transformers from 2006 to 2015?
- (f) Page 5, Line 15: Transformer outages represent failure in eighteen percent of delivery points interruptions with multiple supplies over the last ten years. What is the significance of the phrase "with multiple supplies" in that sentence?

- (g) Page 9: What would be the likely impact on the frequency and duration of outages if transformer replacement were kept to average of last four years, rather than 3.4% of transformers being replaced in each of the test years?
- (h) Page 10: Do you have data on circuit breaker loading? Please provide? Do you hedge against obsolescence by pre-purchase of components of circuit breakers or any other type of asset, and to what extent? What is the value of the inventory you maintain? How much notice do you typically receive?
- (i) Page 12; Page 24: On what do you base ESL of each class of circuit breaker and of each class of protection system? Please discuss each type separately.
- (j) Page 24: Please detail the likely savings (in depreciation and maintenance) by replacing electromechanical and solid state system with microprocessor based systems.
- (k) Page 29: If replacement percentage in 2017 and 2018 were to be the average of previous four years, 2013, 2014, 2015, and 2016, what would be likely impact on the frequency and duration of outages, and on repair costs and lost time? What have been the historical replacement rates from 2006 to 2012 (and the percentage of assets beyond ESL in each of these years)?
- (l) Page 31: What have been historical conductor replacement rates annually from 2006 to 2015? What has been the percentage over ESL over the same ten year period?

- (m) Page 35: Why have condition assessments not been completed in thirty-one percent of conductors? What percentage of conductors will be tested by remote control; over what period of time? When will the new technology be utilized across the system?
- (n) Page 42: Why are pole replacing program revisions consistent with bridge year, given the sharp outage frequency decline and the duration decline over the last several years?
- (o) Page 54: Please provide a breakdown of any planned replacements, component refurbishments, and new tower coatings in the test year. Please discuss the size, duration, and cost of the metal tower coating program over its expected life.

45. **Ref: Exhibit B1, Tab 2, Schedule 7, Page 1**

Why are planned construction materials forecast to increase in excess of CPI in the test year? What is the source of the number? Please describe Global Insight Inc. On what source(s) is CPI number for Ontario based? Please provide a reference to firms, eg. Bank of Canada, etc.

46. **Ref: Ibid, Page 2**

Please distinguish, with reference to Table 1, business drivers and business objectives. Are they the same? If not, please describe each of the business drivers, and how they differ from HONI's objectives, as stated in the application, and what weight is assigned each driver.

47. **Ref: *Ibid, Page 16, Line 10***

Why would project proposals already be in execution? What will actual 2016 capex be relative to budget? What is the date of HONI's most current estimate? What is year to date capex in 2016?

48. **Ref: *Exhibit B1, Tab 3, Schedule 1, Page 1***

(a) Please provide the table back to 2006.

(b) Page 4: Please provide the analysis HONI has done to conclude that its work program will face outage restraints caused by the planned refurbishments at Darlington and Bruce in 2021 and beyond, and the planned closure of Pickering in 2025. Where, and when, will these outages arise? Please refer to specific outage restraints arising from refurbishments or closure of specific nuclear units, and the cost, and describe clearly and fully the nature of these restraints, either due to proximity of assets to the units, the need to attach additional replacement assets, the need to establish additional transformer lines, breakers, or the specific hardware, such as capacitors. In other words, please document the severity of the restraints. Finally, please assess the measures HONI could take to mitigate those restraints, and allow it to pace its sustainment capex program over a longer period rather than accelerating it over the next five years.

49. **Ref: *Exhibit B1, Tab 3, Schedule 2***

(a) Please provide the instances in the plan where the maintenance program will be used to extend the asset life, to avoid more expensive capital costs of replacement.

Please specify each asset which will be treated in this manner, and the incremental maintenance cost, and the forecast life extension, versus the replacement cost.

- (b) Page 7: Please explain in detail the basis for the reduction in capital expenditures of \$57 million in the test year due to reconfiguration.

50. **Ref: General**

Please provide outage data from 2006 to 2015, inclusive. To what extent did LDCs that have multiple delivery points with HONI, increase deliveries from other delivery points to avoid having to interrupt their customers? Please discuss for each of the large LDCs in the Province, including Ottawa Hydro, Horizon, Enersource, Toronto Hydro, PowerStream, Veridian, Windsor, London, Thunder Bay, and Sudbury.

51. **Ref: IPSOS Study, Page 28**

Why is HONI charging Network Service Charges for peaks that occur in the off-peak shoulder period, when the customer is not contributing to system peak demand? Please discuss.

52. **Ref: Exhibit B2, Tab 1, Schedule 1**

- (a) On the scorecard, where are the performance targets (outputs) HONI seeks to achieve for each metric, over what period of time, and with what periodic milestone? What is the goal that it is working toward, which the metrics will track?



- (b) Why is the metric "satisfaction with outage planning procedures" only measured for the OGCC survey, when there were significant comments made on planned outages in the IPSOS study done for the transmission plan? Why are additional surveys that touch on the metric not gathered, analyzed, and averaged (or otherwise taken into account)?
- (c) Why are productivity improvements in OM&A capital, project execution not included as metrics under cost control and asset management?
- (d) Under asset management, why is obtaining better data on asset condition not included?
- (e) Under financial performance, why are demonstrations of excellent financial management, such as reduction of working capital require, reduction in cost of debt through innovative financial techniques, and the like, not included?