



January 26, 2018

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

Re: EB-2017-0049 Hydro One Networks Inc. 2018-2022 Distribution Custom IR Application
AMPCO's interrogatories – Grouped According to Issues

Dear Ms. Walli:

Attached please find AMPCO's interrogatories in the above proceeding that have now been grouped according to issues on the issues list.

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

Sincerely yours,

(ORIGINAL SIGNED BY)

Colin Anderson
President
Association of Major Power Consumers in Ontario

Encl.

Copy to: HONI

**Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories**

A: GENERAL

Issue 2: Has Hydro One adequately responded to the customer concerns expressed in the Community Meetings held for this application?

2-AMPCO-1

Ref: A-4-1 Customer Service Strategy

- a) Page 2: Hydro One indicates it has made several digital investments which address customer feedback received. Please provide the feedback and identify the specific digital investments.
- b) Page 5: Hydro One states, "Through surveys and the Customer Engagement work held in 2016, Hydro One confirmed that it needed a renewed focus on this customer segment." Please explain further the reasons why a renewed focus on Commercial and Industrial customers is required.
- c) Page 5: Hydro One states each of its eight zones has a Zone Superintendent for Large Industrial Accounts. Does Hydro One have specific reliability data for each of the eight zones?
- d) Page 5: Please confirm the dates in 2016 and in 2017 for the annual Large Customer Conference and provide the agenda, and presentation materials and meeting notes for the 2016 and 2017 Conference.
- e) Page 5: Please summarize the key needs and preferences of Large Distribution Accounts (LDA) identified during meetings between Zone Superintendents and LDA, and confirm the resulting expenditures proposed in this application that are specifically directed at LDA.
- f) Page 7: With respect to the Ombudsman Office, please provide the number of systemic investigations since inception and summarize any underlying trends of concern relevant to this application and the changes needed.

Issue 3: Is the overall increase in the distribution revenue requirement from 2018 to 2022 reasonable?

3-AMPCO-2

- a) Please provide a schedule that sets out the key Capital & OM&A work program drivers of the Revenue Deficiency

C. OUTCOMES, SCORECARDS AND INCENTIVES

Issue 18: Are the metrics in the proposed additional scorecard measures appropriate and do they adequately reflect appropriate outcomes?

18-AMPCO-3

Ref: A-5-1 Electricity Distributor Scorecard

**Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories**

- a) Page 8 Figure 2: Please provide any changes to the Rate Application Five-Year Targets resulting from the release of the 2016 Electricity Distribution Scorecard and evidence updates.

Issue 19: Are the proposals for performance monitoring and reporting adequate and do the outcomes adequately reflect customer expectations?

19-AMPCO-4

Ref: B1-1-1 DSP Section 1.4 Attachment #1

- a) Page 4: Please provide the Team Scorecard for 2016, 2017 and 2018.
- b) Page 4: Please discuss the operational reporting that is done on a monthly basis by Operations Managers.

D. DISTRIBUTION SYSTEM PLAN

Issue 23: Was the customer consultation adequate and does the Distribution System Plan adequately address customer needs and preferences?

23-AMPCO-5

Ref: B1-1-1 Section 1.1 Page 8

Preamble: The evidence states “For Large Customers, improving power quality and reducing the number of sustained outages is their top priority. To address this Hydro One has created an OM&A program to assist Large Distribution Account customers with investigations to determine the source of the power quality issue that they are experiencing. Hydro One has increased the funding of reliability enhancement projects to specifically target Large Distribution Accounts and mid-size industrial customers.”

- a) Please provide the number of power quality complaints for each of the years 2012 to 2017.
- b) Please provide a copy of the power quality industry standards that Hydro One utilizes.
- c) Please provide Hydro One’s power quality targets over the test period.
- d) Please summarize Hydro One’s expected outcomes related to its OM&A and Capital power quality spending.

23-AMPCO-6

Ref: B1-1-1 Section 1.3 Customer Engagement

- a) Page 2 – Please complete the following table:

| Ongoing Initiatives | # per year |
|-----------------------|------------|
| Annual Surveys | |
| Transactional surveys | |
| Focus Groups | |

**Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories**

- b) Page 3: Please identify the third party that undertakes the Focus Groups?
- c) Page 3: On what basis were the Focus Group participants pre-screened?
- d) Page 3: How often do Zone Superintendents meet with Large Distribution Accounts?

23-AMPCO-7

Ref: B1-1-1 Section 1.3 Attachment #1 Ipsos Distribution Customer Engagement Report

- a) Page 233: Please complete the following Table:

| Power Outage Causes | 2013 % | 2014 % | 2015 % | 2016 % | 2017 % |
|----------------------------|---------------|---------------|---------------|---------------|---------------|
| Trees | | | | | |
| Equipment Failure | | | | | |
| Unconfirmed Causes | | | | | |
| Scheduled Outages | | | | | |
| Loss of Power Supply | | | | | |
| Animal or Vehicle | | | | | |

- b) Certain changes in unit costs were provided to customers. Please provide the change in unit costs between 2015 and 2016 and 2016 and 2017 for brush control, line clearing and wood pole replacement.

Issue 24: Does Hydro One's investment planning process consider appropriate planning criteria? Does it adequately address the condition of distribution assets, service quality and system reliability?

24-AMPCO-8

Ref: A-3-1 Attachment #1 Hydro One Distribution Business Plan 2017-2022

- a) Page 13: please provide the start and end date for each of the seven planning process stages.
- b) Page 12: Please provide the level of investment and number of projects at each of the following stages: 4. Investment Development, 5. Investment Optimization and 6. Investment Approval and Implementation.
- c) Please provide the number of candidate investments under 2.1.4 Investment Development compared to the final investment plan.
- d) Please provide the % of plans that were optimizable in this business cycle compared to the previous two business cycles.

**Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories**

24-AMPCO-9

Ref: B1-1-1 Section 1.0 Page 14 Third Party Review of DSP

- a) Please explain the process used to retain AESI Inc.
- b) Please provide a copy of the Terms of Reference for AESI Inc.

24-AMPCO-10

Ref: B1-1-1 Section 1.0 Page 15 Information for Acquired Utilities

- a) For how long will the Acquired Utilities be kept separate from Hydro One for rate making purposes?
- b) When will the DSP for the Acquired Utilities be combined with the DSP for Hydro One?

24-AMPCO-11

Ref: B1-1-1 Section 1.1 Page 1 Distribution System Plan Overview

- a) Page 2: Please provide a citation for the Study that draws the affordability line at 4-6% of household net income.
- b) Is Hydro One aware of any studies that responds to the affordability line for commercial and industrial customers? If yes, please provide.
- c) Page 3: Please provide the documented feedback from executive management that resulted in the production of alternative investment Plan B.
- d) Page 3: Please provide the documented feedback from the Executive Leadership Team and Board of Directors in its review of the investment plan.
- e) Page 8: Please provide a listing of the capital investment projects and amounts deliberately deferred.
- f) Page 8: Please confirm the total number of distribution stations to be refurbished over the test period.
- g) Page 23: Please provide a list of the General Plant investments in this application that are common to both Hydro One's transmission and distribution businesses that were not approved in Hydro One's transmission application EB-2016-0160.

24-AMPCO-12

Ref: B1-1-1 Section 1.1 Page 21

- a) Please explain Hydro One's past investment data quality issues.
- b) Please provide any internal audits in the last 5 years of HONI's Asset Management Process.

Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories

- c) Please provide any internal audits in the last 5 years of HONI's Investment Planning process.
- d) Please provide any internal audits in the last 5 years of HONI's Asset Data Quality.

24-AMPCO-13

Ref: B1-1-1 DSP Section 1.4 Performance Measurement and Outcome Measures Page 3 Table 8 Distribution OEB Scorecard

- a) Please update Table 8 to reflect 2017 actuals and any other evidence updates.
- b) Please provide the calculation that underpins the 2011 to 2018 data for the following measures: pole replacement Gross Cost per Unit (\$); Station Refurbishments Gross Cost per MVA (\$).
- c) Vegetation Management Measure: please provide the historical unit costs prior to the development of a new program.
- d) Please provide the calculation for the most current Vegetation Management targets in 2017 and 2018.
- e) Please provide the subset of asset outages that make up the total number of Line Equipment Caused Interruptions, i.e. provide the number of outages caused by each sub-equipment component for each of the years 2011 to 2017.
- f) Does Vegetation Caused Interruption mean the same thing as Tree Contacts. If not please provide the inputs to the total number of Vegetation caused interruptions for the years 2011 to 2017, i.e. provide the type of vegetation caused outages on line equipment and the number of interruptions for each.
- g) Does Vegetation Caused outages include vegetation outages during storm events that are not classified as Force Majeure events?
- h) Please provide the subset of asset outages that make up the total number of Substation Caused Interruptions, i.e. provide the number of outages caused by each sub-equipment component for each of the years 2011 to 2017.
- i) Please explain why Hydro One adjustments to the Vegetation Management program make year over year unit cost comparisons impossible.

24-AMPCO-14

Ref: B1-1-1 DSP Section 1.4

- a) Page 13 Table 9: Please provide the forecast for the years 2014 to 2016 for each outcome measure in Table 9 that is still measured compared to actuals.
- b) Page 14: Please provide the total number of outages for the years 2011 to 2017.

Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories

- c) Page 14: Please provide the total number of outages in part (b) that resulted in a customer interruption for each of the years 2011 to 2017.
- d) If there is a difference between a failure, outage and interruption, please explain the difference.
- e) Page 15: Please provide Hydro One's MAIFI and MAIDI results by year for the years 2012 to 2017.
- f) Page 21 Table 10: Please provide a version of Table 10 that includes 2017 and Outage Cause "Excluding LOS and Excluding FM and Excluding Scheduled Outages".
- g) Page 22 Table 11: Please provide a version of Table 11 that includes 2017 and Outage Cause "Excluding LOS and Excluding FM and Excluding Scheduled Outages".
- h) Page 23 Table 12: Please provide a version of Table 12 that includes 2017 and Outage Cause "Excluding LOS and Excluding FM and Excluding Scheduled Outages".
- i) Tables 13, 14 and 15: The Tables include eight Cause Codes. There are 10 Cause Codes. Please identify the two missing Cause Codes and explain where the data for these two Cause Codes is captured.
- j) Tables 13, 14 and 15 include outages due to Force Majeure. Please provide the tables excluding Force Majeure.
- k) Page 24 Table 13: Please provide the contribution to SAIDI by Cause Code based on number of customer interruption hours excluding Force Majeure and add 2017 data to the Table.
- l) Page 25 Table 14: Please provide the contribution to SAIFI by Cause Code based on number of customer interruptions excluding Force Majeure and add 2017 data to the Table.
- m) Page 27 Table 15: Please provide Table 15 based on the changes to Table 13 and 14 in parts (k) and (l).
- n) Please provide the number of customer interruptions and customer interruption hours contributed by Force Majeure compared to the total number of customer interruptions and customer interruption minutes for each of the years 2011 to 2017.
- o) Please provide a chart that sets out the equipment causes of Defective Equipment and the contribution to SAIDI and SAIFI for each equipment type in terms of number of customer interruption hours and number of customer interruptions for each of the years 2011 to 2017.
- p) Page 24 Table 13: Please explain the types of interruptions included in Unknown/Other.
- q) Page 24 Table 13: Please explain the increases in Defective Equipment, Tree Contacts and Unknown/Other outages in 2013.

Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories

- r) Please explain where data due to Force Majeure outages are captured in the Table 13.
- s) Please explain how the classification of outages due to Adverse Environment, Defective Equipment and Tree Contacts are differentiated for staff.
- t) Please provide any internal or consultant reports in the past 5 years related to the review of Hydro One's system reliability.
- u) Page 33: Please provide copies of any reports resulting from Hydro One's participation in surveys or studies related to its system reliability in the past 5 years.

24-AMPCO-15

Ref: B1-1-2 Page 4 AESI Final Report – Distribution system Plan Review

- a) The Final Report is dated March 14, 2017. When was AESI retained and when did they conduct their review?
- b) Page 4: AESI indicates Hydro One was unable to report reliability data on two cause codes due to software limitations. Please explain the software limitations.
- a) Page 4: AESI provided Hydro One with suggestions regarding other reporting metrics such as job estimate to actual. Hydro One acknowledged that this was a meaningful metric and stated that it would be considered in the future. Please discuss the data availability for this metric and if it has incorporated this metric.

24-AMPCO-16

Ref: B1-1-1 DSP Section 2.1 Investment Planning Process

- a) Page 12: Does Hydro One track the age an asset fails for every asset failure?
- b) Page 28: Please provide the dates of the Operational Stakeholder Engagement.
- c) Page 28: Please provide the dates of the Executive Leadership Team review and Board of Directors review and approval of the draft investment plan.

24-AMPCO-17

Ref: B1-1-1 DSP Section 2.1 Investment Planning Process Page 30

Preamble: Hydro One indicates if an investment has a material change to scope, schedule or cost from the approved plan, a variance proposal is prepared.

- a) Please provide the threshold of change in scope, schedule and cost that triggers the need for a variance proposal.
- b) Please provide the number of variance proposals prepared in each of the years 2012 to 2017 and the total cost and schedule impact for each year due to variance approvals.

Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories

24-AMPCO-18

Ref: B1-1-1 DSP Section 2.1 Investment Planning Process Page 32

Preamble: The evidence states that Hydro One performs a comparison between the actual investment costs and accomplishments and the proposed investment plan throughout the year and at the end of the investment plan years.

- a) Please provide this analysis for the years 2014 to 2017.
- b) Please provide the % of planned capital work undertaken for each of the years 2012 to 2017.

24-AMPCO-19

Ref: B1-1-1 DSP Section 2.3 Asset Condition

- a) Please complete the attached excel spreadsheet.
- b) Please provide a live excel version of the completed spreadsheet.
- c) Please identify the asset groups where the data availability index is below 100%.
- d) Please identify the asset groups where the asset condition data gaps are moderate.
- e) Please identify the asset groups where the asset condition data gaps are high.
- f) Please identify the asset groups where Hydro One does not have any condition data.
- g) Please identify the asset groups where asset age is the predominant factor in determining condition.

24-AMPCO-20

Ref: B1-1-1 DSP Section 2.3 Asset Failures

- a) Please complete the attached excel spreadsheet.
- b) Please provide a live excel version of the completed spreadsheet.
- c) Please confirm this asset failure data is the input to SAIFI.

24-AMPCO-21

Ref: B1-1-1 DSP Section 2.3 Planned Replacements

- a) Please complete the attached excel spreadsheet.
- b) Please provide a live excel version of the completed spreadsheet.

Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories

24-AMPCO-22

Ref: B1-1-1 DSP Section 2.3 Unplanned Replacements

- a) Please complete the attached excel spreadsheet.
- b) Please provide a live excel version of the completed spreadsheet.

24-AMPCO-23

Ref: B1-1-1 DSP Section 3.3

- a) Page 5: Please identify any Distribution Planning Activities listed that were deferred from EB-2013-0416 and explain the timing differences and the reason for the deferral.
- b) Page 6: Please identify any Distribution Requests listed that were deferred from EB-2013-0416 and explain the timing differences and the reason for the deferral.
- c) Page 10: Please provide the trend in Hydro One's fleet utilization in the past 15 years.
- d) Page 12: Please provide Hydro One's overall asset replacement rate for the years 2012 to 2017 and forecast for 2018 to 2022.

24-AMPCO-24

Ref: B1-1-1 DSP Section 3.6

- a) Page 1 Table 63: Please update the table to reflect 2017 actuals and evidence updates and provide an excel version of the table.
- b) Page 2: Please provide Hydro One's definition of end-of-life compared to expected service life.
- c) Page 2: Please provide the annual amount (\$) of System Access work: (1) deferred; (2) cancelled; and (3) advanced for each of the years 2012 to 2017.
- d) Page 3: Please provide the annual amount (\$) of System Service work: (1) deferred; (2) cancelled; and (3) advanced for each of the years 2012 to 2017.

24-AMPCO-25

Ref: B1-1-1 DSP Section 3.7 List of Material Capital Investments Proposed

- a) Please provide an excel version of the project listing.
- b) Please provide the priority ranking for each project and include in part (a).

Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories

- c) Please provide a schedule that sets out the key asset units to be replaced under each material capital investment project based on Reference # and provide the proposed quantities for each asset group.
- a) Please identify the new capital investment project names in EB-2017-0049 that were not included in EB-2013-0416.

24-AMPCO-26

Ref: B1-2-1 Work Execution Strategy

- a) Please provide any internal audit documents undertaken in the past five years related to Hydro One's Work Execution Strategies.
- b) Please provide the key internal performance metrics Hydro One relies on to measure and manage its work execution for (1) capital and (2) OM&A work programs.
- c) Page 6: Does Hydro One track standby hours/down time due to circumstances that cause work to be halted or cancelled.
- d) Page 7: For the years 2012 to 2017 please provide the number and duration of planned outages compared to actuals.
- e) Please provide Hydro One's key performance metrics related to material and equipment availability, strategic sourcing and logistics.
- f) Page 12: Please provide the % of work outsourced for Hydro One's (1) Capital Programs and (2) OM&A Programs for the years 2012 to 2017 and forecast for 2018 to 2022.
- g) Page 13: Does Hydro One have an internal document that governs its Staffing Strategy. If yes, please provide.
- h) Please provide Hydro One's job estimate to actual cost data for the material capital projects in EB-2013-0416.
- i) Please provide Hydro One's schedule estimate to actual schedule for the material capital projects in EB-2013-0416.

24-AMPCO-27

Ref: Q-1-1 Attachment #1 Page 11

- a) Please provide the start and end date for each of the seven planning process stages.
- b) Please provide the level of investment and number of projects at each of the following stages:
4. Investment Development, 5. Investment Optimization and 6. Investment Approval and Implementation.

**Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories**

- c) Please provide the number of candidate investments under 2.1.4 Investment Development compared to the final investment plan.
- d) Please provide the % of plans that were optimizable in this business cycle.

Issue 25: Does the Distribution System Plan adequately reflect productivity gains, benefit sharing and benchmarking?

25-AMPCO-28

Ref: B1-1-1 DSP Section 1.5

- a) Page 2 Table 17: Please confirm the savings in Table 17 are incremental savings.
- b) Page 2 Table 17: Please update Table 17 to reflect the December 21, 2017 update (Hydro One 2018 -2023 Distribution Business Plan Page 17).
- c) Page 4: Please confirm the Move to Mobile initiative was successfully implemented in April 2017.
- d) Page 4: Please provide an update on expansion of the Move to Mobile project to Provincial Lines and Forestry Services. If expanded over the test period, is there potential for additional savings in 2018 to 2022.
- e) Page 5: Please provide the number of cable locates and cable locate costs for the years 2012 to 2022.

25-AMPCO-29

Ref: B1-1-1 Section 1.6 Page Attachment #2 Vegetation Management Study

- a) Page 14: Please provide the underlying calculation of Hydro One's cost per customer for UVM for each of the years 2011 to 2015 and provide the calculation for 2016 and 2017.
- b) Page 14: With the exception of one other North American company, Hydro One has the lowest average customer density in land area. Please provide the average cost per customer spent in 2011-2015 for UVM for the one other North American company.
- c) Page 14: For the one other North American company, please provide the trees per system km.

25-AMPCO-30

Ref: B1-1-1 Section 1.6 Attachment #3 Gartner IT Budget Assessment

- a) Please provide the date of the final report.
- b) Page 5: Please provide the dates that correspond to the five components of the IT Spending Benchmark Project Plan.
- c) Page 6: Gartner indicates the analysis period was 2015. Please explain the basis for a 2015 analysis period. Please explain why 2016 and historical years were not included so that a trend analysis could be done.

Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories

- d) Page 6: Please provide the individual peer group profile data at the same level of detail as shown for Hydro One.
- e) Page 8: Please confirm the information shown on Page 8 (PDF Page 2285 of 2850) reflects Hydro One Distribution.
- f) Page 10: Summary of Metrics – Please provide a table that sets out a summary of the metrics for each organization in the peer group compared to Hydro One.
- g) Page 10: Please provide a summary of the metrics for Hydro One for the years 2012, 2013, 2014, 2016 and forecast 2018 to 2022.
- h) Page 10: Please explain if Gartner has metric data for peer companies for years prior to 2015. If yes, please provide.
- b) Page 22 – For each of the 10 comparator groups in Figure 25, please provide the number of power transformers.
- c) Page 26 – Please explain why Hydro One does not evaluate testing results and/or maintenance history records as a primary driver when making replace versus repair decisions for switching and protection equipment or relays.
- d) Page 26 – Please explain how visual inspections are a reliable driver in making replace versus repair decisions.
- e) Page 26 – Please explain how Hydro One evaluates poor performance in Breakers and Bus Ties and Relays and Control Wiring.
- f) Page 26 – Please explain Hydro One’s unique situation regarding the use of safety concerns as an important evaluation factor when evaluating switching and protection equipment.
- g) Page 26 – Please explain how switching equipment, protection equipment and relays drive Substation Rebuilds projects.
- h) Page 27 – Please provide Hydro One’s response to the Recommendations on Page 27 for pole replacement and substation refurbishment.
- i) Page A-1 – Please provide a list of the companies contacted that declined to participate.
- j) Page A-1 – Please provide the identification number that corresponds to each company in Figure 30.
- k) Page A-1 – Please list the top three companies that compare closest to Hydro One and provide their comparator number.

25-AMPCO-31

Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories

- a) As a result of the two benchmarking studies related to pole replacement and station refurbishment, please quantify the changes to each investment in 2018 that are the direct result of each benchmarking study.

Issue 26: Does the Distribution System Plan address the trade-offs between capital and OM&A spending over the course of the plan period?

26-AMPCO-32

Ref: B1-1-1 Section 1.1 Page 1 Distribution System Plan Overview

- a) Page 11: Please discuss Hydro One's view of the optimal time to extend the life of an asset through maintenance compared to replacing the asset.
- b) Page 12: Please complete the following table:

| Investments | 2012 \$ | 2013 \$ | 2014 \$ | 2015 \$ | 2016 \$ | 2017 \$ | 2018 \$ | 2019 \$ | 2020 \$ | 2021 \$ | 2022 \$ |
|------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| Proactive Programs | | | | | | | | | | | |
| Maintenance Programs | | | | | | | | | | | |
| Demand-Driven Programs | | | | | | | | | | | |

26-AMPCO-33

Ref: B1-1-1 Section 1.6 Attachment#1

- c) Page 17 – Please explain further the need for Hydro One to improve its use of testing results and maintenance history records in making replace versus repair decisions for certain substation equipment. In the response please describe the types of improvements required, and the expected outcomes of these improvements.

Issue 28: Has Hydro One appropriately incorporated Regional Planning in its Distribution System Plan?

28-AMPCO-34

Ref: B1-1-1 Section 1.2

- a) Page 13: Please confirm the Regional Infrastructure Plan for Burlington to Nanticoke Regions was completed in Q1 2017 as scheduled. Please advise if any of the proposed Actions have been changed.
- b) Page 22 Table 6: Please update Table 6 as required to reflect the most current projects, forecast cost and in-service dates for the projects.
- c) Page 22 Table 6: Please identify the projects to be completed by Hydro One Transmission.
- d) Page 22 Table 6: Please identify the projects with contributions from other parties.

Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories

28-AMPCO-35

Ref: B1-1-1 DSP Section 3.3 Page 4

- a) Please identify any Regional Planning Projects listed that were deferred from EB-2013-0416 and explain the timing differences and the reason for the deferral.

Issue 29: Are the proposed capital expenditures resulting from the Distribution System Plan appropriate, and have they been adequately planned and paced?

29-AMPCO-36

Ref: B1-1-1 DSP Section 2.4

- a) Please provide the proposed investment levels for Plan A, Plan B, Plan C and Plan B Modified compared to the average investment level for the years 2014 to 2017.
- b) For each of the following assets used in the Investment Plan Scenarios, please provide the asset unit replacement levels for the years 2012 to 2017 and forecast for the years 2018 to 2022: poles, stations, other line equipment, vegetation.

29-AMPCO-37

Ref: B1-1-1 DSP Section 2.4

- a) Please complete the following Tables:

| Asset | 2012 Contribution to SAIDI (CIH) | 2013 Contribution to SAIDI (CIH) | 2014 Contribution to SAIDI (CIH) | 2015 Contribution to SAIDI (CIH) | 2016 Contribution to SAIDI (CIH) | 2017 Contribution to SAIDI (CIH) |
|---------------------------------------|---|---|---|---|---|---|
| Wood Poles | | | | | | |
| Red Wood Poles | | | | | | |
| Distribution Stations | | | | | | |
| Other Line Components | | | | | | |
| Tree Contacts on Rights-of- way | | | | | | |
| Tree Contacts | | | | | | |
| TOTAL CIH ¹ | | | | | | |

¹ Customer Interruption Hours

Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories

| Asset | 2012 Contribution to SAIFI (CI) | 2013 Contribution to SAIFI (CI) | 2014 Contribution to SAIFI (CI) | 2015 Contribution to SAIFI (CI) | 2016 Contribution to SAIFI (CI) | 2017 Contribution to SAIFI (CI) |
|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| Wood Poles | | | | | | |
| Red Wood Poles | | | | | | |
| Distribution Stations | | | | | | |
| Tree Contacts on Rights-of- way | | | | | | |
| Tree Contacts | | | | | | |
| TOTAL CI ² | | | | | | |

| | 2013 #outages/year | 2013 #outages/year | 2014 #outages/year | 2015 #outages/year | 2016 #outages/year | 2017 #outages/year |
|---------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Wood Poles | | | | | | |
| Red Wood Poles | | | | | | |
| Distribution Stations | | | | | | |
| Other Line Components | | | | | | |
| Tree Contacts on Rights-of- way | | | | | | |
| Tree Contacts | | | | | | |
| TOTAL Outages | | | | | | |

29-AMPCO-38

Ref: B1-1-1 DSP Section 2.4

- a) Page 3 line 15: As an example, please provide the calculation that underpins the estimated reduction in forced outages to 303 instances per years and SAIDI and SAIFI impacts from wood poles improving by 12% under Plan A.

29-AMPCO-39

Ref: B1-1-1 DSP Section 2.4

- a) Page 5 line 15: Please provide the starting point level of work on medium or low priority rights-of-way maintenance in km/yr that is being reduced by 1,000 km/yr.

29-AMPCO-40

Ref: B1-1-1 DSP Section 2.4 Page 6 Table 52

² Customer Interruptions

Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories

- a) Please provide a breakdown of the sub-equipment components that are included in the Failure Rate/Impact for Stations.

| Stations Sub-Equipment Categories | Contribution to Stations (Outages/year) (%) | Contribution to Stations SAIDI (%) | Contribution to Stations SAIFI (%) |
|-----------------------------------|---|------------------------------------|------------------------------------|
| | | | |
| | | | |

- b) Please confirm the Distribution Stations sub-components included in the SAIDI and SAIFI projections for investment plan scenarios.
- c) Please provide a breakdown of the sub-equipment components that are included in the Failure Rate/Impact for Other Line Components.

| Other Line Components | Contribution to Other Line Components (Outages/year) (%) | Contribution to Other Line Components SAIDI (%) | Contribution to Other Line Components SAIFI (%) |
|-----------------------|--|---|---|
| | | | |
| | | | |

- d) Please confirm the Other Line Components sub-components included in the SAIDI and SAIFI projections for investment plan scenarios.

29-AMPCO-41

Ref: B1-1-1 Section 1.1 Page 1 Distribution System Plan Overview

- a) Page 3: Where in the investment planning process was it decided the Plan C scenario was not viable? Please provide the investment level of Plan C.
- b) Page 3: Please provide the analysis that reflects an estimated degradation of approximately 2% in both SAIDI and SAIFI for Plan C.

E. RATE BASE & COST OF CAPITAL

Issue 33: Are the amounts proposed for the rate base from 2018 to 2022 appropriate?

33-AMPCO-42

Ref: D1-1-2 In Service Additions

- a) Please update Tables 1 and 2.

**Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories**

F. OPERATIONS MAINTENANCE & ADMINISTRATION COSTS

Issue 38: Are the proposed OM&A spending levels for Sustainment, Development, Operations, Customer Care, Common Corporate and Property Taxes and Rights Payments, appropriate, including consideration of factors considered in the Distribution System Plan?

38-AMPCO-43

Ref: C-1-2

- a) Please update Tables 1 to 5 with 2017 actuals.

38-AMPCO-44

Ref: C-1-2

- a) Please provide a table that sets out the % of Stations and Lines assets that are (1) inspected, (2) tested and (3) maintained in each of the years 2012 to 2017.

38-AMPCO-45

Ref: C1-1-2 Pages 8 to 11 Planned Preventive Station Maintenance

- a) Please provide the total quantity of inspections and testing for each of the years 2012 to 2017 and the forecast for 2018.
- b) Have time-based inspections and testing frequencies changed since 2014? If yes, please explain.
- c) Please provide the number of assets maintained (condition-based maintenance) for the years 2012 to 2017 and forecast for 2018.

38-AMPCO-46

Ref: C1-1-2 Line Maintenance

- a) Page 17: Please discuss if Hydro One has made any changes to its inspection, testing and preventive and corrective maintenance practices on line equipment since 2014.
- b) Page 18: Please provide the quantity of inspections and testing for each of the years 2012 to 2017 and the forecast for 2018.
- c) Page 18: Please provide the volume of assets maintained (preventive/corrective) for the years 2014 to 2017.
- d) Page 18: Please provide the volume of defect corrections per years for the years 2014 to 2017.

38-AMPCO-47

Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories

Ref: C1-1-2 PCB Equipment and Waste Storage

- a) Please provide the number of PCB inspections and testing per year for each of the years 2012 to 2017.

38-AMPCO-48

Ref: C1-1-2 Other Services

- a) Please provide the number of customer inquiries related to line relocations for each of the years 2012 to 2017 and forecast for 2018.

38-AMPCO-49

Ref: C1-1-2 Meters Telecom and Control

- a) Please provide the quantity of retail revenue meters maintained for each of the years 2012 to 2017 and the forecast for 2018.
- b) Please provide the volume of wholesale revenue meters maintained for each of the years 2012 to 2017 and the forecast for 2018.

38-AMPCO-50

Ref: C1-1-2 Vegetation Management

- a) Please provide the forecast and achieved cycle length in each year of the years 2012 to 2017 and the forecast for 2018.
- b) Please provide the actual unit accomplishments compared to forecast unit accomplishments for the years 2012 to 2017 under each of the categories of spend in Table 5 on Page 29.
- c) Please provide the total km of high-impact right of ways and total km of low-impact right of ways.
- d) Please quantify the km of high-impact right of ways and km of low-impact right of ways addressed in each of the years 2012 to 2017 and forecast for 2018.
- e) Please define and quantify the current backlog in vegetation maintenance.
- f) In what year will Hydro One regain control of backlogged maintenance?
- g) Please provide the total number of trees and the number of trees addressed annually for each of the years 2012 to 2017 and the forecast for each of the years 2018 to 2022.

Issue 39: Do the proposed OM&A expenditures include the consideration of factors such as system reliability, service quality, asset condition, cost benchmarking, bill impact and customer preferences?

Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories

39-AMPCO-51

Ref: C1-1-2 Pages 7 to 8 Stations Demand and Planned Corrective Maintenance program

- a) Page 7: Please provide the volume of asset component failures for the years 2012 to 2017 and forecast for 2018.
- b) Please discuss any historical trends in asset component failures by asset type.
- c) Please provide the volume of assets maintained (corrective) for the years 2012 to 2017.
- d) Please discuss any trends in corrective maintenance based on asset type.
- e) Please provide the number of defects/deficiencies corrected for the years 2012 to 2017 and forecast for 2018.
- f) Does Hydro One track the age of each asset component repaired or replaced? If yes, please discuss the data available.

39-AMPCO-52

Ref: C1-1-2

- a) Please provide the number of outages due to Preventive Maintenance and Corrective Maintenance for the years 2012 to 2017 and forecast for 2018.
- b) Please provide the number of customer interruptions due to Preventive and Corrective Maintenance for the years 2012 to 2017 and forecast for 2018.
- c) Please provide the number of customer interruption hours due to Preventive and Corrective Maintenance for the years 2012 to 2017 and forecast for 2018.

Issue 40: Are the proposed 2018 human resources related costs (wages, salaries, benefits, incentive payments, labour productivity and pension costs) including employee levels, appropriate?

40-AMPCO-53

Ref: C1-2-1 Staffing & Employee Compensation

- a) Please provide and describe the key Human Resource Metrics utilized by Hydro One.
- b) For each metric in part (a) please provide the historical performance for each metric and the targets over the test period.
- c) Page 3: Please confirm a Temporary employee means the same thing as a Non-Regular employee.

Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories

- d) Pages 2-5. Please complete the following table to show total compensations costs for each employee classification to align with the amounts on C1-2-1 Page 48 Appendix B:

| Employee Classifications | Compensation Costs | | | | | | | | | |
|---------------------------------|---------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
| 3.1 Regular Employees | | | | | | | | | | |
| 3.2 Temporary Employees | | | | | | | | | | |
| 3.3 Casual Workers | | | | | | | | | | |
| 3.4 Contract Staff | | | | | | | | | | |

- e) Page 6 Figure 1: Please provide a chart that sets out the actual numerical values for the # retired and the # eligible to retire. Please provide the data for 2017. Please provide the # eligible to retire for each of the years 2018 to 2022.
- f) Please provide the budget compared to actuals for overtime for the years 2012 to 2017.
- g) Page 9 Table 1: Please provide an excel version of Table 1.
- h) Page 9: Please reproduce Table 1 for the years 2012 to 2016 and update for 2017. Please provide an excel version of the table.
- i) Page 10: Please provide the current organizational structure that reflects Hydro One's OM&A work programs and the number of FTEs in each unit.
- j) Page 10: Please provide the portion of Construction Services completed externally for each of the years 2012 to 2017. Please provide the forecast for each of the years 2018 to 2022.
- k) Page 11: Please discuss how the use of external resources impacts the annual cost of engineering work.
- l) Page 11: Please provide the forecast of the engineering work to be completed externally for each of the years 2019 to 2022.
- m) Page 12: Please provide a list of all of the OM&A work that is outsourced.
- n) Page 12: Please provide the % of Provincial Lines work that is outsourced for each of the years 2012 to 2017 and forecast for each of the years 2018 to 2022.
- o) Page 13: Please describe the new scheduling tool in 2017, indicate when it was implemented and provide the anticipated savings.

**Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories**

- p) Page 15: Please confirm the Employee Classification that apprentices fall under.
- q) Page 37 Table 9: Please provide the total compensation amounts above market median in each of the years 2018 to 2022.
- r) Page 21: Please list the pay elements attributable to Hydro One that were not included in Willis Tower Watson's market assessment and explain why they were not included.
- s) Please identify the pay elements not included in the most recent Willis Tower Watson's market assessment that were included in the previous study.
- t) Please discuss how each of the missing pay elements identified in part (r) could impact Hydro One's positioning with respect to market median for each employee group (Management, Society, PWU, Temps).
- u) Please provide a table that sets out the amounts Hydro One is above P50 (market median) for each of the years 2018 to 2022 for each of the pay elements in C1-2-1 Page 48 Appendix B.
- v) Page 33: Please provide the ratio of total distribution compensation to total compensation for each of the years 2014 to 2022.
- w) Page 34 Figure 4: Please provide a chart that sets out the actual numerical amounts in the table for Total Dx Comp, Total DX Spends and Ratio Compensation/Total DX Spend.
- x) Page 34 Figure 4: Please provide a breakdown of the work programs that make up the total work program spend.
- y) Page 48 Appendix B: Please update the table to reflect the December 21, 2017 evidence update and provide an excel version of the table.
- z) Page 48 Appendix B: Please provide a further breakdown of MCP other allowances for each of the years 2014 to 2016.
- aa) Please provide the number of FTEs under Vegetation Management in the following Employee Classifications (Regular, Non-Regular, Casual and Contract Staff) for each of the years 2012 to 2017 and forecast for 2018.

40-AMPCO-54

Ref: C1-2-1 Page 38

Preamble: Hydro One indicates that it expects its positioning to market median to improve in each of 2017 and 2018 as a result of collective agreement negotiations.

- a) Please provide the expected results in 2017 and 2018 as per the employee groups provided in Table 9 on Page 37 (C1-2-1).
- b) Please provide the impact in OM&A costs in bringing compensation to market median in each year.

**Hydro One Networks Inc. (HONI)
2018-2022 Custom IR Distribution Application
AMPCO Interrogatories**

40-AMPCO-55

Ref: C1-2-1

- a) Please provide any internal audits in the last 5 years related to Hydro One's staffing.
- b) Please provide any internal audits in the last 5 years related to Hydro One's OM&A work programs.

40-AMPCO-56

Ref: C1-1-7 Page 2

- a) Please provide the internal audit workplan over the test period.
- b) Please provide any internal audits in the last 5 years related to internal controls.

G. REVENUE REQUIREMENT

Issue 44: Is Hydro One's proposed depreciation expense for 2018 and further years appropriate?

44-AMPCO-57

Ref: C1-6-1 Page 3

- a) Table 1 Total Distribution Depreciation and Amortization Expense: Please provide a table that sets out the forecast compared to actuals for each of the years 2013 to 2017.

I. COST ALLOCATION AND RATE DESIGN

Issue 54: Are the proposed specific service charges for miscellaneous services over the 2018 – 2022 period reasonable?

54-AMPCO-58

Ref: H1-2-3

- a) Please provide the Specific Service Charges that apply to Industrial customers.