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September 3, 2012

BY EMAIL & COURIER

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
2300 Yonge St, Suite 2701
Toronto ON M4P 1E4

Dear Ms. Walli:

Board File No. EB-2012-0033
Enersource Hydro Mississauga Inc. – 2013 & 2014 Cost of Service Application
Energy Probe – Compendium A for Panel 1

Pursuant to Procedural Order No. 4, issued on August 14, 2012, please find attached Oral Hearing Compendium "A" for Panel 1 which Energy Probe Research Foundation (Energy Probe) may refer to in cross examination in the EB-2012-0033 proceeding.

Should you require additional information, please do not hesitate to contact me.

Yours truly,

David S. MacIntosh
Case Manager

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Ontario Energy Board

IN THE MATTER OF the *Ontario Energy Board Act, 1998*,
S.O. 1998, c. 15, (Schedule B);

AND IN THE MATTER OF an application by Enersource
Hydro Mississauga Inc. for an order approving just and
reasonable rates and other charges for electricity distribution to
be effective January 1, 2013 and January 1, 2014.

ENERGY PROBE RESEARCH FOUNDATION
("ENERGY PROBE")
CROSS-EXAMINATION COMPENDIUM "A"

PANEL 1

**Enersource Hydro Mississauga Inc.
Response to Interrogatories by Issue**

Interrogatory # 1

**Energy Probe Research Foundation
(Energy Probe)**

1. General

Issue 1.4 Is service quality acceptable?

Ref: Exhibit 2, Tab 3, Schedule 1

- a) How much of the OM&A expenses forecast for 2013 are specifically related to improving the SAIDI and SAIFI results? Please provide a list of expenditures in the test year that are related to improving these results.
- b) How much of the capital expenditures forecast for each of 2013 and 2014 are specifically related to improving the SAIDI and SAIFI results? Please provide a list of the capital projects/expenditures in the 2013 and 2014 years that are related to improving these results.

Response:

- a) The majority of the OM&A funding is allocated for repairs and reactive maintenance of the system. Some preventative maintenance programs are described in the AMP at Exhibit 2 Tab 2 Schedule 2 Appendix 1 section 10.4. The total funding for these programs is \$1,700 and is comprised of the following:
 - Preventative tree trimming - \$650
 - Dry Ice cleaning - \$96
 - Insulator washing - \$65
 - Infrared Survey - \$25
 - Substation inspections, testing and maintenance - \$32
 - Transformer Inspections - \$111
- b) Enersource has several capital programs intended to sustain SAIDI and SAIFI. These are described in section 13 System Sustainment – Reliability driven investment of the AMP. See table 13.7 of the AMP for the total 2013 and 2014 funding for these programs.

**Enersource Hydro Mississauga Inc.
Response to Interrogatories by Issue**

Interrogatory # 2

**Energy Probe Research Foundation
(Energy Probe)**

1. General

1.4 Is service quality acceptable?

Ref: Exhibit 2, Tab 3, Schedule 1, Appendix 1, Service Quality and Reliability Performance

Table 3 on Page 2 of the reference shows reliability indices for the years 2009 – 2011 excluding loss of supply events.

- a) SAIDI and SAIFI indices both showed marked increase in 2011 compared to the two previous years. In the same year CAIDI declined compared to the previous two years. Please explain why this index would be lower than historical when the other two indices are significantly higher than historical.
- b) Does Enersource benchmark its reliability performance against other similar distributors or does it just track its performance against a three-year average as specified in Board required performance measures? If yes, please provide a table similar to Table 3 showing how Enersource compares in each category with the average of its peer group.
- c) If performance is only compared with previous years please comment on why comparisons with other distributors would not be an appropriate method of gauging how well or how poorly the company is doing on reliability.

Response:

- a) By definition $CAIDI = \text{Total Customer-Hours of Interruptions} / \text{Total Customer Interruptions}$. Alternatively, $CAIDI = SAIDI / SAIFI$. Since it is a ratio of the individual measures, SAIDI and SAIFI, a change in either the numerator or a change in the denominator or a change in both will directly impact CAIDI.

From 2009 to 2011, SAIFI increased more than SAIDI, therefore CAIDI proportionally decreased. Specifically, SAIFI increased by 67% while SAIDI

increased by 45% during the period. Thus, CAIDI mathematically decreased by 13%.

Please see the table below for historical performance figures. This is Table 6.1 from page 23 of the AMP found at Exhibit 2 Tab 2 Schedule 2 Appendix 1.

| Reliability Statistics | | | | | |
|------------------------|-----------|-----------|-----------|-----------|------------|
| | 2007 | 2008 | 2009 | 2010 | 2011 |
| INTERRUPTIONS | 377 | 384 | 852 | 2,083 | 1,027 |
| CUSTOMERS AFFECTED | 142,035 | 135,413 | 221,578 | 251,366 | 380,772 |
| CUSTOMER MINUTES | 7,075,965 | 3,626,325 | 6,893,927 | 6,673,600 | 10,277,717 |
| SAIDI (Minutes) | 38.7 | 19.6 | 36.7 | 35.0 | 53.3 |
| SAIFI | 0.78 | 0.73 | 1.18 | 1.32 | 1.97 |
| SAIFI (MI) | 4.0 | 3.9 | 5.3 | 3.2 | 5.0 |
| CAIDI (Minutes) | 49.8 | 26.8 | 31.1 | 26.5 | 27.0 |

- b) Enersource maintains an awareness of its reliability performance against other similar utilities and members of the Canadian Electrical Association. Through inter-utility meetings, knowledge and best practices are shared with other member utilities. A summary table of the reliability statistics for comparable LDCs is provided below.

| | SAIDI | | | | |
|---------------------------------------|-------|------|------|------|------|
| Distributors | 2010 | 2009 | 2008 | 2007 | 2006 |
| Enersource Hydro Mississauga Inc. | 0.58 | 0.61 | 0.33 | 0.64 | 0.45 |
| Horizon Utilities Corporation | 1.24 | 1.18 | 1.49 | 1.01 | 0.94 |
| Hydro One Brampton Networks Inc. | 0.66 | 0.79 | 0.77 | 1.26 | 0.86 |
| Hydro Ottawa Limited | 1.36 | 1.50 | 0.98 | 1.40 | 1.51 |
| London Hydro Inc. | 0.88 | 0.89 | 2.29 | 1.69 | 1.25 |
| PowerStream Inc. | 0.81 | 1.97 | 0.88 | 2.17 | 5.49 |
| Toronto Hydro-Electric System Limited | 1.66 | 2.90 | 1.24 | 1.95 | 1.62 |
| Veridian Connections Inc. | 0.92 | 3.69 | 2.36 | 1.94 | 0.85 |
| | | | | | |
| | | | | | |
| | SAIFI | | | | |
| Distributors | 2010 | 2009 | 2008 | 2007 | 2006 |
| Enersource Hydro Mississauga Inc. | 1.32 | 1.18 | 0.73 | 0.78 | 0.73 |
| Horizon Utilities Corporation | 1.80 | 1.81 | 1.80 | 1.59 | 1.44 |
| Hydro One Brampton Networks Inc. | 1.47 | 1.27 | 1.12 | 1.85 | 1.48 |
| Hydro Ottawa Limited | 1.39 | 1.15 | 1.02 | 1.21 | 1.19 |
| London Hydro Inc. | 1.12 | 1.59 | 2.39 | 2.46 | 2.14 |
| PowerStream Inc. | 0.92 | 1.23 | 0.92 | 1.54 | 2.64 |
| Toronto Hydro-Electric System Limited | 1.95 | 1.86 | 1.76 | 2.27 | 2.03 |
| Veridian Connections Inc. | 1.58 | 2.45 | 2.41 | 1.81 | 1.25 |
| | | | | | |
| | | | | | |
| | | | | | |
| | CAIDI | | | | |
| Distributors | 2010 | 2009 | 2008 | 2007 | 2006 |
| Enersource Hydro Mississauga Inc. | 0.44 | 0.53 | 0.45 | 0.83 | 0.62 |
| Horizon Utilities Corporation | 0.69 | 0.65 | 0.83 | 0.64 | 0.65 |
| Hydro One Brampton Networks Inc. | 0.45 | 0.62 | 0.69 | 0.68 | 0.58 |
| Hydro Ottawa Limited | 0.97 | 1.30 | 0.97 | 1.15 | 1.27 |
| London Hydro Inc. | 0.79 | 0.56 | 0.96 | 0.69 | 0.59 |
| PowerStream Inc. | 0.88 | 1.60 | 0.95 | 1.40 | 2.08 |
| Toronto Hydro-Electric System Limited | 0.85 | 1.56 | 0.70 | 0.86 | 0.80 |
| Veridian Connections Inc. | 0.58 | 1.51 | 0.98 | 1.07 | 0.68 |

- c) The OEB publishes its Annual Yearbook which provides the reliability statistics, and other data, for all utilities in the Province. Enersource is unable to comment and compare on its reliability results to other LDCs on an “apples-to-apples” basis as the data capture and monitoring techniques may differ amongst each company.

**Enersource Hydro Mississauga Inc.
Response to Interrogatories by Issue**

Interrogatory # 5

**Energy Probe Research Foundation
(Energy Probe)**

1. General

Issue 1.4: Is service quality acceptable?

Reference: Exhibit 2, Tab 2, Schedule 2, Appendix 1, Asset Management Plan

Page 57 of the exhibit discusses underground primary cables and the following statement appears in the third paragraph:

“Underground cable systems, unlike overhead lines, do not suffer from weather induced faults and have better reliability records”.

And on page 60 the following statement appears:

“In 2011, 51% of the power outages that occurred were caused by equipment failures. Furthermore, failures of the underground power cables accounted for 60% of equipment failures”

Please explain the apparent inconsistency between these two statements.

Response:

The first statement applies generically to utility industry underground cable systems and was referencing the effect of weather induced faults from storms, lightning, wind and ice on underground cables.

The second statement refers to equipment failures overall and not weather induced faults only and is specific to Enersource.

**Enersource Hydro Mississauga Inc.
Response to Interrogatories by Issue**

Interrogatory #50

School Energy Coalition (SEC)

4. Operating Costs

Issue 4.1 Is the proposed 2013 and 2014 OM&A forecast appropriate?

Reference: Ex. 4/1/1, p. 2

Please confirm that Schedule 2 attached to these questions correctly sets out the OM&A per customer for the Applicant in 2005 and 2010 based on the Yearbook data. Please explain the high level of OM&A per customer relative to similar utilities. Please explain the Applicant's pattern of slow growth in OM&A per customer from 2005 to 2010, and high growth proposed from 2010 to 2013.

Response:

Enersource confirms that Schedule 2 attached correctly sets out the OM&A per customer for the Applicant in 2005 and 2010 based on the Yearbook data.

Enersource cannot confirm which utilities on the table are comparable due to the many factors impacting the comparison such as capitalization policies of each utility, type of customers, asset management practices etc.

Please refer to Exhibit 4 Tab 1 Appendix 2-G for Enersource's OM&A Cost Driver Table which depicts the reasons for changes in OM&A.

Cost Increases Comparison - 2005 to 2010 - (by # of Customers)
(data from Electricity Distributors Yearbook)

Schedule 2

| Utility | OM&A per Customer | | | | PP&E per Customer | | | | Number of Customers |
|--------------------------|-------------------|----------|----------|---------|-------------------|---------|----------|---------|---------------------|
| | 2005 | 2010 | Increase | Percent | 2005 | 2010 | Increase | Percent | |
| Hydro One Networks | \$296.37 | \$461.47 | \$165.11 | 55.7% | \$3,011 | \$4,288 | \$1,277 | 42.4% | 1,203,030 |
| Toronto Hydro | \$223.76 | \$311.95 | \$88.20 | 39.4% | \$2,324 | \$3,066 | \$742 | 31.9% | 700,386 |
| Powerstream | \$187.46 | \$204.53 | \$17.07 | 9.1% | \$2,014 | \$2,116 | \$102 | 5.1% | 325,540 |
| Hydro Ottawa | \$129.05 | \$192.44 | \$63.39 | 49.1% | \$1,465 | \$1,772 | \$307 | 21.0% | 300,664 |
| Horizon | \$165.34 | \$168.41 | \$3.07 | 1.9% | \$1,225 | \$1,420 | \$195 | 15.9% | 234,464 |
| Enersource | \$229.60 | \$249.14 | \$19.54 | 8.5% | \$2,212 | \$2,295 | \$83 | 3.8% | 192,960 |
| London | \$162.18 | \$204.70 | \$42.52 | 26.2% | \$1,211 | \$1,331 | \$119 | 9.8% | 146,974 |
| Hydro One Brampton | \$120.66 | \$150.37 | \$29.71 | 24.6% | \$2,367 | \$1,928 | -\$438 | -18.5% | 134,228 |
| Veridian | \$174.87 | \$182.72 | \$7.86 | 4.5% | \$1,218 | \$1,484 | \$266 | 21.8% | 112,569 |
| Kitchener-Wilmot | \$127.75 | \$147.31 | \$19.57 | 15.3% | \$1,661 | \$1,699 | \$38 | 2.3% | 86,611 |
| EnWin | \$250.67 | \$259.61 | \$8.95 | 3.6% | \$1,729 | \$2,156 | \$427 | 24.7% | 84,866 |
| Burlington | \$180.75 | \$225.95 | \$45.19 | 25.0% | \$1,318 | \$1,323 | \$5 | 0.4% | 64,329 |
| Oakville | \$181.83 | \$179.51 | -\$2.32 | -1.3% | \$1,730 | \$1,998 | \$268 | 15.5% | 62,674 |
| Oshawa | \$162.87 | \$171.41 | \$8.54 | 5.2% | \$899 | \$988 | \$90 | 10.0% | 52,710 |
| Waterloo North | \$171.55 | \$195.85 | \$24.29 | 14.2% | \$1,761 | \$2,462 | \$700 | 39.8% | 51,914 |
| Niagara Peninsula | \$250.04 | \$263.72 | \$13.68 | 5.5% | \$1,620 | \$2,315 | \$695 | 42.9% | 51,048 |
| Cambridge North Dumfries | \$169.91 | \$188.39 | \$18.49 | 10.9% | \$1,586 | \$1,638 | \$52 | 3.3% | 50,890 |
| Guelph | \$150.88 | \$200.18 | \$49.30 | 32.7% | \$1,402 | \$1,783 | \$381 | 27.2% | 50,250 |
| Thunder Bay | \$214.69 | \$249.93 | \$35.24 | 16.4% | \$1,204 | \$1,284 | \$80 | 6.6% | 49,508 |
| Greater Sudbury | \$205.03 | \$174.77 | -\$30.26 | -14.8% | \$1,391 | \$1,401 | \$9 | 0.7% | 46,710 |
| Whitby | \$206.38 | \$223.49 | \$17.11 | 8.3% | \$1,469 | \$1,585 | \$116 | 7.9% | 39,669 |
| Brantford | \$203.82 | \$202.57 | -\$1.25 | -0.6% | \$1,408 | \$1,648 | \$240 | 17.0% | 37,654 |
| Bluewater | \$256.10 | \$293.94 | \$37.85 | 14.8% | \$1,046 | \$1,192 | \$146 | 14.0% | 35,688 |
| Peterborough | \$178.03 | \$209.09 | \$31.06 | 17.4% | \$1,295 | \$1,371 | \$76 | 5.9% | 35,012 |
| Newmarket-Tay | \$184.53 | \$221.53 | \$37.00 | 20.0% | \$1,375 | \$1,550 | \$175 | 12.7% | 32,911 |
| PUC Distribution | \$214.34 | \$265.85 | \$51.51 | 24.0% | \$1,091 | \$1,287 | \$196 | 17.9% | 32,870 |
| Entegrus - Chatham | \$183.22 | \$208.20 | \$24.98 | 13.6% | \$1,273 | \$1,512 | \$239 | 18.8% | 32,033 |
| Milton | \$211.82 | \$192.72 | -\$19.10 | -9.0% | \$1,586 | \$1,715 | \$129 | 8.2% | 29,142 |
| Essex | \$239.82 | \$196.87 | -\$42.94 | -17.9% | \$833 | \$1,314 | \$481 | 57.7% | 28,183 |
| Kingston | \$197.79 | \$228.55 | \$30.76 | 15.6% | \$845 | \$1,066 | \$221 | 26.2% | 26,944 |
| North Bay | \$199.67 | \$209.29 | \$9.62 | 4.8% | \$1,197 | \$1,584 | \$388 | 32.4% | 23,754 |
| Westario | \$202.87 | \$200.37 | -\$2.50 | -1.2% | \$1,127 | \$1,373 | \$245 | 21.8% | 22,007 |
| Welland | \$173.32 | \$224.13 | \$50.80 | 29.3% | \$885 | \$1,018 | \$134 | 15.1% | 21,411 |
| Haldimand County | \$255.50 | \$328.76 | \$73.26 | 28.7% | \$1,416 | \$1,657 | \$241 | 17.0% | 20,971 |
| Halton Hills | \$190.38 | \$217.25 | \$26.87 | 14.1% | \$1,274 | \$1,448 | \$174 | 13.7% | 20,790 |
| Festival - Main | \$168.66 | \$206.34 | \$37.68 | 22.3% | \$1,559 | \$1,712 | \$153 | 9.8% | 19,579 |
| CNP Fort Erie/Eastern | \$273.68 | \$352.44 | \$78.76 | 28.8% | \$2,179 | \$3,282 | \$1,103 | 50.6% | 19,196 |
| Norfolk | \$212.72 | \$263.65 | \$50.93 | 23.9% | \$1,897 | \$2,608 | \$711 | 37.5% | 18,940 |
| Sioux Lookout | \$372.99 | \$426.09 | \$53.10 | 14.2% | \$1,884 | \$1,644 | -\$239 | -12.7% | 16,419 |
| COLLUS | \$195.59 | \$275.69 | \$80.10 | 41.0% | \$667 | \$857 | \$191 | 28.6% | 15,533 |
| Woodstock | \$212.38 | \$243.45 | \$31.08 | 14.6% | \$1,199 | \$1,397 | \$198 | 16.5% | 15,074 |

| | | | | | | | | | |
|-------------------------|----------|----------|----------|--------|---------|---------|---------|--------|--------|
| Innisfil | \$195.28 | \$267.36 | \$72.08 | 36.9% | \$1,181 | \$1,537 | \$355 | 30.1% | 14,707 |
| Erie Thames | \$319.04 | \$310.93 | -\$8.11 | -2.5% | \$1,148 | \$1,245 | \$97 | 8.5% | 14,373 |
| Orillia | \$268.51 | \$329.28 | \$60.78 | 22.6% | \$1,219 | \$1,197 | -\$23 | -1.9% | 12,862 |
| Wasaga | \$147.23 | \$182.89 | \$35.65 | 24.2% | \$775 | \$732 | -\$43 | -5.5% | 12,046 |
| Algoma | \$641.08 | \$749.56 | \$108.47 | 16.9% | \$4,280 | \$6,071 | \$1,791 | 41.9% | 11,612 |
| Orangeville | \$175.15 | \$235.08 | \$59.92 | 34.2% | \$1,276 | \$1,246 | -\$30 | -2.4% | 11,256 |
| Ottawa River | \$186.70 | \$221.99 | \$35.29 | 18.9% | \$824 | \$780 | -\$44 | -5.4% | 10,475 |
| Grimsby | \$160.35 | \$177.89 | \$17.54 | 10.9% | \$1,123 | \$1,114 | -\$9 | -0.8% | 10,151 |
| Brant County | \$356.90 | \$361.27 | \$4.37 | 1.2% | \$1,986 | \$2,027 | \$41 | 2.1% | 9,667 |
| Lakefront | \$188.30 | \$224.26 | \$35.96 | 19.1% | \$1,160 | \$1,139 | -\$21 | -1.8% | 9,571 |
| Lakeland | \$216.53 | \$312.58 | \$96.05 | 44.4% | \$1,399 | \$1,475 | \$76 | 5.4% | 9,439 |
| CNP Port Colborne | \$432.95 | \$388.19 | -\$44.76 | -10.3% | \$695 | \$1,319 | \$624 | 89.7% | 9,169 |
| Niagara-on-the-Lake | \$182.64 | \$228.52 | \$45.89 | 25.1% | \$2,536 | \$2,515 | -\$21 | -0.8% | 7,882 |
| Entegrus - Middlesex | \$244.48 | \$217.46 | -\$27.01 | -11.0% | \$911 | \$1,104 | \$193 | 21.2% | 7,859 |
| Midland | \$254.24 | \$271.67 | \$17.43 | 6.9% | \$810 | \$1,573 | \$762 | 94.1% | 6,914 |
| Tillsonburg | \$215.93 | \$330.22 | \$114.29 | 52.9% | \$828 | \$885 | \$57 | 6.8% | 6,700 |
| Centre Wellington | \$234.34 | \$285.14 | \$50.80 | 21.7% | \$1,149 | \$1,007 | -\$142 | -12.4% | 6,463 |
| Northern Ontario Wires | \$259.23 | \$341.29 | \$82.06 | 31.7% | \$579 | \$578 | -\$1 | -0.1% | 6,026 |
| Rideau St. Lawrence | \$229.27 | \$286.42 | \$57.15 | 24.9% | \$599 | \$709 | \$109 | 18.2% | 5,818 |
| Kenora | \$206.88 | \$309.90 | \$103.02 | 49.8% | \$1,195 | \$1,315 | \$120 | 10.1% | 5,580 |
| Hydro Hawkesbury | \$140.05 | \$160.73 | \$20.68 | 14.8% | \$387 | \$356 | -\$31 | -8.0% | 5,496 |
| Renfrew | \$172.53 | \$250.57 | \$78.03 | 45.2% | \$992 | \$1,086 | \$94 | 9.5% | 4,155 |
| WestCoast Huron | \$373.54 | \$351.48 | -\$22.06 | -5.9% | \$1,042 | \$1,097 | \$55 | 5.3% | 3,770 |
| Wellington North | \$277.84 | \$352.24 | \$74.40 | 26.8% | \$776 | \$1,326 | \$549 | 70.8% | 3,613 |
| Parry Sound | \$306.09 | \$359.27 | \$53.18 | 17.4% | \$1,432 | \$1,140 | -\$293 | -20.4% | 3,377 |
| St.Thomas | \$197.94 | \$210.22 | \$12.28 | 6.2% | \$1,202 | \$1,142 | -\$60 | -5.0% | 2,754 |
| Hearst | \$213.80 | \$299.76 | \$85.96 | 40.2% | \$384 | \$287 | -\$97 | -25.2% | 2,734 |
| Embrun | \$198.84 | \$242.70 | \$43.86 | 22.1% | \$1,107 | \$982 | -\$125 | -11.3% | 1,958 |
| Hydro 2000 | \$264.06 | \$249.45 | -\$14.60 | -5.5% | \$324 | \$373 | \$49 | 15.1% | 1,196 |
| | | | | | | | | | |
| WEIGHTED AVERAGE | \$219.70 | \$290.32 | \$70.62 | 32.1% | \$2,017 | \$2,554 | \$537 | 26.6% | |
| SIMPLE AVERAGE | \$229.18 | \$269.84 | \$40.66 | 17.7% | \$1,274 | \$1,494 | \$221 | 17.3% | |

**Enersource Hydro Mississauga Inc.
Response to Interrogatories by Issue**

Interrogatory # 8

**Energy Probe Research Foundation
(Energy Probe)**

2. Rate Base

2.1 Is the proposed rate base for 2013 and 2014, including capital expenditures for 2013 and 2014, appropriate?

Ref: Exhibit 1, Tab 2, Schedule 1

Page 5 of the exhibit refers to the need to replace system assets that were originally paid for by developers and therefore excluded from rate base. To the extent that those assets include underground distribution systems:

- a) Does Enersource charge customers requesting underground service the difference between the cost of a basic overhead connection and the equivalent underground connection?
- b) Please comment on the notion that replacing underground systems that were paid for by developers is essentially the same as supplying an underground connection to new customers that request it and should attract a capital contribution from the customers that benefit from the new system.
- c) Has Enersource considered replacing end of life underground distribution systems with overhead systems as a way of minimizing costs. If yes, please provide any studies or reports on the subject. If no, please comment on why such a proposal would not be an appropriate means of providing service at lower cost than replacing the underground system.
- d) What is the difference in cost (approximately in percentage terms) of underground vs. overhead distribution?

Response:

- a) Yes.
- b) Once an asset becomes owned by Enersource it is the responsibility of Enersource to sustain that asset to service the customers. The sustainment of existing assets is not the same as connecting a new customer and therefore does not attract a capital contribution.
- c) Overhead construction as a replacement for existing underground systems is not feasible because of the following:
 - established residential areas, including existing tree canopies;
 - established standards of undergrounding to which those customers have been accustomed;
 - residential streets are typically curved and therefore significant guying and easements would be required; and
 - the boulevards are typically narrow and construction would require easements for aerial trespass to which residents would object.
- d) The difference in cost of underground versus overhead distribution systems varies depending on the type of distribution system, location, and ground condition. From industry experience, the underground system will vary from four up to eight times as much as the equivalent overhead system.

**Enersource Hydro Mississauga Inc.
Response to Interrogatories by Issue**

Interrogatory # 13

**Energy Probe Research Foundation
(Energy Probe)**

2. Rate Base

2.1 Is the proposed rate base for 2013 and 2014, including capital expenditures for 2013 and 2014, appropriate?

Reference: Exhibit 2, Tab 2, Schedule 2, Appendix 1, Asset Management Plan

Table 10.3.1 shows expected load peaking at about 435 MW in 2020, an increase of about 60 MW over 2010 peak load of 372 MW.

- a) What is the average capacity of Hydro One transformer stations supplying the north system?
- b) What is the minimum economic capacity for a new transformer station supplying the north system?
- c) What is Enersource's design capacity for a 16/27.6 kV circuit?
- d) Is there any spare capacity in the south 16/27.6 kV system that could be used to supply increased load in the north system? If yes, please comment on the practicality of using south system capacity to assist in the north system when needed.
- e) If no, can a TS be constructed proximate to both the north and south systems that would minimize the need to build new stations in both systems?

Response:

- a) The combined capacity of the Hydro One transformer stations and its sub-transmission feeders is approximately 430 MVA.
- b) Since the asset is owned by Hydro One the capacity of a new transformer station is determined by Hydro One completing an analysis on the individual station requirements.

- c) The design capacity for a 27.6 kV circuit is 600 A.
- d) No. There is spare capacity on the 27.6/16 kV south system; however, the system is not geographically or physically connected to the north system.

As mentioned above, the systems are not geographically or physically connected therefore a TS cannot be constructed proximate in order to serve both systems.

**Enersource Hydro Mississauga Inc.
Response to Interrogatories by Issue**

Interrogatory # 15

**Energy Probe Research Foundation
(Energy Probe)**

2. Rate Base

2.1 Is the proposed rate base for 2013 and 2014, including capital expenditures for 2013 and 2014, appropriate?

Reference: Exhibit 2, Tab 2, Schedule 2, Appendix 1, Asset Management Plan

Page 84 of the exhibit describes the McNeice MS feeder relocation project.

- a) What would be the cost of renting and/or purchasing CN rail lands to permit existing lines to remain or be rebuilt where they are?
- b) Please describe the limited access to CN lands referred to and describe how access has changed from what was available in the past.
- c) Please describe what assets of McNeice MS are currently underutilized and how the proposed project will permit better utilization of those assets.
- d) Please explain why rebuilding the lines overhead on road allowance was not a viable option.
- e) What is the total capital cost for this project?

Response:

- a) The estimated costs of renting the McNiece segment is \$66 annually and the cost of a one-time lease purchase for the McNiece segment is \$546, excluding HST. Should Enersource continue to lease the land, Enersource would still have limited rights, poor access and would still be required to rebuild the pole line nearing the end of its useful life.
- b) The McNiece segment was installed over 30 years ago and was the shortest path and therefore the most economical route for Enersource lines at that time. In 2010, CN advised Enersource of increases in land lease rates. The new lease rates represented a ten-fold increase above

historical levels. As a result Enersource reviewed possible alternatives and options. During this study, one of the findings was that CN had started using the right-of-way area for their material and waste storage. Most of the poles were previously difficult to access for maintenance/replacement, however the storage items made access via truck almost impossible. In addition, years of scrub growth has further restricted access. Currently any repair work requires foot access and pole climbing, resulting in extended outage durations.

- c) The ability to connect the entire McNiece Station to the surrounding system has been enhanced therefore providing more flexibility for contingency switching.
- d) Overhead construction was considered but was not feasible for the following:
 - it is an established residential area;
 - Queen Street is a curved street and therefore significant guying and easements would have been required; and
 - the boulevard is narrow and construction would have required easements for aerial trespass.
- e) The total capital cost forecast for this project is \$356, including the relocation and removal of the existing pole line along the CN right-of-way.

**Enersource Hydro Mississauga Inc.
Response to Interrogatories by Issue**

Interrogatory # 16

**Energy Probe Research Foundation
(Energy Probe)**

2. Rate Base

2.1 Is the proposed rate base for 2013 and 2014, including capital expenditures for 2013 and 2014, appropriate?

Ref: Exhibit 2, Tab 2, Schedule 2, Appendix 1, Asset Management Plan

Page 85 describes the Revus MS feeder relocation project.

- a) What would be the cost of renting and/or purchasing CN rail lands to permit existing lines to remain or be rebuilt where they are?
- b) Please describe the limited access to CN lands referred to and describe how access has changed from what was available in the past.
- c) Please describe how the project would provide “additional backup in the surrounding area”.
- a) What is the total capital cost of the project?

Response:

- a) The estimated cost of renting the Revus segment is \$52 annually and the estimated cost of a one-time lease purchase for the Revus segment is \$433, excluding HST. Should Enersource continue to lease the land, Enersource would still have limited rights, poor access and would still be required to rebuild the pole line which is at the end of its useful life.
- b) The Revus segment was installed over twenty years ago and was the shortest path and therefore the most economical route for Enersource lines at that time. In 2010 CN advised Enersource of increases in land lease rates. The new lease rates represented a ten-fold increase above historical levels. As a result EHM reviewed possible alternatives and options. During this study, one of the findings was that CN had started using the ROW area for their material and waste storage. Most of the

poles were previously difficult to access for maintenance/replacement, however the storage items made access via truck almost impossible. In addition, years of scrub growth has further restricted access.

- c) This project was designed in such a manner as to allow for an additional incoming 27.6 kV supply circuit to the Revus Municipal Substation, thus providing station back-up. This provides the ability to restore power to this large area in the event of an outage on the 27.6 kV feeder.

In addition, relocation of the poles onto accessible streets also enables the installation of an additional outgoing circuit, thus giving additional reliability and backup provision.

- d) The capital cost forecast for this project is \$624, including the relocation and removal of existing pole line along the CN ROW.

**Enersource Hydro Mississauga Inc.
Response to Interrogatories by Issue**

Interrogatory # 18

**Energy Probe Research Foundation
(Energy Probe)**

2. Rate Base

2.1 Is the proposed rate base for 2013 and 2014, including capital expenditures for 2013 and 2014, appropriate?

Reference: Exhibit 2, Tab 2, Schedule 2, Appendix 1, Asset Management Plan

Table 13.1 on page 93 of the exhibit shows selection criteria for 2012 UG rebuild projects.

- a) Please explain how to read the table. For example, some feeders designated by an X in the upper part of the table also have faults listed in the distribution part of the table. Similarly some cables that are not designated by an X as a main feeder have faults listed in that part of the table as well as faults in the distribution part of the table.
- b) Two of the projects, Paisley and Elengale have only one fault listed in the top section of the table. If these cables are not main feeders, how should the fault numbers be understood?

Response:

- a) Table 13.1 shows the selection criteria for the 2012 underground rebuild projects.

This table may be more easily read by ignoring the "X"s in rows 2 and 6.

The table shows a list of projects across the top row (for example, Loyalist). The rows below provide comparative information about each project such as number of cable faults, number of customers affected due to the cable faults,

the customer minutes accumulated due to the cable faults, age of cable and the existing system design.

- b) The Paisley and Elengale projects both have main feeder and distribution cables. The faults listed in the top section of Table 13.1 are main feeder cable faults. The faults listed in the middle section of Table 13.1 are distribution cable faults.