

# Ontario Energy Board

IN THE MATTER OF the *Ontario Energy Board Act, 1998*,  
S.O. 1998, c. 15, Sch. B, as amended;

AND IN THE MATTER OF an Application by Hydro One  
Sault Ste. Marie Inc. on behalf of Hydro One Sault Ste.  
Marie Limited Partnership for an Order or Orders pursuant  
to section 78 of the Ontario Energy Board Act, 1998 for 2019  
transmission rates and related matters.

## Interrogatories of Energy Probe

November 20, 2018

### B1-EP-1

**Reference:** Exhibit B1, Tab 1, Schedule 1, Page 30

“Given the increasingly volatile weather patterns observed in recent years, HOSSM’s ability to plan for and execute the requisite outages may be affected by the local, regional and inter-area transfer capability constraints that may emerge as a result of unpredictable weather patterns such as abnormal temperatures, major storms, or water levels affecting the operations of hydroelectric generators directly connected to the HOSSM system.”

**Question:**

- a. Please define “increasingly volatile weather patterns”.
- b. Please provide the year when such increasingly volatile weather patterns started in the region of Ontario where HOSSM is located

## **B1-EP-2**

**Reference:** Exhibit B1, Tab 1, schedule 1, page 70.

“Challenge sessions are designed to provide a structured approach to stress-test the investments comprising the planned portfolio, ensuring that the right investments are included in the Plan. The discussions allow for the merits of an investment and its resultant benefits to be considered from both risk and non-risk perspectives. Various levels and types of stakeholders attend, incorporating execution feasibility and strategic alignment considerations.

**Preamble:** It appears that Challenge Sessions are a key source of information for the probability risk assessment. Energy Probe would like to have more information about these sessions.

### **Question:**

- a. How many Challenge Sessions were held? Please give dates.
- b. Who attended the Challenge Sessions and how were they selected? Please provide job titles of individuals who attended.
- c. What material was presented to the people attending Challenge Sessions? Please file copies of documents.
- d. Please provide documents that were used to record the information at the Challenge Sessions including any summary reports and spreadsheets.

## **B1-EP-3**

**Reference:** Exhibit B1, Tab 1, schedule 1, page 70.

“At present, HOSSM’s capital work program is largely performed by outside contractors. HOSSM expects this to remain the case for the early stages of its integrated operations with Hydro One.”

### **Question:**

In estimating the cost of the capital work program, did HOSSM assume that the costs would be the same whether the work was done by outside contractors or Hydro One employees? Please give reasons for any assumptions.

## **B1-EP-4**

**Reference:** Exhibit B1, Tab 1, Schedule 1, page 71

“As the operational integration between Hydro One and HOSSM moves forward, the decisions regarding the potential changes to HOSSM’s investment portfolio will become subject to the

review of Hydro One’s recently formed Redirection Committee, tasked with overseeing the redirection process wherein investment changes are approved, documented, systemized and communicated to the relevant stakeholders, to ensure an enterprise-wide understanding regarding issues affecting the execution of HOSSM’s investment plan.”

**Question:**

- a. Please provide more information about the Redirection Committee, including job titles of individual members, the mandate of the committee, and who does it report to.
- b. Please provide copies of Redirection Committee minutes of meetings and any reports that the committee produced.

**B1-EP-5**

**Reference:** Exhibit B1, Tab 1, Schedule 1, Page 96, Table 4-1 and Exhibit B1, Tab 1, Schedule 1, page 105, Table 4-1

**Question:**

Please provide more information on the Land Acquisition of \$2 million in 2019 for the Greenfield TS project. If there is a business case, please file it. If there is no business case, please explain why not. Why is the land being purchased in 2019 while the Greenfield TS is scheduled for execution in 2023?

**B1-EP-6**

**Reference:** Exhibit B1, Tab 1, Schedule 1, page 105, Table 4-1, Project GP-03 General Plant Renewal Program, Description:” Enable regular upkeep and replacement of HOSSM’s IT hardware and software, vehicle fleet, tools, and office equipment. “

**Question:**

Please explain why this program is capital and not OM&A. Please provide reference to capitalization rules that HOSSM follows in justifying which projects to capitalize.

**B1-EP-7**

**Reference:** Exhibit B1, Tab 1, Schedule 1, Page 113

“Moreover, as the integration between HOSSM and Hydro One continues, HOSSM plans to utilize a range of studies prepared by the Electric Power Research Institute (“EPRI”) on a number of topics concerning asset management best practices. HOSSM will leverage these insights to continually improve the efficiency and cost effectiveness of its operations.”

**Question:**

If there are differences between Hydro One practice and the best practices identified in EPRI studies, which practice will HOSSM follow.

**B1-EP-8**

**Reference:** Exhibit B1, Tab 1, Schedule 1, Page 115

**Question:**

For each project listed on page 115 please provide capital cost estimates and annual operating cost estimates of all alternatives considered.

**B1-EP-9**

**Reference:** Exhibit B1, Tab 1, Schedule 1, Pages 128-13, SR-02 Sault #3 115 KV Line Reconductoring

**Question:**

Please provide capital cost estimates and annual operating cost estimates of all alternatives considered for each project or program on the list.

**B1-EP-10**

**Reference:** Exhibit B1, Tab 1, Appendix B, Page 3

**Question:**

Why is the METSCO report filed as a “Final Draft Report”? Does that mean that the report is still being revised? If that is the case, when will the final report be available?

**B1-EP-11**

**Reference:** Exhibit B1, Tab 1, Appendix B, Page 8

**Question:**

Please explain how METSCO was selected by HOSSM to do this work. Did HOSSM use a competitive bidding process? If not, why not? Please file the statement of work and or terms of reference that were given by HOSSM to METSCO.

### **B1-EP-12**

**Reference:** Exhibit B1, Tab 1, Appendix B, Page 9

**Question:**

Please provide additional information on the five site visits by METSCO.

- a. When did the site visits take place?
- b. What were the sites visited and why?
- c. Please provide names of METSCO staff who conducted these visits?
- d. Did HOSSM staff accompany METSCO staff on these visits?
- e. Did the information obtained from these visits cause METSCO to change any aspect of the report? Please explain.

### **B1-EP-13**

**Reference:** Exhibit B1, Tab 1, Appendix B, Page 11

**Question:**

Did METSCO use an industry standard Asset Condition Assessment methodology in its work in producing this report? If it did, please provide reference. If it did not, please explain why.

### **B1-EP-14**

**Reference:** Exhibit B1, Tab 1, Appendix B, Page 10 and Page 19.

“METSCO’s work included collection, digitization, analysis and verification of HOSSM’s asset records, along with its own site inspection data.”

**Question:**

Please explain the process used by METSCO to verify asset records of HOSSM.

### **B1-EP-15**

**Reference:** Exhibit B1, Tab 1, Appendix B, Page 15

“In any case, given the customer-centric nature of the Ontario Energy Board’s (OEB) Renewed Regulatory Framework (RRF) that currently governs the operations of Ontario’s regulated transmitters, facilities that ensure service continuity for specific customers warrant being placed

into a separate category to help the utility plan the scope and sequencing of future intervention activities across the system.”

**Question:**

The quoted sentence suggests that METSCO has some concerns with “the customer-centric nature” of the OEB’s RRF. If that is not the impression METSCO intended to make please explain what is meant by that sentence. If METSCO has some concerns, please explain what they are.

**B1-EP-16**

**Reference:** Exhibit B1, Tab 1, Appendix B, Page 90

**Question:**

It appears that of the three authors of the METSCO report, only one has prior experience in asset condition assessments. Please provide a list of electric utility asset condition assessments that the authors of the report have completed including the name of utility and a description of the scope of work.

**B1-EP-17**

**Reference:** Exhibit B1, Tab 1, Appendix B, Page 33, Figure 5.2

**Question:**

Why is METSCO using both a letter score and a numerical score condition indicators when both have identical meaning?

**B1-EP-18**

**Reference:** Exhibit B1, Tab 1, Appendix B, Page 33, Figure 5.2

**Question:**

How is the “weight” component number determined? Please provide full explanation with a numerical example.

**B1-EP-19**

**Reference:** Exhibit B1, Tab 1, Appendix B, Page 78

**Question:**

Should the OEB be concerned with the results of the METSCO report? Please explain your answer.

**B1-EP-20**

**Reference:** Exhibit B1, Tab 1, Schedule 1, Appendix D, Pages 3 and 4

**Question:** The Needs Assessment Report was prepared in 2014 using 2013 data. Have there been any changes since 2014 that would impact the findings of the report? Please explain the reasons for your answer.

**B1-EP-21**

**Reference:** Exhibit B1, Tab 1, Schedule 1, Appendix E

**Question:** The Replacement of Protection Relays Study was produced in 2008. Have there been any changes since that time that would impact the findings of the study? Please explain the reasons for your answer.

**B2-EP-22**

**Reference:** Exhibit B2, Tab 2, Schedule 1, Page 6

“In the process of integration after an acquisition, Capital expenditure reductions are expected to result from asset redundancy, the economic scale of operations and adopting new asset management and investment planning processes.”

**Question:**

Please explain the management decision process used in capital expenditure reductions, including job titles of management staff involved in the process and responsible for the decisions.

**D1-EP-23**

**Reference:** Exhibit D, Tab 1, Schedule 1, Attachment 1 (the “PSE Report”), p.6

**Preamble:**

PSE reports (Table 12, p.47) an average annual industry TFP growth rate of -1.71% based on 12 observations (2004-2016) and -2.40% based on 7 observations (2010-2016).

The PSE Report notes that its industry TFP trend research is used as the basis for the X factor recommendation and states that incentive regulation principles dictate that a proper analysis should use an industry TFP. The PSE Report has used the historical period of 2004 to 2016.

The Board has previously<sup>1</sup> indicated its requirement for an X factor based on the “long-term trend” in TFP growth.

**Question:**

- a. Does PSE contend that its reported average annual TFP growth rates of -1.71% (for 2004-2016) and -2.4% (for 2010-2016) accurately reflect the historical long-term TFP growth rate for electricity transmission?
- b. Are there any factors or developments in the period 2004-2016 that suggest the observed industry TFP growth rate may be different from the long-term trend? If so, please identify and describe briefly.

**D1-EP-24**

**Reference:** Exhibit D, Tab 1, Schedule 1, Attachment 1 (the “PSE Report”), p.30

**Preamble:**

The PSE Report discusses the precision of parameter estimates and the use of the t-test in its cost estimation analysis.

**Question:** Did PSE undertake t-tests in connection with the sample means that it calculated for its TFP growth rate study? If so, please describe how it analyzed that data and the results of statistical significance. If not, please indicate the reason for not doing so.

**D1-EP-25**

**Reference:** Exhibit D, Tab 1, Schedule 1, Attachment 1 (the “PSE Report”), page 46

**Preamble:**

The PSE Report states that the average annual rate of Industry TFP growth was -1.71% for the study period 2004-2016 and -2.40% for the period 2010-2016 (Table 12, p.46).

**Question:**

Please explain how the Industry TFP Index was calculated. For example, is it an average of the utility-specific indexes or has it been calculated from aggregated output and input quantity data calculated from the data on the firms in its sample?

---

<sup>1</sup> EB-2007-0673. Report of the Board on 3<sup>rd</sup> Generation Incentive Regulation for Ontario’s Electricity Distributors. July 14, 2008 at p.12.

## D1-EP-26

**Reference:** Exhibit D, Tab 1, Schedule 1, Attachment 1 (the “PSE Report”), p.6

### Preamble:

The following table presents multifactor productivity growth rates in the aggregate business sectors of Canada and the United States and in their respective utility sectors. The growth rates presented are taken, or calculated, from Statistics Canada and the U.S. Bureau of Labor Statistics data on their respective MFP indexes.

CANADA			UNITED STATES		
Business Sector MFP Growth <sup>2</sup>	Average Annual Growth Rate		Private Business Sector <sup>3</sup>	Average Annual Growth Rate	
1961-2016	0.475%		1987-2017	0.9%	
1961-2004	0.675%		1987-2005	1.1%	
2005-2016	-0.241%	Most recent 12 years	2006-2017	0.5%	Most recent 12 years
Utilities Sector MFP Growth <sup>4</sup>			Utilities Sector MFP Growth <sup>5</sup>		
1961-2016	0.556%		1987-2016	0.6%	
1961-2004	0.961%		1987-2004	1.341%	
2005-2016	-0.897%	Most recent 12 years	2005-2016	0.058%	Most recent 12 years

- a. Would PSE agree that, on the available evidence from Statistics Canada and the U.S. Bureau of Labor Statistics, the best available estimate of long-term annual average MFP growth rate in the business sector is 0.475% for Canada and 0.9% for the United States?
  
- b. Recognizing that Statistics Canada and the U.S. Bureau of Labor Statistics define their respective utilities sectors differently and at a high level of industry aggregation, would

<sup>2</sup> Source: CANSIM Table: 36-10-0208-01. Energy Probe calculations of growth rates for all periods shown.

<sup>3</sup> Source: US Bureau of Labor Statistics, Multifactor Productivity Tables, 1987-2017 Major Sector Multifactor Productivity, Private Business and Private Nonfarm Business Multifactor Productivity Tables, Spreadsheets PG Indexes=100.000 (levels) and PG % Change Year Ago (growth rates); Energy Probe calculations of growth rates for sub-periods 1987-2005 and 2006-2017.

<sup>4</sup> Source: CANSIM Table: 36-10-0208-01. Energy Probe calculations of growth rates for all periods shown.

<sup>5</sup> Source: US Bureau of Labor Statistics, Multifactor Productivity Tables, 1987-2016 Combined Sector and Industry Multifactor Productivity, Combined Sectors and Industry KLEMS Multifactor Productivity Tables by Measure, Spreadsheets 1-10.2 (level) and 1-10.3 (growth rates); Energy Probe calculations of growth rates for sub-periods 1987-2004 and 2005-2016.

PSE agree that the best available estimate of long-term annual average MFP growth rate in the utilities sector as defined by these agencies is 0.556% for Canada and 0.6% for the United States?

- c. Please confirm/disconfirm that the MFP growth rates shown in the table for the most recent 12-year periods are significantly lower in both countries than in the other periods shown.
  
- d. Does PSE think it likely that the pattern of historical MFP growth rates shown in the table would also be seen in the US electricity-transmission industry TFP growth rates had it been able to calculate them starting from 1987? If not, please explain why not.

#### **D1-EP-27**

**Reference:** Exhibit D, Tab 1, Schedule 1, Attachment 1 (the “PSE Report”), p.47

#### **Preamble:**

The PSE Report provides possible reasons for the negative TFP growth rates that it has reported and states that negative TFP growth does not necessarily indicate declining efficiency.

#### **Question:**

- a. With regard to possible unmeasured outputs, does PSE believe that the cost of regulation is an important source of declining TFP growth? If so, how does assigning a utility a zero X factor mitigate this decline?
  
- b. With regard to PSE’s suggestion that slower economic growth has reduced a utility’s output index and TFP growth, does PSE believe that slower growth would not cause reductions in a utility’s input index as well?
  
- c. Please explain why “aging capital infrastructure” leads to a decline in TFP. What is preventing the utility from upgrading/replacing its infrastructure? If the reason is a lack of funds, is it because the regulator has failed to allow a utility to make those necessary capital improvements and recover the costs thereof? Alternately, could the reason be a lack of management capacity?

#### **D1-EP-28**

**Reference:** Exhibit D, Tab 1, Schedule 1 Attachment 1 (the “PSE Report”), p.13

**Preamble:**

The PSE Report states that the “allowed revenue escalation within the revenue escalation formula should mimic the expected growth in costs.”

**Question:**

Please provide the rationale for this statement, as it appears contrary to the basic concept of incentive regulation that the PSE Report recognizes at p.15 where it states “This is because incentive regulation seeks to decouple the link between a utility’s cost increases to the allowed revenue escalation.”