Stakeholder Consultation Notes

Transmission Cost Benchmarking Study

February 11, 2015
1:15pm – 4:30pm
Double Tree by Hilton, Denver Room
108 Chestnut Street, Toronto
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The presentation materials used in this Session and background materials can be found at this link:

http://www.hydroone.com/RegulatoryAffairs/
Session Participants

Stakeholders
- Julie Girvan, Consumers Council of Canada (CCC)
- Roger Higgin, Energy Probe Research Foundation
- David MacIntosh, Energy Probe Research Foundation
- Paula Lukan, Independent Electricity System Operator (IESO)
- Randy Aiken, London Property Management Association (LPMA) [WebEx]
- Harold Thiessen, Ontario Energy Board (OEB)
- David Barr, Ontario Power Generation (OPG) [WebEx]
- Bayu Kidane, Power Workers’ Union (PWU)
- Mark Rubenstein, School Energy Coalition (SEC)
- Vicki Power, Society of Energy Professionals (SEP)
- Bohdan Dumka, Society of Energy Professionals (SEP)
- Mark Garner, Vulnerable Energy Consumers Coalition (VECC)

Hydro One Networks Inc.
- Jim Malenfant – Senior Regulatory Advisor

Presenter / Facilitator
- Allan Cowan – Director, Major Applications, Hydro One Networks Inc.
- Steve Klein – Vice President and Practice Manager, OPTIMUS | SBR

Note-Takers
- Andrea Spencer – OPTIMUS | SBR
- Sequin Martel – OPTIMUS | SBR
1. Welcome by Allan Cowan, Director Major Applications, Hydro One Networks

Allan Cowan (“Mr. Cowan”), Director Major Applications, Hydro One Networks Inc. (“Hydro One”) welcomed participants to the first Transmission Cost Benchmarking Stakeholder Consultation Session. Mr. Cowan then introduced Steve Klein (“Mr. Klein”), Practice Manager at OPTIMUS | SBR as the session facilitator.

2. Introductions and Agenda

Mr. Klein stated the purpose of the session is to gather input from participants on defining the associated Terms of Reference for the intended Request for Proposal (“RFP”) to be issued by Hydro One. OPTIMUS | SBR was contracted by Hydro One to facilitate the session and support this initial development stage of the Transmission Cost Benchmarking Study RFP. Mr. Klein emphasized the primary purpose of this session is to obtain stakeholder input through direct participation, with OPTIMUS | SBR taking notes to ensure key discussion points and outcomes from the session are documented. All associated material and notes, including the “Transmission Cost Benchmarking Study – Stakeholder Consultation Session #1” presentation deck, will be posted on Hydro One’s Regulatory Affairs public website.

3. Overview of the Cost Benchmarking Study

Overview of the Cost Benchmarking Study

Mr. Cowan provided an overview of the Transmission Cost Benchmarking Study (“Study”), and reiterated that the purpose of this session is to gather stakeholder input that would inform the associated Request for Proposal (“RFP”); see “Overview of the Transmission Cost Benchmarking Study” section of the presentation for details. As part of the Settlement Agreement for Hydro One’s 2015-16 Transmission Rates, Hydro One agreed to complete the Study as part of the next transmission rate application for 2017-2018 test years, expected to be filed in spring of 2016 if all goes according to plan.

In accordance with the Settlement Agreement, stakeholders were to be consulted and agreement sought in defining the RFP’s Terms of Reference. In addition, stakeholders would be given an opportunity to review the successful proponents study proposal to ensure the defined Terms of Reference are addressed and, in turn, review the preliminary findings of the Study prior to finalization of the Study report.

A stakeholder inquired about the benefits of the Study to Hydro One, and Mr. Cowan highlighted that it is designed to explore potential cost variations and whether there are relevant best practises or methods that could be adopted. In regards to the proposed timelines presented by Mr. Cowan, a stakeholder inquired about the purpose of a second Stakeholder Consultation in May. Mr. Cowan indicated that once a consultant has been selected to conduct the Study, the Second Session provides an opportunity for the consultant to provide stakeholders with their planned study approach in response to the Term of Reference and allow for stakeholder comment.

A question was raised about Hydro One’s historical experience with transmission cost benchmarking. Mr. Cowan replied that a study had been filed approximately three rates cases ago, and that these
would be reviewed. Given recent changes in Ontario’s regulatory framework for utilities, it was noted that the applicability of previous benchmarks and availability of data must be considered, and that the success of the Study depends on the participation of comparator companies. Mr. Klein also highlighted that the Session’s survey was designed based on previously completed transmission benchmarking studies.

Another stakeholder asked whether or not similar studies on transmission cost have been completed in the past. Mr. Klein confirmed that studies have been conducted, but it would be up to the successful proponent to determine their relevance and use as proxies for this Study.

In regards to the benchmarking approach, it was suggested that comparing utilities costs as a whole could limit the relevance of associated conclusions. Instead, it may be best to benchmark key components of cost to achieve a more detailed Study. Mr. Klein noted that comparability becomes a challenge at this granular level, due to the greater number of component variables. Another stakeholder suggested that comparing components of cost may actually limit the relevance of outcomes, as the emphasis of this Study is on total cost at a high-level.

A stakeholder asked if there would be an opportunity to provide input on the Terms of Reference prior to issuing the RFP. Mr. Klein indicated that the majority of these terms will be finalized during the current Stakeholder Session, and that the remaining RFP components are generally standard Hydro One boilerplate. Another stakeholder asked about the expected rate application filing date, and Mr. Cowan confirmed that the expected filing date is spring 2016.

Transmission Cost Benchmarking Study: Defining the Terms of Reference

Mr. Klein provided an overview of the Study Context and Objectives; see “Transmission Cost Benchmarking Study: Defining the Terms of Reference” section of the presentation for details. Mr. Klein clarified that the finalized Terms of Reference is not a definitive solution, but that potential proponents will build on their relevant expertise to advise whether they can meet specific requirements. Hydro One’s goal is to provide a clear outline of the Study requirements in the finalized RFP. Input collected from the preliminary survey will be incorporated in the draft Terms of Reference.

With respect to the Terms of Reference, context, objectives, suggested comparator characteristics and suggested criteria for comparison will be included. The RFP will be posted publicly on the “Doing Business” with Hydro One website. Details regarding key factors of a successful Study and potential study proponents will also be outlined for internal purposes to support Hydro One’s evaluation.

A question was raised regarding the involvement of LDCs and/or large direct Hydro One customers, as well as the Electricity Distributors Association (“EDA”), Association of Major Power Consumers in Ontario (“AMPCO”) and CME. Mr. Cowan confirmed that invitations were sent out to those generally active in recent transmission cases, which does not include LDCs or the EDA. Mr. Klein also noted that the sample size of respondents suggests a reliable outcome.

A question was raised regarding the process that Hydro One will use for selecting a consultant to conduct the Study. Mr. Klein explained that selection of the successful consultant will be based on key
success factors and the evaluation criteria being set out by Hydro One. In addition, Mr. Cowan noted that a strict and rigid process would be maintained to effectively guide the Study.

Another question was raised, regarding how proponents will be evaluated in the event that they are only able to address specific components of the RFP. Mr. Klein indicated that this will be addressed as part of Hydro One’s evaluation criteria.

A stakeholder suggested that an emphasis on the fact that the Study is independent, involving collaboration among participants, be included in the context. Mr. Klein confirmed these components would indeed be included. In addition, it was requested that the context indicate the expectation of an ability to identify best practices that may be adopted. Mr. Klein confirmed that these details are captured as part of proposed objectives and success factors, but would also be included as part of the context.

Another stakeholder asked for clarification regarding whether or not the causes of variations in cost would be explored by the consultant, or if Hydro One will take the benchmarking results and approach participating companies on their own. A number of participants indicated that they would like these variations explored to understand underlying variations. Mr. Klein noted that Hydro One will likely not be able to go back to Study respondents, as survey respondents generally request non-disclosure of their responses. As a result, while the consultant may be able to gain some understanding for the variances, in all likelihood these would only be high-level insights into the causes of variations. Mr. Cowan also highlighted that the understanding of these variations may not be relevant in another operating environment, and the pursuit of a deeper level of detail may reduce the number of potential respondents willing to participate in the Study.

Mr. Klein presented verbatim responses compiled by OPTIMUS | SBR regarding primary objectives of the Study to capture all salient points. These details informed the development of a Proposed Objective, that Mr. Klein indicated would be updated to incorporate the exploration of benchmark differentiators.

A stakeholder inquired as to whether or not there was any detail provided from the Settlement Conference regarding the expected level of detail to be included in the Study. Mr. Cowan confirmed his understanding was that the Settlement Agreement indicated the cost benchmarking study would be supportive at a high-level, and highlighted that the goal of this session is to inform development of the specific Request for Proposal Terms of Reference requirements. In addition, an opportunity would be available to confirm requirements and provide added feedback at a second Stakeholder Session prior to the commencement of any work by the successful proponent.

A question was raised regarding how the phrase “high-level” might limit the Study; see Proposed Objective, sentence two, “…high-level set of benchmarks...” in the presentation. Mr. Klein indicated that removing these parameters may result in a wide variation of proponent responses, and that questions will still likely be raised on this topic for clarification. The qualifier provides a necessary starting point for potential proponents. It was decided that this issue would be revisited, as necessary, later in the session once all of the other outstanding components have been discussed.
The unique context in which Hydro One operates was flagged by a participating stakeholder as a key component that should be outlined in the RFP. Mr. Klein clarified that these background details will be provided, and are typically part of the standard Hydro One RFP boilerplate. Mr. Klein highlighted that the potential proponent will also be expected to consider variations between comparators and how they will be taken into consideration in the Study.

4. Online Survey Results and Facilitated Discussion

Mr. Klein proceeded to discuss suggested comparator characteristics as well as comparators that may be included in the Study; see “Suggested Comparator Characteristics and Potential Comparators” section of the presentation for details. Mr. Klein noted that the number of survey respondents represents approximately 25% of the stakeholder community surveyed.

A stakeholder inquired as to how suggested comparator characteristics were identified. Mr. Klein explained that OPTIMUS | SBR identified these characteristics from the survey results and reviewed them with Hydro One, prior to presenting these details for input at the first Stakeholder Consultation Session. The number of step-down stations required by a transmitter was suggested by a participating stakeholder as a potential comparator characteristic. Mr. Cowan indicated that the “system configuration” characteristic may cover this particular characteristic. Mr. Klein noted that highlighting this characteristic under the system configuration characteristic, or adding it directly, will be considered.

Another stakeholder asked about the relevance of companies that are of “same relative size” as part of the suggested comparator characteristics. It was clarified that comparability becomes a challenge with companies of varying sizes, particularly with respect to economies of scale. Another stakeholder suggested the phrase “same relative size” presupposes that a difference in size is a relevant characteristic, which may narrow down the set of potential comparators before data has been collected. Instead, it was suggested that a larger sample group would provide a strong foundation for the Study. Variations in costs could then be explored and highlighted.

Mr. Klein noted that these parameters are required to help proponents frame their RFP response, and that these characteristics are only suggestions with an opportunity for potential proponents to provide feedback. He also highlighted that ‘relative size’ emphasizes comparable organizations in the industry to avoid a sample size that may be too large and too diverse. Mr. Klein suggested removing the word “same” from the phrase “same relative size” on the “Suggested Comparator Characteristics” slide, acknowledging it would allow proponents to explore a somewhat broader set of companies. It was clarified the RFP will highlight that these are ‘suggested’ characteristics, with an opportunity for potential proponents to suggest exclusions or inclusions.

In regards to the general Study approach, a stakeholder suggested gathering data on a wide variety of variables to enable the development of more detailed profiles based on suggested characteristics. These profiles can then be sorted and explored to understand the variables that do impact cost. As a result, to avoid constraining the variables that might be suggested by potential proponents, it was suggested and confirmed that “Suggested Comparator Characteristics” would be changed to “Potential Comparator Characteristics.”
Mr. Klein discussed “Potential Comparator Results”, and confirmed that the proponent will be providing input on potential comparators. It was noted that this slide does not reflect a complete list and that suggestions will be sought with respect to comparators to be included in the benchmarking analysis. In addition, potential proponents will advise how data will be collected (including public versus direct, as well as historical versus current) to meet the benchmarking Study objectives.

In regards to the “Number of Comparators,” feedback was sought regarding the minimum number of comparators required to achieve a reliable Study against potential data availability limitations. A couple stakeholders suggested that seven (7) comparators would be sufficient, while others suggested a limited number of more detailed insights into comparators would be sufficient. It was then suggested that gathering information on a large set of comparators, followed by the engagement of a more specific sub-set of comparators, would support a reliable Study. Following this component of the discussion, Mr. Klein concluded from the stakeholders’ discussions that emphasis should be placed on gathering a wide range of information, but that a minimum of three (3) reasonable comparators may also be sufficient for the purpose of this Study.

A stakeholder inquired about the emphasis on North American companies, and suggested that a broader set of companies from a geographic perspective may support a more detailed Study. Mr. Klein explained that similar studies tend to emphasize North America, but that it will be the responsibility of potential proponents to indicate which elements would enable a reliable Study.

5. Developing the Terms of Reference and Facilitated Discussion

Mr. Klein presented the results of the survey in regards to the suggested criteria for comparison and discussion by the stakeholders was limited. The criteria that were used in the survey were drawn from past benchmarking studies that have included similar types of indicators.

In regards to cost criteria, it was clarified that the definition of “cost” in this context is inclusive of all costs, including OM&A, and it was clearly indicated in the survey. [Ed. Note: the survey defined “Total Cost = Capital and OM&A”]

In determining the final list of criteria for comparison, the group agreed that it would be necessary to rely on the successful proponent to advise on, and define, these items. It was suggested that the proponent would have the required expertise to advise on which indicators will be relevant and will garner the appropriate results through the Study. This request of the proponent should be listed in the RFP as a requirement.

The discussion of Reliability criteria concluded with the inclusion of ‘force majeure’ events to the list. SAIFI and SAIDI were criticized as measures, as they are deemed to be too broad to be as meaningful as others, and that they are likely interpreted differently by different organizations. Other measures suggested by stakeholders include: interruption by cause code, major events, line losses, and momentary average interruption frequency. Again, it was decided that the group would rely on the successful proponent to build a good list of reliability metrics.
The use of Employee Safety metrics was questioned as to its relevance as compared to others in the context of this Study; it was however acknowledged that it is in fact important as there may be situations in which employee safety is directly impacted by cost strategy, i.e. when organizations cut safety protocols to save costs, to the detriment of employee safety.

Regarding Customer Satisfaction, a definition of customer must first be established. The customer could either be Transmission or retail; although it is unlikely that the customer is retail in this context. Hydro One, and likely other similar organizations, track this through surveys and through feedback from account managers. Again, the advice of the proponent on potential criteria will be welcomed.

Mr. Klein sought stakeholder input as to the desired time period for which the Study should cover and provided some options to facilitate the discussion. Various factors were mentioned which would impact the duration, including its use upon completion. Depending on its use, it may be appropriate to consider developing rolling averages or other mechanisms.

It was decided, however, that longer is better provided the data exists and is of high quality. It will be important to include data that is meaningful and realistic. There may be some gross level data that is available through financial statements, but the level of detail is unknown, and the year-end dates may vary. A potential barrier might be that if the time period chosen is too long, some potential comparators may not have the required data and will be excluded, perhaps unnecessarily.

Other Considerations
Mr. Klein asked the group if any other considerations should be included in the Terms of Reference for this Study. A stakeholder asked whether it would be appropriate to include a study of compensation for certain factors, however, Mr. Cowan clarified that Hydro One regularly undertakes a Mercer study which looks at just that, and thus does not need to be included in this Study.

Vegetation management was another topic that was brought up by a stakeholder for consideration, which the group deemed to be relevant to transmission. It was suggested to include a metric associated with this as a potential metric in the Terms of Reference, and that there is likely some useful data already available through NERC reporting.

Given this discussion, it was reconfirmed that the group of comparators needs to include, at minimum, three (3) organizations that are directly comparable and have high quality, useful data, and an undefined number of additional organizations that are also relevant but not necessarily as meaningful. The proponent will be expected to help define the criteria to ensure that an appropriate sample size is established. A broad group may be identified, then as the proponent learns more, a sub-set of closer comparators may be developed.

When considering the review of best practices, it will be important for the proponent to keep them in mind from the outset and to advise on what they might be.

A list of potential proponents was presented to the group for feedback.
Mr. Klein brought the discussion back to the original context that was discussed at the outset of the meeting, to determine if anything had changed based on the ensuing discussions. Some stakeholders proposed to add more detail into the objectives and comparability criteria sections of the context, but it was also discussed that this is an opportunity for the potential proponents to submit responses that demonstrate what they know, including their understanding of what Hydro One is looking for through this Study.

An additional consideration was brought up by a stakeholder regarding rates as they fundamentally reflect cost. Mr. Klein responded that the proponent can decide; if rates should be considered then details will be captured but there may be comparability issues.

6. Closing Remarks/Next Steps

In terms of next steps, it was determined that the Terms of Reference document within the RFP will be drafted using the input from the current session. It was suggested by stakeholders, subject to Hydro One’s Supply Chain procurement policies, this Terms of Reference document might then be reviewed by Mark Rubenstein of the School Energy Coalition on behalf of the participant stakeholders. It was stated that a non-disclosure agreement may need to be signed as per Hydro One’s procurement policies, but Mr. Cowan would inquire if feasible and take appropriate steps.

Mr. Klein asked the group for feedback on the process for developing the Terms of Reference. The group agreed that the survey that was used to inform the session and to focus the conversation was a positive and useful addition to the normal process. A suggestion was made and noted, that it may have been helpful to have included participants who were more knowledgeable on transmission subject matter to provide additional context.

Mr. Klein announced that the notes from the session would be posted online and that the Terms of Reference would be drafted based on the stakeholder input from this session. Participants were thanked for their contributions and thoughtful discussion and the meeting was adjourned.
### 7. Appendices

#### A. Meeting Agenda

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
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<td><strong>Registration</strong></td>
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<td>Overview of the Cost Benchmarking Study and Survey Results</td>
<td>Allan Cowan, Director Major Applications Hydro One Networks Inc.</td>
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</tbody>
</table>
| 1:45 p.m. | Online Survey Results and Facilitated Discussion on Defining the Terms of Reference  
  ▪ Objective  
  ▪ Comparators | Steve Klein, Facilitator, OPTIMUS | SBR |
| 2:45 p.m. | Break                                                                    |                                                            |
| 3:00 p.m. | Online Survey Results and Facilitated Discussion on Defining the Terms of Reference (continued)  
  ▪ Criteria  
  ▪ Key Success Factors  
  ▪ Potential Study Proponents | Steve Klein, Facilitator, OPTIMUS | SBR |
| 4:25 p.m. | Closing Remarks / Next Steps                                             | Allan Cowan, Director Major Applications Hydro One Networks Inc. |
| 4:30 p.m. | Adjourn                                                                   |                                                            |
B. Meeting Presentation
## Agenda

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<td>Adjourn</td>
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Facilitator’s Remarks

- Introductions Facilitator, Steve Klein & OPTIMUS | SBR support team
- Meeting Facilities
- Safety Review
- Note taking process
- Participant Introductions
Meeting Process

- Mobile phones “Off” or “Silenced”
- Avoid side discussions while others speaking
- Roundtable format
- All questions are good ones
- All comments are appreciated
- Materials and notes will be posted on Hydro One’s Regulatory Website:

www.HydroOne.com/RegulatoryAffairs
Overview of the Transmission Cost Benchmarking Study

Allan Cowan – Director, Major Applications, Hydro One
In the Settlement Agreement for Hydro One’s 2015-16 Transmission Rates, Stakeholders proposed an independent cost benchmarking study.

Stakeholders expressed a need to better understand the cost of Hydro One’s work relative to similar companies.

Such a study would also be supportive of the Board’s Renewed Regulatory Framework.

Hydro One agreed to complete an independent Transmission Cost Benchmarking Study that will be filed with Hydro One’s next Transmission rates application.
Settlement Agreement

- Stakeholders will be consulted, and agreement will be sought, in defining the Terms of Reference that will be included in the Request for Proposal documentation.

- Stakeholders will have an opportunity to review the successful proponent’s Study Proposal to help ensure that this independent party’s Proposal meets the requirements of the Terms of Reference.

- Stakeholders will also be provided with an opportunity to review and provide comments on the preliminary results prior to finalizing the Study.
The Process

- Dissemination of the Stakeholder Survey.
- Review of Stakeholder Survey Results.
- Development of the Terms of Reference for the Study.
- Development and Issuance of the Request for Proposal.
- Selection of Independent Party (Proponent) and award contract.
- Collection and evaluation of data by Independent Party.
- Development of Preliminary Results.
- Review and commentary on preliminary results.
- Finalization of the Study Report.
Proposed Timelines

- *Stakeholder Consultation #1 – February 11, 2015*
- Terms of Reference – February, 2015
- Issue Request for Proposal – March, 2015
- Award Contract – May, 2015
- *Stakeholder Consultation #2 – May, 2015*
- Preliminary Results (Data & Initial Findings) – October, 2015
- *Stakeholder Consultation #3 – October/November, 2015*
- Final Study to be filed with next Transmission Cost of Service Application
Transmission Cost Benchmarking Study: Defining the Terms of Reference
Order of Discussion

- Context
- Objective
- Selection of Comparators
  - Suggested Comparator Characteristics
  - Potential Comparators
- Suggested Criteria for Comparison
- Additional Considerations
  - Key Factors of a Successful Study
  - Potential Study Proponents
Context

Hydro One intends to consult with Stakeholders, as per the Settlement Agreement, at specific points during the process of the Transmission Cost Benchmarking Study.

As an initial step, Hydro One asked OPTIMUS | SBR to independently develop and conduct an Online Survey amongst the Stakeholders that Hydro One normally consults on Transmission rate applications and who actively participate or intervene in Ontario Energy Board hearings for such applications.

The results of this Online Survey subsequently formed the basis for a Stakeholder Consultation to more fully explore and assist in defining the Terms of Reference for the Cost Benchmarking Study.
With this valued input now in hand, Hydro One will seek a qualified independent party ("proponent") to conduct the Study.

While this Request for Proposal provides the much valued Stakeholder input and suggestions, this should strictly be treated as a guide as the proponent should demonstrate their expertise and capabilities by detailing the type of information to be gathered and the types of utilities that should be used for comparison purposes.
Each proponent should be aware that Hydro One and the successful proponent will further consult with the Stakeholders following the Request for Proposal selection process, to review the Study’s proposed Scope as provided by the successful proponent to ensure that the proposal meets the requirements of the Terms of Reference.

In addition, Hydro One will provide the Stakeholders with an opportunity to review and provide comments on the preliminary results (the data and initial findings) prior to finalizing the Study.
Objective Results

What do you consider the main objectives of the Transmission Cost Benchmarking Study to be?

- To help determine how Hydro compares in both cost (total cost, and capital and OM&A cost), and productivity and efficiency, among peer organizations.
- To assess HONI Capital efficiency and performance relative to a comparable peer group with at least 50% Canadian peer group.
- Study to complement industry-wide data.
- Provide a high level set of benchmarks of cost and business performance for Hydro One identifying all factors that limit the comparability of the utilities (identifying all the limitations of the comparisons).
What do you consider the main objectives of the Transmission Cost Benchmarking Study to be?

- Confirming cost effective delivery of service
- To compare overall and sub-components of TX companies’ performance to other like utilities
- To determine whether the categories of costs and the total costs incurred by HONI are reasonable for the purpose of setting rates
Hydro One Networks Inc. ("Hydro One") requires a qualified proponent to complete an independent comprehensive Transmission Cost Benchmarking Study. This Study will provide a high level set of benchmarks and comparisons of Total Cost (defined as Capital and OM&A) and Business Performance (generally defined as service delivery effectiveness and efficiency) for Hydro One among North American peer organizations.
Suggested Comparator Characteristics and Potential Comparators
### Comparator Characteristics Results

Which criteria from the list below would you consider when determining if a company is comparable?

<table>
<thead>
<tr>
<th>Companies with same relative size, measured by:</th>
<th>Important</th>
<th>Somewhat Important</th>
<th>Not at all Important</th>
<th>N/A</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross Fixed Assets</td>
<td>3 (37.5%)</td>
<td>4 (50.0%)</td>
<td>0 (0.0%)</td>
<td>1 (12.5%)</td>
<td>8</td>
</tr>
<tr>
<td>Number of Kilometres of Transmission Line</td>
<td>6 (75.0%)</td>
<td>1 (12.5%)</td>
<td>0 (0.0%)</td>
<td>1 (12.5%)</td>
<td>8</td>
</tr>
<tr>
<td>Size of Service Territory</td>
<td>5 (62.5%)</td>
<td>2 (25.0%)</td>
<td>0 (0.0%)</td>
<td>1 (12.5%)</td>
<td>8</td>
</tr>
<tr>
<td>Transmission Capacity</td>
<td>4 (50.0%)</td>
<td>3 (37.5%)</td>
<td>0 (0.0%)</td>
<td>1 (12.5%)</td>
<td>8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Companies of similar geography/weather characteristics</th>
<th>Important</th>
<th>Somewhat Important</th>
<th>Not at all Important</th>
<th>N/A</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Companies of similar organization structure, i.e. Transmission only versus Transmission and Distribution</td>
<td>3 (37.5%)</td>
<td>4 (50.0%)</td>
<td>0 (0.0%)</td>
<td>1 (12.5%)</td>
<td>8</td>
</tr>
<tr>
<td>Companies of similar market structure, i.e. public versus private</td>
<td>1 (12.5%)</td>
<td>4 (50.0%)</td>
<td>2 (25.0%)</td>
<td>1 (12.5%)</td>
<td>8</td>
</tr>
<tr>
<td>Companies with similar system configuration/design, i.e. system voltage levels</td>
<td>1 (12.5%)</td>
<td>3 (37.5%)</td>
<td>3 (37.5%)</td>
<td>1 (12.5%)</td>
<td>8</td>
</tr>
<tr>
<td></td>
<td>1 (14.3%)</td>
<td>3 (42.9%)</td>
<td>1 (14.3%)</td>
<td>2 (28.6%)</td>
<td>7</td>
</tr>
</tbody>
</table>
Comparator Characteristic Results, continued

Are there any other criteria(s) that you believe should be considered when determining whether a company is comparable?

1. Number of Transmission Customers.

2. Considering wages make a significant portion of OM&A, organization of labour... whether unionized or not is a very important consideration. Regulatory regime... cost of service, IRM, etc.

3. Line Connections particularly LDCs and large customers. Grid Connected Generators especially Renewables.

4. Number of employees. Status of employees as management or union.
Suggested Comparator Characteristics

- Companies of same relative size, measured by:
  - Gross Fixed Assets
  - Number of Kilometres of Transmission Line
  - Size of Service Territory
  - Number of Transmission Customers, i.e. LDCs, large customers
  - Transmission Capacity

- Companies of similar geography/weather characteristics
- Companies of similar organization structure, i.e. public versus private; unionized versus non-unionized
- Companies with similar system configuration/design, i.e. system voltage levels
Potential Comparators Results

**Which North American companies from the list below would you consider to be comparable to Hydro One?**

<table>
<thead>
<tr>
<th>Company</th>
<th>Comparable</th>
<th>Not Comparable</th>
<th>Uncertain</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>BC Hydro</td>
<td>8 (100.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td>Hydro Quebec</td>
<td>7 (100.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>7</td>
</tr>
<tr>
<td>Pacific Gas and Electric Company</td>
<td>3 (37.5%)</td>
<td>0 (0.0%)</td>
<td>5 (62.5%)</td>
<td>8</td>
</tr>
<tr>
<td>Southern California Edison</td>
<td>2 (28.6%)</td>
<td>1 (14.3%)</td>
<td>4 (57.1%)</td>
<td>7</td>
</tr>
<tr>
<td>Altalink</td>
<td>4 (50.0%)</td>
<td>0 (0.0%)</td>
<td>4 (50.0%)</td>
<td>8</td>
</tr>
<tr>
<td>ComEd (Exelon)</td>
<td>3 (37.5%)</td>
<td>1 (12.5%)</td>
<td>4 (50.0%)</td>
<td>8</td>
</tr>
<tr>
<td>Florida Power &amp; Light</td>
<td>2 (33.3%)</td>
<td>0 (0.0%)</td>
<td>4 (66.7%)</td>
<td>6</td>
</tr>
<tr>
<td>National Grid</td>
<td>2 (28.6%)</td>
<td>0 (0.0%)</td>
<td>5 (71.4%)</td>
<td>7</td>
</tr>
<tr>
<td>Northeast Utilities</td>
<td>3 (37.5%)</td>
<td>0 (0.0%)</td>
<td>5 (62.5%)</td>
<td>8</td>
</tr>
<tr>
<td>EPCOR Utilities Inc.</td>
<td>2 (28.6%)</td>
<td>0 (0.0%)</td>
<td>5 (71.4%)</td>
<td>7</td>
</tr>
<tr>
<td>SaskPower</td>
<td>5 (62.5%)</td>
<td>1 (12.5%)</td>
<td>2 (25.0%)</td>
<td>8</td>
</tr>
<tr>
<td>Energie NB Power</td>
<td>5 (71.4%)</td>
<td>1 (14.3%)</td>
<td>1 (14.3%)</td>
<td>7</td>
</tr>
<tr>
<td>Manitoba Hydro</td>
<td>8 (100.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td>Canadian Utilities Limited (ATCO)</td>
<td>3 (37.5%)</td>
<td>2 (25.0%)</td>
<td>3 (37.5%)</td>
<td>8</td>
</tr>
</tbody>
</table>
Are there any other North American companies that you believe should be considered as comparators to Hydro One for the Transmission Cost Benchmarking Study?

1. Xcel Energy

2. Canada – Great Lakes Power Transmission

Potential Comparators Results, continued

Are there any other North American companies that you believe should be considered as comparators to Hydro One for the Transmission Cost Benchmarking Study?


5. For some activities a utility could have a comparable to an unrelated industry private sector company. For example, it is possible to compare what an IT analyst wage is as compared to non-related industry, but related functions. Selective "micro comparators" allow parties to understand if the utility is efficient vis-a-vis other utilities, but also as compared to non-monopolies.
Suggested North American Comparators

- BC Hydro
- Hydro Quebec
- SaskPower
- Manitoba Hydro
- Energie NB Power
- Canadian Utilities Limited (ATCO)

- Pacific Gas & Electric Company
- Southern California Edison
- Altalink
- ComEd (Exelon)
- Northeast Utilities
- FirstEnergy Corporation
- Tennessee Valley Authority
Number of Comparators

*From your Stakeholder perspective, what is the minimum number of Comparators for the sample size to be used by the successful Proponent?*

☐ Three (3)
☐ Five (5)
☐ Seven (7)
☐ Ten (10)
☐ Other ____________________
Suggested Criteria for Comparison
Suggested Criteria for Comparison

The online survey requested Stakeholders to assess the importance of various metrics under five key criteria categories:

- Cost
- Efficiency
- Reliability
- Employee Safety
- Customer
## Cost Criteria Results

<table>
<thead>
<tr>
<th>Cost Category</th>
<th>Important</th>
<th>Somewhat Important</th>
<th>Not at all Important</th>
<th>N/A</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Cost per Customer</td>
<td>4 (50.0%)</td>
<td>4 (50.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td>Total Cost per km of line</td>
<td>5 (62.5%)</td>
<td>3 (37.5%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td>Total Cost per MWh transmitted</td>
<td>5 (62.5%)</td>
<td>3 (37.5%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td>Total Cost per Gross Fixed Assets</td>
<td>4 (50.0%)</td>
<td>4 (50.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td>Total Cost per Activity (i.e. cost per km of transmission line refurbished, cost per transformer replaced, etc.)</td>
<td>5 (62.5%)</td>
<td>3 (37.5%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td>Total Cost per MVA station capacity</td>
<td>3 (37.5%)</td>
<td>3 (37.5%)</td>
<td>2 (25.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td>Total Cost per MW-km</td>
<td>5 (62.5%)</td>
<td>3 (37.5%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
</tbody>
</table>
# Efficiency Criteria Results

<table>
<thead>
<tr>
<th></th>
<th>Important</th>
<th>Somewhat Important</th>
<th>Not at all Important</th>
<th>N/A</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Replacement total capital per total asset</td>
<td>4 (50.0%)</td>
<td>3 (37.5%)</td>
<td>1 (12.5%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td>Average % capacity utilized for station MVA</td>
<td>3 (37.5%)</td>
<td>5 (62.5%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td>Peak % capacity utilized for station MVA</td>
<td>2 (25.0%)</td>
<td>6 (75.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
</tbody>
</table>
## Reliability Criteria Results

<table>
<thead>
<tr>
<th></th>
<th>Important</th>
<th>Somewhat Important</th>
<th>Not at all Important</th>
<th>N/A</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>System average interruption frequency</strong></td>
<td>8 (100.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td><strong>System average interruption duration</strong></td>
<td>8 (100.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td><strong>Average system availability</strong></td>
<td>7 (87.5%)</td>
<td>1 (12.5%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td><strong>Momentary average interruption frequency</strong></td>
<td>4 (50.0%)</td>
<td>4 (50.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td><strong>Number of forced outage by asset type</strong></td>
<td>6 (75.0%)</td>
<td>2 (25.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
</tbody>
</table>

*As suggested by one of the Input Survey respondents*
## Employee Safety Criteria Results

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Important</th>
<th>Somewhat Important</th>
<th>Not at all Important</th>
<th>N/A</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee injury frequency rate</td>
<td>6 (75.0%)</td>
<td>2 (25.0%)</td>
<td>0 (0.0%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td>Accident severity rate</td>
<td>6 (85.7%)</td>
<td>0 (0.0%)</td>
<td>1 (14.3%)</td>
<td>0 (0.0%)</td>
<td>7</td>
</tr>
<tr>
<td>Vehicle accident frequency rate</td>
<td>4 (50.0%)</td>
<td>3 (37.5%)</td>
<td>1 (12.5%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td>Number of loss time days</td>
<td>3 (37.5%)</td>
<td>4 (50.0%)</td>
<td>1 (12.5%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
<tr>
<td>Number of recordable injuries</td>
<td>5 (62.5%)</td>
<td>2 (25.0%)</td>
<td>1 (12.5%)</td>
<td>0 (0.0%)</td>
<td>8</td>
</tr>
</tbody>
</table>
## Customer Criteria Results

<table>
<thead>
<tr>
<th></th>
<th>Important</th>
<th>Somewhat Important</th>
<th>Not at all Important</th>
<th>N/A</th>
<th>Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer satisfaction</td>
<td>4 (50.0%)</td>
<td>3 (37.5%)</td>
<td>0 (0.0%)</td>
<td>1 (12.5%)</td>
<td>8</td>
</tr>
<tr>
<td>rate</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Period of Comparison

*From your Stakeholder perspective, what is the minimum number of years to be included in this Study for the comparisons to be deemed reasonably reliable?*

☐ Two (2), e.g. 2012 – 2013, or 2013 -2014 if data available for 2014

☐ Three (3), e.g. 2011 – 2013, or 2012 – 2014 if data available for 2014

☐ Five (5), e.g. 2009 – 2013, or 2010 – 2014 if data available for 2014

☐ Other ____________________
Additional Considerations
Suggested Key Factors of a Successful Study*

- A Study and Report which are seen as entirely independent, comprehensive, transparent and meaningful
- Shows how Hydro One compares to the Benchmarks (based on credible metrics) as derived from the group of Comparators
- All information / data and analysis deemed to be verifiable and reliable
- Clearly identifies differences amongst the Comparators and any contributing best practices
- Presents a Hydro One baseline to assess its own performance

* For Hydro One & Stakeholder reference only – not part of ToR
Potential Study Proponents*

- EES Consulting
- Elenchus Research Associates
- KPMG
- London Economics International
- McKinsey & Company
- Monitor Deloitte
- Navigant Consulting, Inc.
- Oliver Wyman Group
- PA Consulting Group
- Pacific Economics Group
- Towers Watson & Co.

* For Hydro One & Stakeholder reference only – not part of ToR
Closing Remarks / Next Steps
Closing Remarks / Next Steps

- Hydro One will publish the notes from today’s Stakeholder Consultation #1
- Hydro One will continue to build-out the Request for Proposal
- Hydro One will work towards a March 2015 issuance of the Request for Proposal
- Anticipated Stakeholder Consultation #2, May 2015, to review the Scope of Work as proposed by the successful Proponent
Thank you for attending!

Check Hydro One’s website for further information:
www.HydroOne.com/RegulatoryAffairs

Any questions or comments can be directed to:
Regulatory@HydroOne.com