

Appendix 2. Submissions Received After the Meeting

Feedback forms were provided at the meeting and distributed to participants by email the following day, Friday October 23, 2015. Participants were asked to provide any feedback by Friday October 30, 2015.

The feedback forms included five questions and participants were asked to reference the specific company or study in their comments. A copy of the feedback form is included below. The verbatim feedback is provided following the blank feedback form and is organized by the different studies. Please note, the feedback forms have been numbered for ease of reference only.

Hydro One Networks Dx Stakeholder Session Regarding OEB Directed Studies *Feedback and Discussion*

Please reference the specific company or study in your comments below.

Company		Study
CN	CN Utility Consultants	Vegetation Management Study
PSE	Power Systems Engineering	Total Factor Productivity Study
NAV	Navigant Consulting	Pole Replacement Program Study
1QC	First Quartile Consulting	Distribution Station Refurbishment Study

1. Do you have any questions of clarification on the presentations?
2. **Consider the Approach presented.** Are there other options you would like to see the Consultants consider? If so, what are they?
3. **Consider the Peer Group Selection.** Do you have any additions and/or suggested edits to the list or areas identified?
4. **Consider the Performance Metrics: Costs, Reliability, Safety, and Staffing.** Do you have any additions and/or suggested edits to the list identified?
5. Do you have any other advice for Hydro One or the Consultant teams as they develop the Approach and Analytics that will be used in the Studies mentioned above?

Vegetation Management Study

Feedback Form #1

Hydro One Networks Dx Stakeholder Session Regarding OEB Directed Studies

Feedback and Discussion

Please reference the specific company or study in your comments below.

Company		Study
CN	CN Utility Consultants	Vegetation Management Study

1. Do you have any questions of clarification on the presentations?

No.

Slide: UVM Funding: A Perennial Program – it is not clear how determination that 59% of budgets in 2014 not adequate – further explanation/analysis required.

2. **Consider the Approach presented.** Are there other options you would like to see the Consultants consider? If so, what are they?

Utilization of resources (work force & equipment) should be considered. Some UVM programs are only running 6 months of the year. Some utilities use the VMP as a budget balancing program i.e. work can be halted - \$ managed not at the expense of km to be cleared.

When looking at cycle length should also consider what distribution system is designed to – vegetation management is a design input – should be able to explain why cycle has changed from design.

3. **Consider the Peer Group Selection.** Do you have any additions and/or suggested edits to the list or areas identified?

The basic approach is good. From the workshop discussion, the consultant must be careful to not treat Hydro One's prior decisions regarding such as structure, operations, cycle periods, etc. as independent variables.

The report should enable examination of causative factors that may affect performance.

4. **Consider the Performance Metrics: Costs, Reliability, Safety, and Staffing.** Do you have any additions and/or suggested edits to the list identified?

Cost drivers must be discernible, such as utilisation of staff and equipment, management overheads, etc. Effects on performance of low utilisation of equipment and treating workers as seasonal employees should be especially addressed.

Safety should be broken out between worker and public safety.

If possible, it would be helpful if CN could identify any potential effects related to the use of UVM as a budget balancing program by some utilities.

5. Do you have any other advice for Hydro One or the Consultant teams as they develop the Approach and Analytics that will be used in the Studies mentioned above?

The second half of the CN presentation titled “The State of the UVM Industry in North America” included a number of slides that appear to be a critique of RCM as applied to UVM, with rather absolute assertions that tree-line contact is an unsafe condition. Accepted at face value, such a claim could be used as justification for a rather large ramp up in any utility’s UVM program.

With respect, this claim is not established science. The physical consequence of line-tree contact has been studied by other parties and the results are consistent with modelling on basic physical principles and laboratory research. Moreover, public safety data are not consistent with a generalized claim of hazard.

This is not to say there are no public safety risks when trees contact distribution power lines. Rather, areas of reasonable risk can be identified and addressed without resorting to generalized program measures. This is particularly the case for a low geographic density utility such as Ontario.

The foregoing commentary also applies to the risk of fire from line-tree contact, as the underlying physical mechanisms are essentially the same.

The reason for the above discussion is that claims of safety risk unsupported by hard data or experience cannot justify a UVM program expansion. If line-tree contact is seen as a risk, a data and science-based guideline for minimizing the risk should be developed.

Vegetation Management Study should address why everyone is doing their programs differently – what are the drivers?

Vegetation Management Study should address the differences between peer comparators that can change or influence the outcome.

Vegetation Management Study should explain the nature of data inaccuracies.

Total Factor Productivity Study

Feedback Form #2

Hydro One Networks Dx Stakeholder Session Regarding OEB Directed Studies *Feedback and Discussion*

Please reference the specific company or study in your comments below.

Company	Study
PSE	Power Systems Engineering
	Total Factor Productivity Study

1. Do you have any questions of clarification on the presentations?

No

2. **Consider the Approach presented.** Are there other options you would like to see the Consultants consider? If so, what are they?

The approach appears to be a good one, in particular the use of TFP analysis to monitor TFP over time for Hydro One in comparison to itself, with less emphasis on peer group comparisons.

Because utility investments to improve reliability can have significant time lags before results are clear, this will have to be addressed, hopefully with enough granularity to provide results that can be utilized as a check on the efficacy of specific program investments.

Also – Hydro One’s capital investments over the 2015-2019 period were not intended to improve reliability – rather reliability was to be maintained. The study should be aware of this approach which underpinned Hydro One’s Custom IR application.

Other TFP drivers include CDM and Distributed Generation.

3. **Consider the Peer Group Selection.** Do you have any additions and/or suggested edits to the list or areas identified?

No.

Study should also address why specific companies not selected as comparators – what were the reasons?

4. **Consider the Performance Metrics: Costs, Reliability, Safety, and Staffing.** Do you have any additions and/or suggested edits to the list identified?

The list is good.

5. Do you have any other advice for Hydro One or the Consultant teams as they develop the Approach and Analytics that will be used in the Studies mentioned above?

There should be a check to ensure as much as possible that it can encompass future change in priorities or approaches, such that this year's TFP analysis can be directly mapped for comparison purposes to future reports. One problem that intervenors, and presumably also the Board has had is that utilities often change their performance measurements between rate applications in ways that make it difficult to gauge progress.

Ensure input price for inflation is accurate for Hydro One.

Pole Replacement Program Study Distribution Station Refurbishment Study

Feedback Form #3

Hydro One Networks Dx Stakeholder Session Regarding OEB Directed Studies *Feedback and Discussion*

Please reference the specific company or study in your comments below.

Company		Study
NAV	Navigant Consulting	Pole Replacement Program Study
1QC	First Quartile Consulting	Distribution Station Refurbishment Study

1. Do you have any questions of clarification on the presentations?

No.

2. **Consider the Approach presented.** Are there other options you would like to see the Consultants consider? If so, what are they?

3. **Consider the Peer Group Selection.** Do you have any additions and/or suggested edits to the list or areas identified?

Study should also address why specific companies not selected as comparators – what were the reasons?

4. **Consider the Performance Metrics: Costs, Reliability, Safety, and Staffing.** Do you have any additions and/or suggested edits to the list identified?

Consider replacement rates between peers.

5. Do you have any other advice for Hydro One or the Consultant teams as they develop the Approach and Analytics that will be used in the Studies mentioned above?

The analytics should capture differences in asset management approaches (e.g., maintenance versus replacement) and their effect on unit cost as well as on maintain/replace decision criteria. Reactive vs. Proactive replacement should be part of analytics.

The analytics should capture differences in approach as they may be driven by different regulatory incentives across the peer group.

Distributing Station maintenance/refurbishment comparisons should consider the effect of differences between peers related to system design. For example, Hydro One's low geographic load density generally cannot provide full backup between stations during maintenance that requires a station outage. This has resulted in the use of mobile substations to serve load for single unit stations during overhauls. Higher density utilities with full load transfer capability may not have this issue, or may have selected a dual-unit design standard.

The pole replacement unit cost study should examine the interplay between design and construction standards, line rebuild programs, pole replacement, and the effects of growth. For example, a large difference between current construction standards and the standard existing when the line was built, combined with a policy of replacement to the new standard, can result in a nominal single pole replacement requirement becoming a multiple pole replacement requirement to reduce "roller coasting". In turn, this practice can move what would be a few simple pole replacements over a threshold trigger to become a full line section rebuild.

Need to consider like-for-like replacement vs. enhanced replacement.

Related to the discussion above, the analytics should take note of the relative volume of pole replacements in the pole replacement program versus the totality of pole replacement for all reasons (trouble calls, service upgrades, line relocation etc.). As discussed during the workshop, poles may be replaced under several programs. The total number of annual pole replacements may greatly exceed those identified in the pole replacement program.

Should also consider if additional work is undertaken as part of replacement, i.e. equipment on poles.

Affordability and customer preference and input should be considerations.

Comparators should be asked about regulatory regime and if any program \$ disallowed by regulator and why.

Once pole in ground - when does inspection program begin?

Need to consider age vs. condition and what role condition plays. Or is age used as a proxy for condition – this approach could lead to accelerated replacement of pole assets.

Historical and annual replacement rates (% replaced) should be compared.

Also – which companies treat poles should be considered – treatment can extend the life of the pole – important to know companies that undertake preventive maintenance.

Cost structure: Internal vs external costs should be a consideration.

Feedback General to all Studies

Feedback Form #4

Hydro One Networks Dx Stakeholder Session Regarding OEB Directed Studies

Feedback and Discussion

Please reference the specific company or study in your comments below.

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CN	CN Utility Consultants	Vegetation Management Study
PSE	Power Systems Engineering	Total Factor Productivity Study
NAV	Navigant Consulting	Pole Replacement Program Study
1QC	First Quartile Consulting	Distribution Station Refurbishment Study

1. Do you have any questions of clarification on the presentations?

No.

The comments provide below are general and go to all 4 studies.

2. **Consider the Approach presented.** Are there other options you would like to see the Consultants consider? If so, what are they?

- Comparisons based on Hydro One as one entity and comparisons based on management structure of regional areas.
- Intra company comparisons of the regions where possible to understand how each region performs.

3. **Consider the Peer Group Selection.** Do you have any additions and/or suggested edits to the list or areas identified?

- To the extent data exists (especially on Vegetation Study) comparisons should be made among the operational regions of H1 (in addition to the Company overall). For example, H1 southwestern region will share more characteristics with most Ontario and U.S. jurisdictions in terms of vegetation density, canopy, customer density.
- The criteria for selection of cohorts should be clearly articulated. A larger population group than that finally selected should be presented. The reasons for pass and failure into the cohort should be clear.
- Where a possible comparable has been eliminated due to lack of data (cooperation) a narrative of the possible impact of excluding the LDC should be included as well as what steps are being taken to try to include the Utility in the future (especially with Canadian LDCs).
- Where possible, sensitivity analysis should be undertaken using the reasonable outliers (i.e. the utilities who did not make the final cohort but were close) in order to understand what impact a

change in population would have on the final results. These need not be done on all aspects of any study, but rather in some part so as to provide comfort that the final cohort does not “optimize” the comparison/benchmark.

- Elimination of Ontario LDCs from the Cohort should be carefully explained.
- For U.S. utilities chosen as cohorts explanations as to how the study controls for differences caused by accounting, regulatory, weather, and other matters should be provided.

4. Consider the Performance Metrics: Costs, Reliability, Safety, and Staffing. Do you have any additions and/or suggested edits to the list identified?

- Simpler, if imperfect metrics may be preferred to more complex, but less meaningful metrics. For example, cause code outage (duration and frequency) provide more meaningful measures of the effectiveness of programs than SAIFI/SAIDI which co-mingle outage causes.
- For example, we have a concern that the vegetation management study seeks (intentionally or not) to create an overly complex approach. Our observation is that such studies usually end in spurious specificity, rather than reasonable, if somewhat rougher accuracy.

5. Do you have any other advice for Hydro One or the Consultant teams as they develop the Approach and Analytics that will be used in the Studies mentioned above?

- To the extent that these studies focus on the operational regions of H1 they should be meaningful to H1 management. We would expect that H1` senior management would also be interested in reasons for differences in efficiencies among its regions since in addition to the non-controllable issues (e.g. terrain), there may be controllable issues (e.g. superior management of assets in some areas). Variation in performance among H1 operational regions should be cause for further study. H1 study of this should be included in the Company’s response to the reports’ results.

Feedback Form #5

Hydro One Networks Dx Stakeholder Session Regarding OEB Directed Studies

Feedback and Discussion

Please reference the specific company or study in your comments below.

Company		Study
CN	CN Utility Consultants	Vegetation Management Study
PSE	Power Systems Engineering	Total Factor Productivity Study
NAV	Navigant Consulting	Pole Replacement Program Study
1QC	First Quartile Consulting	Distribution Station Refurbishment Study

1. Do you have any questions of clarification on the presentations?

None

2. **Consider the Approach presented.** Are there other options you would like to see the Consultants consider? If so, what are they?

None

3. **Consider the Peer Group Selection.** Do you have any additions and/or suggested edits to the list or areas identified?

The choosing of the peer group should take into account the differences in the set of laws and regulations that utilities are required to comply with respect to: a) environment; b) health and safety; c) employment standards; d) labour relations; and e) other.

4. **Consider the Performance Metrics: Costs, Reliability, Safety, and Staffing.** Do you have any additions and/or suggested edits to the list identified?

The differences in the cost of utilities' compliance with local laws and regulations should also be considered when comparing performance among peers and identifying industry best practices.

5. Do you have any other advice for Hydro One or the Consultant teams as they develop the Approach and Analytics that will be used in the Studies mentioned above?

The selection criteria for the identification of areas of best practices should be based on Hydro One's ability to take actions in a reasonable time-frame. The recommendations should drive actionable recommendations. The scope of best practices should exclude areas where Hydro One has limited ability to take actions in particular due to legislative or regulatory constraints such as environmental, health and safety, employment and labour relations. The identification of best practices can also address areas of particular interest to Hydro One for investigation.