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January 29, 2013

via RESS e-filing – signed original to follow by courier

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

Dear Ms. Walli:

Re: Toronto Hydro-Electric System Limited ("THESL")
OEB File No. EB-2012-0064 (the "Application")
THESL's Reply Argument

THESL writes to the Ontario Energy Board ("OEB") in respect of the above-noted matter.

Please find attached THESL's Reply Argument pursuant to the schedule established by the OEB at the Oral Hearing (December 13, 2012).

Please do not hesitate to contact me if you have any questions.

Yours truly,

[original signed by]

Amanda Klein
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:AK/km

cc: Fred Cass of Aird & Berlis LLP, Counsel for THESL, by electronic mail only
Intervenors of Record for EB-2012-0064 by electronic mail only

EB-2012-0064

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 Toronto Hydro-Electric System Limited for an order approving just and reasonable rates and other charges for electricity distribution to be effective June 1, 2012, May 1, 2013 and May 1, 2014.

REPLY ARGUMENT OF
TORONTO HYDRO-ELECTRIC SYSTEM LIMITED

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1. Introduction and Overview

1. The argument in chief of Toronto Hydro-Electric System Limited (Toronto Hydro or THESL) for the initial phase of this proceeding was filed on December 21, 2012. In response to its argument in chief, Toronto Hydro received submissions from the following:
    (a) Board Staff;
    (b) the Association of Major Power Consumers of Ontario (AMPCO);
    (c) Building Owners and Managers Association Toronto (BOMA);
    (d) the Consumers Council of Canada (CCC);
    (e) Energy Probe Research Foundation (Energy Probe);
    (f) the School Energy Coalition (SEC);
    (g) the City of Toronto (the City); and
    (h) the Vulnerable Energy Consumers Coalition (VECC).

2. Toronto Hydro will respond to the submissions received from these parties under the headings that follow.

3. This application is about real work and real people.

4. The real work is described in thousands of pages of pre-filed evidence, interrogatory responses, updates, undertakings and live testimony. It has been developed at the operational level by a team of engineers who are personally responsible for its design and implementation, on time and on budget. It is a highly focused, highly detailed, and strategic work program. It has been tested against the criteria established by the Board for ICM-eligible projects and Toronto Hydro has withdrawn any elements where it perceived there could be doubt as to compliance with the Board's ICM model. It has been tested by third-party experts who have certified that the program represents value for money. There is no other evidence in this case.

5. The real people are Toronto Hydro ratepayers. They are homeowners, business owners, institutions, and high-rise commercial and residential landlords. They know the vulnerabilities that they face as the result of a dangerously obsolete and crumbling distribution infrastructure. Toronto Hydro has documented those vulnerabilities in painstaking detail in the course of this application. There is no credible evidence (or any evidence) that disturbs the established need for the focused renovation of the system. In the course of the application some sought to

limit the scope of this work, to micromanage the utility's renovation of its system from a distance.

6. With respect, this is ill advised. Toronto Hydro is prepared to be accountable to its regulator, and to its ratepayers for the real work that it has so exhaustively documented in this case. It would be regrettable to unnaturally limit the work program, or deny it timely funding in the face of the clear imperative that drives the work program.

7. That renovation comes at a cost. That is the very nature of the regulatory system. The utility seeks permission from its regulator to undertake the real work and timely funding to enable its execution. That is what this application represents. In this case, the overall cost of this critical work is relatively modest. Toronto Hydro knows from the experts who examined the company's work program that the work program has been developed so as to provide a high ratio of value for money. This is what is normally referred to as prudence. Prudence does not mean that the short-term lowest cost method is the best method. In fact prudence requires a sophisticated utility like Toronto Hydro to be sophisticated in the way it completes the work. This means that in some cases the utility will be opportunistic in advancing or deferring work where greater value can be accomplished by doing so.

8. It is a dynamic program, which must be executed as circumstances present themselves. Just this week, two fibertops listed in this application caught fire and were destroyed. These incidents resulted in outages, and, of course, an advancement of the work scheduled for them. Toronto Hydro's regret is that it couldn't replace them before the fire and the outage.

9. A great deal of effort has been spent in this case exploring the nuances and finer points of various regulatory constructs. Toronto Hydro believes that this application is an appropriate application under the Board's Incremental Capital Module. It has been structured in accordance with that methodology and it has been tested against the Board's criteria and factors rigorously. Toronto Hydro is not concerned as to whether this application represents a precedent of any kind. In the company's submission, it is extremely unlikely that any utility will come to the Board under the same conditions and with the same imperatives facing Toronto Hydro today. That kind of consideration is very far from the company's mind.

10. What Toronto Hydro does think is important is that the Board not permit any regulatory construct – real or theoretical – to impede, inhibit or prevent the execution of the real work that it has demonstrated needs to be done. That is the only thing that is really important and really precedential: that a utility having demonstrated beyond any reasonable criticism that a work program needs to be conducted to preserve safety and reliability of its system for its customers and its employees will be appropriately funded in a timely manner so as to be able to execute the work.

11. Toronto Hydro believes that that is the genuine purposive approach captured within the Incremental Capital Module as it has, and will evolve.

12. As Toronto Hydro has said throughout this case, the bill impacts associated with the real work are relatively modest. The company's preferred model for recovery would result in a very minor increase in customers' energy bills, representing no more than a couple of cups of coffee per month per household. With respect, Toronto Hydro submits that this is a small price to pay for the peace of mind and concrete benefits that come with this real work program. Every outage or impairment of service brings with it a swath of inconvenience and hard costs for ratepayers. Because of the nature of Toronto Hydro's service area, outages may often result in significant interruption in business activity. The company believes, and the experts believe, that the real work that needs to be done at the cost Toronto Hydro has established for its execution is good value for money, and further, does not impose an undue or unreasonable burden on ratepayers.

13. Toronto Hydro's proposed recovery method also has the very important advantage of smoothing the rate recovery for the real work program over an extended period. This avoids the lumpy, or step rate increases that can accompany significant capital projects and which are favoured by no one.

14. Where there *is* real risk for customers lies in unnaturally curtailing the work program in an effort to micromanage or "out-engineer" Toronto Hydro's engineering team, or failing, in one way or another to provide timely funding for the execution of the work. In both cases, it is ratepayers who bear that risk more than anyone. As Toronto Hydro has said from the beginning, the company is prepared to be fully accountable for the program approved and funded by the Board. Toronto Hydro has repeatedly undertaken to engage with the Board and the intervenors to develop a fair and reasonable true up process to ensure that there is no opportunity for gaming anyone in this process. One of the reasons the

company favours the recovery method that it does is its simplicity in administration and true up. But if some other method of appropriate recovery is selected by the Board, Toronto Hydro will work within its terms to achieve the same outcome.

15. What follows within is a detailed rebuttal of the submissions made by the intervenors in this case. Because so much has been filed and generated around this case it is easy to suppose that the case is extremely complicated or innovative. With respect, Toronto Hydro submits that this is a simple case about real work and real people and the need to ensure that the distribution system affecting the millions of people who live and work in Toronto can meet the challenge today, tomorrow and the day after tomorrow.

2. THESL's Essential Work and Prudent Workplan

16. Many of the intervenor arguments contain lengthy and detailed submissions about the segments of work that are included within Toronto Hydro's Incremental Capital Module (ICM) application. The areas of contention put forward by intervenors with respect to the proposed work are unfounded and contrary to the evidence in this case. Unfortunately, because of the nature of the submissions made by intervenors, it is necessary for Toronto Hydro to respond in a detailed fashion, on a segment-by-segment basis, in order to make clear where the intervenor arguments have gone astray.

17. The discussion that follows with respect to the individual segments of the proposed work is a direct, definitive and point–by-point rebuttal, supported by specific evidentiary references, of every material criticism of the proposed ICM work made by intervenors and Board Staff.

18. In the preparation of its ICM application, Toronto Hydro thoroughly tested the proposed work for conformity with the Board's ICM model, especially in respect of prudence and the non-discretionary nature of the work. As part of the update of its evidence, Toronto Hydro revisited every element of the ICM work program and withdrew the proposed Grid Solutions segment. What remains is an ICM-compliant capital work program that has been developed with a keen focus on two drivers: need and prudence (as well as consideration of the other ICM factors).

19. The importance of this is that Toronto Hydro has put together an essential work program that does not have disposable elements. Each segment of the proposed

work targets specific vulnerabilities of the distribution system. These vulnerabilities are not abstract theoretical ideas: they are specific issues that put in jeopardy Toronto Hydro's ability to provide safe and reliable service to specific customers and groups of customers. The customers may be homeowners, business owners, hospitals or schools – what they all have in common is that they expect the distribution system to operate according to principles of reliability, safety and cost responsibility.

20. Modern utility engineering is a complex and demanding discipline and it is evolving rapidly, especially in the development of analytical tools and comprehensive databases. With the greatest of respect to the views of other parties, Toronto Hydro submits that the Board should not base important decisions about essential and prudent work on the distribution system on the mere opinions and assertions of parties who are not accountable for maintaining the distribution system. To give any weight to such opinions, the Board should require evidence in support of their positions against that of the utility. No such evidence has been provided in this case.

21. In contrast, Toronto Hydro put forward a comprehensive and detailed evidentiary record that was thoroughly and vigorously tested. This included:

    a. 3439 pages of pre-filed evidence;
    b. 778 interrogatories received,[2] resulting in 2034 of additional pages of evidence filed;
    c. an update to the pre-filed evidence that touched on every aspect of the application;
    d. a two-day technical conference, with numerous undertaking responses filed; and
    e. a five-day oral hearing where Toronto Hydro put forward 14 witnesses for cross-examination.

22. Toronto Hydro's evidence was delivered by witnesses whose testimony and demeanour made clear that they are best-positioned to know what work needs to be done, and how it should be done. This evidence was supported by five major expert reports and a number of additional supporting reports in respect of particular ICM segments, the representatives for a number of which appeared at the oral hearing.

[2] Including sub-questions.

23. No other party introduced evidence of any kind.

24. Toronto Hydro submits that this record constitutes the most comprehensive and detailed application of this nature submitted to the Board.

25. Against the background of these general submissions, Toronto Hydro will provide its specific responses to the points made by others about the proposed work.

Segment B1 – Underground Infrastructure

Submersible Transformers and Multi-taps

26. Board Staff, joined by Energy Probe, SEC and VECC, argues that funding should only be allowed to the extent required to replace submersible transformers in poor and very poor condition and to replace defective multi-taps.[3] The basis of this argument is that other transformers need not be replaced now and thus the work is discretionary.[4] On this basis, Board Staff proposes a $3.7M reduction and that the amount recoverable in 2013 be cut in half by spreading the work over two years.

27. SEC also argues that because the reliability of the assets has not degraded sufficiently to warrant spending beyond "business as usual", Toronto Hydro has failed to establish that this segment is non-discretionary.[5] SEC argues in the alternative that if the Board finds this segment to be non-discretionary, it still should reduce the allowed amount by "at least 50% of proposed in-service capital for both 2012 and 2013".[6] SEC has not explained how its proposed reduction is calculated.

28. Board Staff's argument is based on the Asset Condition Assessment (ACA) which shows submersible transformers are generally in good or very good condition. From this Board Staff concludes that the specific transformers that Toronto Hydro proposes to replace, because they are at or approaching their end of life, do not in fact require replacement.[7] With respect, this conclusion simply does not follow. Moreover, as discussed further below, it ignores the updated information on the

[3] VECC proposes spending reductions beyond those advocated by Board Staff. It offers no new arguments to support these reductions. It simply applies the Board Staff proposals to 2012 spending and CWIP.
[4] Board Staff Submission, page 18.
[5] SEC's "business as usual" argument is addressed under heading 4, "The Board's ICM Model", below.
[6] Phase 1 Final Argument on Behalf of the School Energy Coalition (SEC Argument), paragraph 7.2.3.
[7] Board Staff Submission, page 18.

asset condition of submersible transformers, which shows their condition to be significantly worse.

29. Board Staff approaches the ACA as if it were a prescriptive document that determines the precise time to replace every asset. This is not the case. As explained in the ACA Audit,[8] the ACA takes condition data on a sample of an asset class and extrapolates it to the entire asset class. Thus, the ACA is a predictive document that indicates the likely condition of the population of an asset across Toronto Hydro's entire system. It says nothing about how the identified conditions are dispersed on a geographic basis across the asset population and offers no information about whether any specific asset requires replacement.

30. Toronto Hydro uses both age and asset condition to assess the overall health of assets and when they will require replacement. As Toronto Hydro's evidence states:

> The probability of an asset's failure at any point in time is based on its age and condition. This information is derived as described in the Asset Condition Assessment. Age-and-condition parameters are translated into a probability of failure using a Hazard Rate Distribution Function, which represents the conditional probability of failure for any given asset in the population that has survived to that time.[9]

31. To the extent that the age or condition of transformers is such as to warrant their replacement, the prudent course of action is to replace the transformers when crews have already set up in an area and arranged the necessary outages to replace direct buried cable. Toronto Hydro takes this prudent approach to the replacement of transformers, consistent with the Board's ICM model under which prudence is one of the three core criteria.[10] Toronto Hydro's proposed replacement of submersible transformers is based on the view that it would be imprudent to not replace them at this most cost-effective time.

[8] Tab 4, Schedule D1.
[9] Tab 2, Appendix 4, page 3.
[10] See the discussion under heading 4, "The Board's ICM Model", below.

32. The submersible transformers slated for replacement as part of segment B1 generally were installed at the same time as the direct buried cable being replaced. As Mr. Kerr stated,

> …if we're going to replace the cable that's at or beyond end-of-life, it's typical that we will find the transformers in that area are also at or beyond end-of-useful-life."[11]

33. Mr. Kerr added a caveat to this evidence, however, to clarify that Toronto Hydro will not to replace all of the transformers in an area just because the direct buried cable is being replaced; only transformers that are of an age and condition to warrant replacement are being addressed.[12] Thus, there are many feeders where only a very small percentage of submersible transformers is being replaced.[13]

34. Mr. Kerr later explained why Toronto Hydro's approach makes economic sense:

> So, again, not only is it prudent to replace the transformers while we are there, but if we were to not replace a transformer that's 30 or 35 years old while we're there, there would be an increased cost, in that when it does fail, we're now going to have to respond and replace it on a reactive basis.[14]

35. Similar logic applies to the replacement of submersible transformers and multi-taps together. A multi-tap is essentially a T-junction with three connection points, one for the incoming primary cable, a second for the outgoing primary cable and a third attached to the transformer.[15] The multi-tap and submersible transformer proposed for replacement must be considered together as a whole since the transformer could not operate without a multi-tap.[16]

36. Whether the cause of an outage is the failure of the multi-tap or transformer, the outage impact and restoration procedure are virtually identical. In fact, submersible transformers and multi-taps are considered to be a single piece of equipment in the ACA, which states:

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[11] 1 TCTr. 70.
[12] *Ibid*.
[13] For example the fourth row of data shown in the Table at Tab 6F, Schedule 1-30 demonstrates that feeder SCNT63M4 has 170 submersible transformers, but Toronto Hydro is only proposing to replace one.
[14] 3Tr. 28. The *Asset Depreciation Study for the Ontario Energy Board*, (Kinectrics Inc., 2010) (page 132) shows that the useful life a submersible transformer ranges between 25 and 45 years with a typical useful life of 35 years. Toronto Hydro uses a more conservative useful life of 40 years (Tab 8, Schedule 3-1, page 2).
[15] 3Tr.16-17.
[16] 3Tr.36.

> It is important to note that the Health Index formulation for this Submersible Transformers (sic) may be an optimistic representation of asset condition because it does not take into account the known issues with multi-taps. In 2010, multi-taps were the second largest contributor to reliability issues; over 600 units have since been replaced.[17]

37. Undertaking J3.1 shows the new Health Index formulation for submersible transformers including multi-taps.[18] It shows a sharp jump in the percentage of submersible transformers in poor condition (from 0.02% to 20.3%) and a substantial decline in the percentage in very good condition (from 77.7% to 49.7%). Although Board Staff requested this information, it does not appear to have factored into their position on this segment.

38. While it is theoretically possible to separate the multi-tap and the transformer and replace one without replacing the other as Board Staff and others suggest, it would be imprudent to do so. The same reasons that lead Toronto Hydro to replace specified submersible transformers create the need to replace the associated multi-tap. As Mr. Kerr explained,

> …every submersible transformer vault where we do have a multi-tap, it's safe to assume the multi-tap was installed at the same time as that transformer. So it's the same age or beyond its useful life.[19]

39. The potential cost savings also support replacing both together. Replacing the transformer and multi-tap together costs about $3,700 less than replacing them individually.[20] This represents a 24% savings. In addition, individual replacement of the multi-tap transformer would require the cost and customer inconvenience of two outages compared to a single outage if they are replaced together. Toronto Hydro believes that ratepayers expect the company to make smart and cost-effective decisions when it decides to replace equipment. This is one of the hallmarks of prudence.

[17] Tab 4, Schedule D1, page 11.
[18] Tab 8, Schedule 3-1.
[19] 3Tr.15.
[20] Tab 8, Schedule 3.2.

Direct Buried Cable

40. Energy Probe argues that Board Staff's proposed reduction for this segment should be increased by $10 million.[21] Energy Probe's argument for an increased reduction relates to the replacement of direct buried cable and, in essence, asks the Board to reject the evidence that Toronto Hydro has provided in favour of the unsubstantiated assertions of Energy Probe.

41. Energy Probe offers various reasons why Toronto Hydro's preferred option of installing new underground direct buried cable in concrete encased ducts should be rejected in favour of one or more of the other options. These arguments boil down to a single point, namely, that concrete encased ducts are too expensive. Energy Probe reaches this conclusion by looking only at the initial installation costs.[22]

42. Initial installation cost is not the only cost. Toronto Hydro's evidence presents substantial information on the repair cost advantages for cable in concrete encased ducts, which Energy Probe ignores.[23] Toronto Hydro's evidence also clearly explains that concrete encased ducts offer the longest life and greatest reliability, and facilitate future repair and replacement.

43. Energy Probe claims that Toronto Hydro's primary objection to the option of installing new "tree-retardant" direct buried cable is the possibility of dig-ins.[24] This is incorrect. As Mr. Kerr testified, there are numerous problems with direct buried cable, but the two main problems are that direct buried cable, even tree-retardant cable, will eventually develop "electrical trees" because it is constantly exposed to moisture, and it has higher repair cost.[25] As well, Toronto Hydro's evidence lists a number of other disadvantages.[26]

44. Energy Probe says that other utilities use directional boring because of its lower initial cost.[27] It was explained both in oral testimony and in written evidence that directional boring is difficult to implement under the conditions found in Toronto

[21] Final Phase 1 Submissions on Behalf of Energy Probe Research Foundation (Energy Probe Argument), page 28.
[22] Even on an initial cost basis, the most expensive option shown in Tab 6F, Schedule 7-24 is rejuvenation of direct buried cable. Energy Probe ignores the initial cost of this option in its discussion of initial cost (Energy Probe Argument, page 24). Despite this cost disadvantage and Toronto Hydro's unchallenged statement that its underground direct buried cable has deteriorated past the point where rejuvenation is effective (2Tr.122), Energy Probe still suggests that Toronto Hydro undertake further investigation of this option.
[23] Tab 4, Schedule B1, pages 135-136.
[24] Energy Probe Argument, pages 25-26.
[25] 2Tr.122-123.
[26] Tab 4, Schedule B1, page 133.
[27] Energy Probe Argument, pages 26-27.

Hydro's service territory. Also, it does not provide the same advantages in terms of reliability and repair costs as concrete encased ducts.[28] In particular, Mr. Kerr testified that directional boring would not provide the capacity needed to address current and anticipated future growth in areas with direct buried cable.[29] In Toronto Hydro's submission, this is a complete answer to the question raised by Energy Probe.

45. Finally, a number of parties question the pace of replacing underground direct buried cable. Toronto Hydro urges the Board not to accede to any suggestion that efforts to address this important reliability issue should slow down. Even though Toronto Hydro has been working diligently since 2007 to reduce the amount of direct buried cable in its system, the number of interruptions per kilometre of direct buried cable has increased over the past five years.[30] This demonstrates the need to maintain focus and continue committing resources to replacing direct buried cable.

Segment B2 – Paper-insulated Lead Covered Cable - Piece-outs and Leakers ("PILC")

46. BOMA, Energy Probe, and VECC support Toronto Hydro's request for ICM funding for the PILC ICM segment. Board Staff offers no objection, and AMPCO and CCC take no specific position on this segment of work.

47. SEC is the only party that specifically opposes Toronto Hydro's proposed PILC work. SEC states that, "while replacing PILC cable is necessary, it is not a new project" and on this basis SEC argues that the work should not receive ICM funding.[31]

48. The Board's ICM model does not include "novelty of the proposed work" as a criterion for an ICM application. As discussed below, Toronto Hydro submits that the fact that material, prudent and necessary work included in an ICM application bears some similarity to material, prudent and necessary work that has previously been undertaken is not a reason to deny ICM treatment.[32]

49. As noted by other intervenors, this segment comprises work that "clearly needs to be addressed"[33] and relates to a safety issue.[34] Leaking PILC cables are

[28] 2Tr.125-140; Tab 6F, Schedules 7-23, 7-24 and 7-26.
[29] 2Tr.138-139.
[30] Tab 4, Schedule B1, page 4.
[31] SEC Argument, paragraph 7.3.1.
[32] See heading 4, "The Board's ICM Model", below.
[33] Energy Probe Argument, page 29.
[34] BOMA's Argument, page 39.

defective, presenting potential safety hazards to workers, and also give rise to environmental concerns, and remediation requirements.[35] Toronto Hydro therefore submits that this important non-discretionary work is eligible and appropriate for ICM funding.

Segment B3 – Handwell Replacement

50. Board Staff offers no objection to Toronto Hydro's request for ICM funding for the Handwell Replacement ICM segment. AMPCO and CCC take no specific position.

51. Toronto Hydro has demonstrated that the Handwell Replacement ICM segment is driven by the need to mitigate potential public safety risks caused by contact voltage.[36] This is not a theoretical concern; Toronto Hydro has undertaken this replacement program in response to the real safety incidents that have occurred in recent years. To address these incidents, Toronto Hydro has proposed the spending that it believes is necessary to respond to this potential safety risk in a proactive and timely manner. The alternative – to replace individual handwells on a reactive basis (i.e. waiting for something to go wrong) – is not, in Toronto Hydro's submission, a responsible approach to addressing a matter of public safety.

Proposed Reduction in Handwell Replacement Scope

52. Several intervenors argue that Toronto Hydro should replace only those handwells on which contact voltage over a particular threshold is verified.[37] In essence, they argue that Toronto Hydro should only replace those handwells that have deteriorated to the point of presenting an immediate public safety risk, and only once that risk has been specifically identified.

53. These intervenors' submissions confuse the operation of Toronto Hydro's mobile scanning program with its handwell replacement program. Toronto Hydro's handwell replacement program is targeted at addressing deterioration of the demarcation point to the streetlight system – the handwell, conductor and

[35] Tab 4, Schedule B2, page 1.
[36] Tab 4, Schedule B3, page 3.
[37] Energy Probe argument, pages 29-31; SEC argument pages 56-57; VECC argument, para. 95.

connectors.[38] Toronto Hydro must continue to replace the remaining handwells over the next three years.

54. As stated above, Toronto Hydro does not believe it is responsible to approach public safety matters on a selective reactive basis. Reactive replacement, the intervenors' proposed approach, would increase the risk to public safety.[39] Moreover, the potential public safety risk caused by deteriorating handwells is not static; Toronto Hydro expects that the number of contact voltage incidents will increase as the remaining legacy handwells and connections continue to deteriorate.[40] In addition to increasing potential safety risks, reactive replacement costs may also be higher due to requirements for after-hours work and delays in permitting.[41]

Proposed Delay to Handwell Replacement

55. BOMA argues that a more limited handwell remediation program would be sufficient.[42] The alternative approach proposed by BOMA was not raised during the course of the proceeding and no has evidence been presented to support the amount of the alleged cost savings or the electrical sufficiency of the proposed alternative approach. Bifurcating the process of handwell replacements as BOMA suggests will not save money. It will merely prolong the program, and thereby prolong the potential safety risk to pedestrians and their pets.

<u>Segment B4 – Overhead Infrastructure</u>

56. This section responds to the arguments of Energy Probe, SEC and BOMA, which recommend varying levels of reduction to Toronto Hydro's requested spending. VECC questions the pace of Toronto Hydro's proposed spending, but does not recommend a reduction in this segment.[43]

57. Energy Probe's argument on this segment[44] begins by indicating that Toronto Hydro has presented inconsistent information about Toronto Hydro's 2013

[38] Toronto Hydro has developed an appropriate and cost-effective approach to address the general cases of voltage found on a variety of other assets on a reactive basis where scanning indicates the presence of more than 4.5 volts. (Tr.2:61-65).
[39] Tab 4, Schedule B3, page 13
[40] *Idem*.
[41] *Idem*.
[42] BOMA argument, page 40.
[43] VECC recognizes that some amount of spending for the segment is non-discretionary and does not propose any reduction. Board Staff and AMPCO make no comment on this segment.
[44] Energy Probe argument, page 31.

request in the Overhead Infrastructure Segment[45] and the Incremental Capital Summary.[46] There is no inconsistency.

58. As explained in the Manager's Summary Update:

> For clarity regarding the total costs of jobs, segments, and projects, Toronto Hydro has classified jobs according to the year of their commencement, recognizing that in many cases 2012 jobs will now be carried over into 2013. Costs stated in the business cases follow this protocol.[47]

59. In contrast, the amounts in presented in the Incremental Capital Summary are the amount of expenditures that Toronto Hydro forecasted in each year. This is clearly indicated in the Capital Summary.[48] Amounts in this argument refer to the amounts in the business cases for each project and segment. Thus the requested amounts are those shown in Table 1 of the business case, which total $64.95M over the 2012 to 2013 period.[49]

60. Energy Probe argues that the budget for this segment should be cut so that it reflects replacement of only the poles shown in the business segment as being in poor or very poor condition.[50] Energy Probe claims that this is justified because Toronto Hydro's evidence is confusing.[51]

61. Toronto Hydro respectfully disagrees that the evidence is confusing, and submits that Energy Probe had many opportunities throughout the discovery and hearing phases to establish a better understanding for itself. Energy Probe's proposal would not only effectively underfund this necessary project, but would also represent an imprudent and wasteful approach to this work.[52] Such an approach is fundamentally inconsistent with the interests of ratepayers.

62. Toronto Hydro firmly believes that the evidence shows that the approach adopted for the advancement of work, where it is prudent to advance the work, is the only way to protect the interests of ratepayers and to ensure the reliability and safety of the distribution system. In Toronto Hydro's submission, prudence means

[45] Tab 4, Schedule B4, page 11, Table 1.
[46] Tab 4, Schedule A, Appendix 1.
[47] Tab 2, Addendum, Page 14.
[48] page 1, lines 14-16.
[49] Tab 4, Schedule B4, page 11.
[50] Energy Probe argument, page 34.
[51] Energy Probe argument, page 33.
[52] Tr.2, pages 73-75.

performing the work in the most cost-effective manner, taking all circumstances into account.

63. Like all information in the Asset Condition Assessment (ACA), wood poles are assessed based on sampling.[53] The 2012 sample represented approximately 35% of the estimated population of wood poles.[54] Thus as of 2012, Toronto Hydro had actual data on only about one in three poles. The figures in Toronto Hydro's evidence represent an extrapolation of the sample data to the entire population.[55]

64. However, poles that have degraded to poor or very poor condition, or are just about to, are not randomly distributed across Toronto Hydro's system. Instead, given that the poles in an area were typically installed at the same time, and are exposed to the same conditions, if a high proportion of poles sampled in an area are in poor or very poor condition, then probability and logic suggest that the un-sampled poles in an area are in similar condition to those standing beside them, and need to be replaced as well.[56]

65. This is the essence of Toronto Hydro's pole replacement program. Identify areas with a high proportion of poles in poor and very poor condition and other associated equipment that requires replacement (CSP transformers; bare and undersized conductor; and porcelain hardware and switches), and address all of the equipment requiring replacement in an area in an integrated fashion.[57] This approach allows Toronto Hydro to efficiently execute this necessary work by maximizing the use of crews and equipment, reducing travel and set up time and minimizing disruption to customers and traffic flow.

66. Energy Probe concludes that Toronto Hydro's approach will not allow it to focus on the poles most needing attention. In addition to the response provided above, there are two other reasons why this conclusion is unsupported. First, the charts that Energy Probe has reproduced cover only those poles to be addressed by the Overhead Infrastructure Segment. Other segments, notably Box Construction and Rear Lot, will also address poles in poor and very poor condition.[59] Second,

[53] Tab 4, Schedule D1, page 52.
[54] *Idem.*
[55] Tr.2, page 69.
[56] Tr.2, pages 73-74.
[57] Tr.2, pages 76-77; Tab 4, Schedule B4, pages 1-10; Of course, should one or more poles in an area be found to be in good condition, because they were already replaced on a reactive basis (e.g., after a vehicle collision) they will not be replaced (Tr. 2, page 76).
[59] Tr.2, page 79.

poles are replaced on a reactive basis if they are deemed to be in imminent danger of failing.[60]

67. SEC, while adopting Energy Probe's submissions, on this segment adds its own illogical twist.[61] In SEC's view, the fact that Toronto Hydro has chosen to create jobs in which a number of assets requiring replacement are efficiently replaced together means that these required replacements are discretionary. SEC's argument effectively amounts to the following: "if replacing asset A is non-discretionary and replacing Asset B is non-discretionary, then replacing both assets A & B together is not non-discretionary." With respect, this argument is illogical.

68. In sum this program will allow Toronto Hydro to address wood poles requiring replacement as well as other associated equipment in an efficient and integrated manner, which is the only prudent way to approach this non-discretionary work. In Toronto Hydro's submission, the full budget proposal for this segment should be approved.[62]

Segment B5 – Box Construction

69. The 15 jobs in this segment will convert 16 4kV box construction feeders to 13.8kV overhead construction to address safety, reliability and load capacity issues (Tab 4, Schedule B5, page 1).[63] There are also secondary benefits arising from this segment, including support for Toronto Hydro's long-term decommissioning of its aging 4kV stations.

70. While Board staff indicates that the primary purpose of the work in this segment is to decommission eight 4kV Municipal Stations (MS), this statement is inconsistent with Toronto Hydro's evidence.[64] Toronto Hydro's unchallenged evidence states that the proposed box construction conversion work is needed primarily to: improve worker safety; address reliability issues due to the age and condition of the assets; provide increased capacity; decrease outage restoration times; and reduce line losses. The paragraphs below provide detail on some of the key

[60] Tr.2, page 78; BOMA also recommends the spending for the program be reduced and that Toronto Hydro be directed to replace only poles in poor and very poor condition until its pole replacement policy is clarified (BOMA argument, page 44). This argument has already been addressed above in response to Energy Probe.
[61] SEC argument, paragraphs 7.5.3 through 7.5.5.
[62] See also Toronto Hydro`s Visual Support Booklet, page 16.
[63] Box construction refers to a type of legacy 4kV overhead construction that was previously used in the former City of Toronto and still exists in some areas of the city.
[64] Board staff argument, pages 19-20.

drivers.[65] Following this, Toronto Hydro addresses the flaw in logic underlying Board Staff's proposed funding cut to demonstrate that Board Staff's position should be rejected and the requested level of funding for this segment should be approved.

Safety

71. The first driver for this work is the potential safety risk posed by box construction.[66] By its nature, box construction entails a high concentration of cables in one spot, increasing the potential risk of a shock hazard to crews working on it. In addition, with box construction, some circuits cannot be accessed with bucket trucks due to the physical arrangement of the feeders running through a single box pole, forcing line crews to climb the poles and increasing the potential safety risk.[67] Box construction can also impose other potential safety risks on personnel; it can require that they operate legacy equipment such as obsolete "Positect" switches[68]; it can prevent crews from achieving the air gap between themselves at energized conductors.

72. Finally, although Toronto Hydro personnel have worked on legacy box construction with similar clearances for years, the company is obliged to maintain safe clearances pursuant to current regulated clearances (e.g. Electrical Utilities Safety Rules (EUSR) Rule 129).[69] Toronto Hydro has provided extensive evidence in respect of these and other safety-related issues pertaining to box construction, including minutes of the company`s *Joint Environmental Health and Safety Committee* pertaining to the safe limits of approach regarding box construction pursuant to Rule 129.[71]

73. Even taken in isolation, the identified safety issues combined with the advanced age of the box construction assets in its system[72] are sufficient to render the work proposed in this segment non-discretionary.[73]

Reliability

74. Toronto Hydro's evidence also shows that box construction feeders are less reliable than those operating at 13.8kV. Box construction infrastructure includes a

[65] The complete list of drivers is set out at Tab 4, Schedule B5, pages 2-3.
[66] Tab 4, Schedule B5, pages 10-11, Table 3.
[67] *Idem.*
[68] *Idem.*
[69] *Idem.*
[71] Tab 4, Schedule B5, Appendix K.
[72] Much of which dates to the 1950s and 1960s (Tab 4, Schedule B5, page 13).
[73] See also Toronto Hydro`s Visual Support Booklet, pages 17-19, 23.

significant number of assets that are approaching or have passed the end of their useful lives.[74] As a result, box construction feeders have a disproportionately large impact on reliability. Toronto Hydro has provided evidence that average outage duration on a 4kV box construction feeder is double that of 13.8kV overhead feeders built to current construction standards.[75]

Load and Capacity

75. Box construction makes it difficult to add sufficient capacity particularly to serve the needs of large customers.[76] Toronto Hydro has provided documentary evidence of instances in which 4kV feeders with Box construction have been over- capacity and unable to serve local customers.[77] These instances of overloaded 4kV feeders will only increase with time.

76. VECC states that Toronto Hydro did not provide any evidence in respect of this driver. This is inaccurate. Toronto Hydro's evidence on this point is cited above. This evidence explains that the load capacity of 4 kV box construction feeders is less than a third of the capacity of 13.8kV overhead feeders.

Clearance

77. Due to their large size and configurations, box construction often causes clearance issues with nearby buildings. As a result, box construction can require extensive isolation of the conductors and other temporary solutions to maintain compliance with standards.[78]

MS Conversion

78. Despite this extensive evidence on the drivers for the project summarized above, Board Staff argues that decommissioning of eight MS is the primary motivation for funding this segment. They persist in making this claim even though Mr. Paradis, directly refuted it in cross examination by stating: "the primary driver is not the conversion. The driver is associated with the age of the infrastructure and some of the safety concerns that we've highlighted in the business case...".[79]

79. Based on the erroneous claim that this segment is really about MS decommissioning, Board Staff, supported by others argues that the Board should

[74] *Idem*., pages 13-14. Box construction was installed in the 1950s and 1960s (Tab 4, Schedule B5, page 13).
[75] *Idem*., page 14.
[76] *Idem*., pages 11-12.
[77] Tab 4, Schedule B5, Appendix F.
[78] Tab 4, Schedule B5, page 12.
[79] Tr.2: page 96, lines 15-18; see also page 98, lines 17-27.

focus on whether Toronto Hydro has established the need to decommission the eight MS associated with this segment.[80] Board Staff concludes that because Toronto Hydro has provided dissolved gas analysis for 5 of the 8 MS, "it would be more reasonable to assume that 5 of the 8 stations are in need of replacement for rate-setting purposes."[81] Board Staff offers no reason why this assumption is more reasonable.

80. In fact, this assumption is not reasonable at all. It is entirely unreasonable to focus on whether or not Toronto Hydro has provided sufficient evidence to support conversion of the MS associated with Box construction feeders because, as explained above, MS conversion is not the main focus of this segment. MS conversion, when it occurs, is a secondary or associated benefit of removing Box construction as proposed as explained Mr. Paradis explained during cross examination.[82] Moreover, for a number of these MS, conversion will occur at some yet undetermined future date because not all of the 4kV feeders emanating from these MS are scheduled to be converted to higher voltage.[83]

81. Since Board Staff proposed funding cut is based on a fundamentally flawed understanding of the purpose of this segment and is calculated on a basis that is inconsistent with Toronto Hydro's evidence about this segment, it must be rejected. No party has provided any other reason to disallow funding, and Toronto Hydro has provided compelling evidence of the safety and reliability needs to be addressed by this project, Toronto Hydro's full request should be approved.[84]

Segment B6 – Rear Lot

82. Energy Probe, supported by VECC and SEC, would have the Board eliminate or sharply reduce funding for this segment. The support for this recommendation is largely the untested suggestions from Energy Probe. Based on these, Energy Probe invites the Board to reject the conclusions that Toronto Hydro has reached on the need to replace rear lot service as the assets providing this service reach the end of their useful lives. This is an invitation the Board should decline. As shown below, Toronto Hydro has conclusively demonstrated that safety, reliability

[80] Staff argument, pages 19-20; Energy Probe argument, page 37; VECC argument, pages 34-35; SEC argument, page 58; BOMA argument, pages 44-45.
[81] Staff argument, page 20.
[82] Tr. 2, pages 96 (lines 8-10) and 100 (lines 5-15).
[83] Tr. 2 Pages 96, (lines 8-10), 99 (lines 8-12) and 100 (lines 10-17).
[84] In support of Board staff's recommended funding cut, SEC states "The Applicant did not undertake analysis (dissolved gas) to determine if Keele MS, Dupont MS and St. Clair MS need to be replaced." (SEC argument, paragraph 7.6.2) Toronto Hydro wishes to make clear that there is a single MS called "Keele and St. Clair" (after its location); these are not two separate MS.

and cost considerations all combine to necessitate replacement of rear lot service and that front lot underground service is the only viable alternative.

83. SEC supports Energy Probe's analysis, but would have the Board completely deny funding for this segment based on need and prudence.[85] The bases for SEC's conclusion are that this segment represents "business as usual" and thus is not needed and that Toronto Hydro's Feeder Investment Model fails to establish the prudence of replacing rear lot with front lot underground service. The first of these arguments is addressed below.[86] The second argument is addressed below in the section on FIM Treatment of Non-asset Risk.

84. SEC fails to consider the evidence that is inconsistent with the disallowance that it advocates for. These disallowances are not theoretical – the safety and reliability of service to specific, identifiable customers will be affected. Those customers have a reasonable expectation that these issues will be effectively addressed.

85. BOMA indicates that the Rear Lot segment should not proceed because it is "more discretionary than many of the other programs…".[87] BOMA offers no evidence to support this view and no way of interpreting this statement against the factors used by the Board in evaluating ICM projects. It is not discussed further.

86. Board Staff offers no objections to this segment.[88] AMPCO and CCC make no comment on it.

Safety

87. Toronto Hydro's evidence is clear that Rear Lot Service causes safety risks to crews who work on it and the residents who are served by it. Crew safety is put at risk because of the difficulty in accessing rear lot facilities for repair and replacement, where poles and equipment often must be hand carried.[89] As Mr. Kerr explained, access for repair is particularly problematic during thunder storms and ice storms when outages are more likely to occur.[90] These access issues also restrict Toronto Hydro's ability to employ the mechanized equipment used to repair front lot service accessible from the roadway. Energy Probe's claim that Toronto Hydro has failed to establish the unique safety risks of working in rear lots

[85] SEC argument, paragraph 7.7.2
[86] See heading 4, "The Board's ICM Model", below.
[87] BOMA argument, page 47.
[88] Board Staff argument, pages 10-11.
[89] Tab 4, Schedule B6, pages 13-15 and 18-21.
[90] Tr.2, page 17.

simply does not take into account the evidence that Toronto Hydro has provided.[91]

88. During cross examination Energy Probe hypothesized numerous methods by which Toronto Hydro could reduce the safety risk to crews from composite poles assembled in sections to motorized dollies. Toronto Hydro is fully aware of these options.[92] In each and every case, Toronto Hydro's witnesses, whom Energy Probe's counsel acknowledged were "the experts",[93] explained why none of these techniques would eliminate the safety risks inherent in repairing and replacing rear lot facilities.[94] As Mr. Kerr put it in response to the suggestion from Energy Probe that Toronto Hydro could feasibly address these inherent safety risks by employing contractors on rear lot work:

> So I don't think it's a fair argument to say that, by contracting out the work we would somehow eliminate the risks.
>
> I mean, those risks are inherent to the work itself, and those risks will be presented to whoever attempts to undertake the work, whether it is a THESL employee or an employee contracted by THESL.[95]

89. Rear lot service also poses a potential risk to the residents because Toronto Hydro's rear lot plant (e.g. energized cable, conductors, switches, and transformers) is located in customer's backyards. This high voltage equipment is often near structures (e.g. houses and sheds), attachments (e.g. clotheslines), and recreation activities (e.g. trampolines and swimming pools).[96]

90. Energy Probe claims that Toronto Hydro has not established these public safety risks because it does not separately track electrical contacts occurring in the rear lot.[97] Toronto Hydro submits that Energy Probe is confusing safety risks with safety incidents. The photographs that Toronto Hydro has provided, which show eaves-troughs, sheds, clotheslines and a trampoline in close proximity to Toronto

[91] See also Toronto Hydro`s Visual Support Booklet, page 28.
[92] Tab 6F, Schedules 7-30 and 7-32.
[93] Tr.2, page 24.
[94] Tr. 2, page 20; Tab 6F, Schedules 7-30 and 7-32.
[95] Tr. 2, page 20.
[96] Tab 4, Schedule B6, pages 23-27.
[97] Energy Probe argument, page 40.

Hydro energized rear lot equipment, illustrate the potential public safety hazards.[98]

Reliability

91. Toronto Hydro's undisputed evidence is that the majority of the rear lot assets it proposes to replace have reached the end of their useful lives or are in poor condition.[99] Due to the age and condition of rear lot assets and because of the number of mature trees located in areas with rear lot service, customers with rear lot service experience frequent outages.

92. Owing to the difficulties in repairing rear lot facilities described in the preceding section, customers with rear lot service experience long-duration outages.[101] Toronto Hydro has estimated that restoring power to rear lot customers typically takes two and a half times longer than restoring power front lot customers.[102]

93. Toronto Hydro presented unchallenged evidence that there were 14 rear lot outages over the past five years, each of which lasted over 15 hours. For these 14 outages:

    - The average duration was 29 hours
    - Ten of these outages lasted over 20 hours;
    - Three outages had a duration of between 40 and 50 hours;
    - One outage lasted over 60 hours;
    - 12 occurred during adverse weather conditions; and
    - Four resulted from tree contacts.[103]

94. Toronto Hydro's evidence also notes that in many cases, critical portions of the primary trunk of 4kV feeders are situated in rear lots. When an outage occurs on the trunk potion of a feeder service to all customers on that feeder is disrupted.[104]

95. Energy Probe criticizes Toronto Hydro's evidence on the duration of rear lot outages because it was based on a sample, which Energy Probe claims, without any supporting evidence, might be biased. In response to an Energy Probe interrogatory, Toronto Hydro explained how the sample was developed as follows:

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[98] Tab 4, Schedule B6, pages 25-28.
[99] Because Toronto Hydro is proposing conversion of existing discrete rear lot areas, it is not possible to replace only those assets in poor or very poor condition. Conversion of an area requires that all rear lot assets be replaced with new front lot underground equipment; Tab 4, Schedule B6, pages 16-18.
[101] Tab 4, Schedule B6, page 14.
[102] Tab 4, Schedule B6, page 7.
[103] Tab 4, Schedule B6, pages 28-29.
[104] Tab 4, Schedule B6, page 29.

> Toronto Hydro conducted a study whereby outages on feeders supplying rear lot areas were plotted in order to determine whether the outage actually originated within an area with rear lot service. Data collected in these rear lot areas from outages that occurred during 2010 and early 2011 was used in the analysis.[105]

96. Energy Probe asked a number of questions about this IR response at both the Technical Conference and the hearing. It did not ask any questions about how the sample of outages was constructed. Notwithstanding that, Energy Probe has apparently concluded that it is appropriate to suggest in argument that this sample is somehow biased. With respect, Energy Probe's submission on this point is simply unsupported by any evidentiary foundation and should be rejected.

97. In both the Technical Conference and the Hearing, Energy Probe attempted to undermine Toronto Hydro's position respecting the relative reliability of the overhead and underground systems. As the transcript clearly shows, he was unable to do so.[106]

98. Toronto Hydro's evidence fully describes the relative reliability:

> The Overhead System and the Underground System have varying non-asset outage causes associated with them because the non-asset factors that affect an overhead system are different from those that affect the underground system. The NAR sources that impact the overhead distribution system include storms, tree contacts, adverse environments (e.g., salt spray), animal/bird contacts, human elements, extreme temperature, and vehicles. However, the underground distribution system is only affected by dig-ins, and then only for underground direct buried cables, because the underground system is sheltered from the majority of risks that face the overhead system. As a result, underground cables located in concrete-encased conduits do not face non-asset risks because the concrete encasement of the cables protects them from dig-ins.[107]

[105] Tab 6F, Schedule 7-34 (b).
[106] TC 1 Tr., pages 17-20 and 2 Tr., pages 26-34.
[107] Tab 4, Schedule B6, page 68.

FIM Treatment of Non-Asset Risk

99. Energy Probe's argument purports to identify a number of "flaws" in the FIM treatment of non-asset risk, which Energy Probe then claims undermines Toronto Hydro's analysis of the relative costs of replacing rear-lot service with front underground service. Toronto Hydro submits that Energy Probe has fundamentally misunderstood how the FIM treats non-asset risk and the relative probability of specific events leading to non-asset risk.

100. Energy Probe claims that by setting the non-asset risk of underground service at zero, Toronto Hydro has skewed the analysis which shows that underground front lot service has a lower cost of ownership than overhead rear lot service.[108] The paragraphs below respond to the specifics of Energy Probe's argument.

101. Energy Probe argues that the asset risk associated with converting to underground service is understated because Toronto Hydro ignores the asset risk on the overhead supply lines serving the newly converted subdivisions.[109] Energy Probe is confused on this point.

102. The FIM model takes the non-asset risk cost of the entire feeder, normalizes it on a per-metre basis and then applies this per-metre cost figure only to the metres of cable in the rear lot area to be converted. Thus, the non-asset risk associated with feeders serving the area to be converted is not included in cost of ownership used in the FIM comparisons; only the non-asset risk associated with the area to be converted is included.[110] This is true in both the in-kind replacement case (Option 2) and the conversion to front lot underground case (Option 4).

103. While, hypothetically, in both cases the FIM could include the non-asset risk cost associated with the feeders serving the rear lot area to be converted, the result would be the same. This would occur because the conversion does not change the non-asset risk of the feeder. Thus the amount of non-asset risk added to the cost of ownership in the in-kind replacement case (Option 2) would equal exactly the amount of non-asset risk added to the cost of ownership in the conversion to front lot underground case (Option 4) and this amount would net out when comparing the two options.

104. Energy Probe's argument also claims that Toronto Hydro has ignored the risk of vehicles and lightning strikes on the riser cables used to connect underground

[108] Energy Probe argument, pages 46-50.
[109] Energy Probe argument, page 49.
[110] Tr.1: page 71.

subdivisions to overhead supply lines.[111] Again the risk of these events is the same whether the cables connect a subdivision with front lot underground service to an overhead supply line, or connect a subdivision with overhead rear lot service to an underground supply line. As Toronto Hydro has shown, rear lot areas are served from both underground and overhead feeders.[112]

105. In cross examination, Energy Probe attempted to establish that Toronto Hydro has ignored two specific risks in setting the non-asset risk of underground service at zero. The first is the risk that a car would hit a pad-mounted transformer. Discussing this risk, Mr. Otal first explained that it happens so rarely that Toronto Hydro does not even have a cause code for this event. He then went on to state Toronto Hydro's design practice for pad-mounted located close to roadways is to install bollards around that transformer to protect them.[115] Mr. Kerr, indicated that for the population of approximately 7,000 pad mounted transformers on Toronto Hydro's system, he was only aware of a single incident involving a vehicle over the past three years.[116] He went on to explain that the cost of a single incident would not be visible since non-asset risk is shown in the millions of dollars.

106. The second risk mentioned by Energy Probe was that corrosion could seep into an underground fault and damage a transformer. Mr. Otal explained that corrosion of a transformer leading to its failure would be considered an asset, rather than a non-asset risk.[117]

Rebuilding Rear Lot Service

107. Both SEC and Energy Probe claim that Toronto Hydro has not established the prudence of replacing rear lot service with front lot underground service rather than just rebuilding existing rear lot service.[118] SEC offers this claim as a basis for denying any funding for this segment, while Energy Probe uses it to justify reducing the amount authorized to an amount that, in its judgement, would be sufficient to rebuild rear lot with tree proof cable and animal guards.[119]

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[111] Energy Probe argument, page 50.
[112] Tab 4, Schedule B6, page 44, line 15 to page 45, line 12.
[115] Tr.1, page 79.
[116] Tr.2, page 48.
[117] Tr.1, page 79.
[118] SEC argument, pages 58-59; Energy Probe argument pages 46-51.
[119] Energy Probe's calculations are incorrect. The project cost of Option 2 (Like-for-Like Replacement of Existing O/H Rear Lot with New O/H Rear Lot) is 12.1% of the cost of Option 4 (Replacement of Existing O/H Rear Lot with New U/G Front Lot). This means that the project cost of the underground front lot option is closer to 8 times (rather than 9 times) the project cost of rebuilding existing rear lot service. The Upfront Project Cost for Option Two is $7.36M (Tab 6F, Schedule 7-39) and there is no information on the record as to how the cost of this option would change with the

108. The foundation for this claim is that underground front lot service is more expensive than rebuilding rear lot service. This comparison looks only at the upfront construction cost of the two options. It does not account for other costs such as the costs of maintenance and customer interruptions and the inherent safety risks of this option. As Toronto Hydro has established throughout its evidence, these are real costs of continuing to maintain the rear lot system.

109. Energy Probe criticizes Toronto Hydro because it did not investigate the potential reduction in non-asset risk achievable through the use of tree-proof conductor and animal guards in rear lot service.[120] Toronto Hydro has two responses.

110. First, Toronto Hydro did not look at how the use of tree-proof conductor and animal guards might impact non-asset risk because such an examination would only make sense in the context of a complete rebuild of an existing rear-lot system. As Mr. Kerr testified, Toronto Hydro sees this proposal as completely infeasible.[121] In Toronto Hydro's submission, there is no value in assessing the relative cost of different components of a construction option which is itself ill-advised.[122]

111. Second, non-asset risk covers any cause that does not relate to the performance of the asset itself, while these include tree and animal contacts, they also include lighting strikes, ice storms, wind and rain storms, human interference and anything else that causes an interruption except asset failure. Tree-proof cables and animal guards do nothing to address these sources of non-asset risk. Moreover, tree-proof cable has no impact in reducing outages from falling trees and tree limbs.[123]

112. Neither of these two parties provided an evidentiary basis for any asserted alternative to Toronto Hydro's conclusion that front-lot underground service is the only viable option for replacing rear lot service.

113. SEC also argues that even if the Board accepts Toronto Hydro's costs comparisons showing the relative benefits of replacing rear lot service with front lot underground service, it should still reject the funding requested for this segment because front lot underground is allegedly too expensive. Toronto

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inclusion of tree-proof cable and animal guards. Energy Probe never asked about this. The Upfront Project Cost for Option Four is $60.8 M (Tab 7, Schedule 1-6).

[120] Energy Probe argument, page 48.

[121] Tr. TC.1, page 22.

[122] Tr.1, page 160.

[123] Tr.2, page 24.

Hydro submits that, to the contrary, failing to even begin conversion of rear lot service represents the greater long-term cost because of the reliability and safety risks inherent in rear lot service.

Segment B7 – SMD-20s

114. BOMA and SEC are supportive of this project segment. Board Staff and VECC have no issues or objections. AMPCO and CCC take no position.

115. Energy Probe submits that while it has no objections to the nature of the project qualifying for ICM relief, the funding should be denied to Toronto Hydro solely because the overall project segment budget is relatively small.[124] Energy Probe raises similar complaints about several project segments. Toronto Hydro addresses this line of argument in paragraph 271 of these submissions.

116. Energy Probe's approach is entirely inconsistent with any prior guideline or decision concerning the ICM, and should be rejected. Given Toronto Hydro's extensive evidence with regard to the critical issues concerning SMD-20s, such as the catastrophic nature of the failures and the projected failure of all units[125] and a confirmation of this fact from the manufacturer,[126] as well as the broad support of intervening parties, Toronto Hydro submits that funding for this project segment should be approved in its entirety.

Segment B8 – SCADA-Mate R1s

117. BOMA and SEC are supportive of this project segment. Board Staff, VECC, and Energy Probe have no issues or objections. AMPCO and CCC take no position.

118. Given Toronto Hydro's extensive evidence with regard to the critical issues concerning SMD-20s, such as incorrect position indication[127] and the random operation of the switches,[128] as well as the support of, or absence of opposition from, intervening parties, Toronto Hydro submits that this project segment should be accepted in its entirety.

Segment B9 – Network Vaults and Roofs

119. BOMA is supportive of this project segment. Board Staff, VECC, and Energy Probe have no issues or objections. AMPCO and CCC take no position.

[124] Energy Probe Argument, para. 4.4.8.
[125] Exhibit B7, pages 5 and 7.
[126] Exhibit B7, page 19.
[127] Exhibit B8, page 7, lines 3-6.
[128] Exhibit B8, page 8, lines 3-13 and Appendices 1 and 2.

120. SEC is supportive but asserts that the pace of replacement can be adjusted to achieve an overall reduction in the capital budget.[129] Toronto Hydro notes that the need and non-discretionary nature of this project segment is well documented and that the proposed vault and roof replacement for 2012-2013 addresses only 27 out of 1064 vaults in Toronto Hydro's system, representing only 2.5 percent of the total.[130]

121. The scope of this proposed project segment is modest. Given the long time frames required for the refurbishing of a vault and the urgent need to immediately address critical safety and reliability issues with many existing vaults, Toronto Hydro submits that funding for this project segment should be approved in its entirety.[131]

Segment B10 – Fibertops

122. BOMA is supportive of this project segment. Board Staff, VECC, and Energy Probe have no issues or objections. CCC takes no position.

123. SEC and AMPCO both argue that this segment is not non-discretionary and should be rejected.[132] Their argument ignores the volumes of evidence concerning the risks of critical failure caused by Toronto Hydro's fibertop units (including vault fires which lead to large interruptions, cause property damage, and compromise crew and public safety).[133] Instead, these parties rely solely on Toronto Hydro's response to Undertaking JT4.1.

124. In the response to Undertaking JT4.1, Toronto Hydro acknowledged that two fibertop units originally scheduled for replacement were located in vaults that were to be rebuilt under the Vaults and Roofs segment and proposed to substitute these two units (which will still be replaced under the B9 Segment) with two others originally scheduled for replacement in 2014. Toronto Hydro submits that a correction of the current forecast list of units to be replaced such as this is not a reason to question the merits of this entire project segment, and that SEC and AMPCO's argument should be rejected.

125. More fundamentally, Toronto Hydro has acknowledged throughout this proceeding that for both operational and practical reasons, changing

[129] SEC Argument, paragraphs 7.10.2 and 7.10.3.
[130] Exhibit B9, page 2.
[131] In respect of potential safety risks, see also Toronto Hydro`s Visual Support Booklet, page 36.
[132] SEC Argument, paragraph 7.11.5; AMPCO Argument, paragraph 155.
[133] Exhibit B10, page 1; see also examples of fibertop-related fires, Toronto Hydro`s Visual Support Booklet, page 37.

circumstances may require the timing and execution of certain jobs to change and shift. This acknowledgement, however, in no way detracts from the non-discretionary nature of the project segments over the ICM period. Rather, it merely reflects the reality of executing complex jobs in a congested urban environment. Toronto Hydro submits that managing jobs within a project segment is a necessary and prudent approach given these operational realities.

126. Furthermore, intervenors' general acceptance that spending should be tracked at the project segment level in the context of the true-up mechanism implies that individual job shifting may occur.

Segment B11 – ATS & RPBs

127. BOMA and SEC are supportive of this project segment. Board Staff and VECC have no issues or objections. AMPCO and CCC take no position.

128. Energy Probe again contends that, while it has no objections to the nature of the project qualifying for ICM relief, the funding should be denied to Toronto Hydro solely because the overall project segment budget of $3.25 million is relatively small.[135] As discussed later in these submissions, Toronto Hydro submits that this approach is entirely inconsistent with any prior guidelines or decisions concerning the ICM, and should be rejected. Given Toronto Hydro's extensive evidence with regard to the critical issues concerning ATS & RPB switches, and the broad support of intervening parties, Toronto Hydro submits that this project segment should be accepted in its entirety.[136]

Segment B12 – Stations Power Transformers

129. BOMA is supportive of this project segment. AMPCO and CCC take no position.

130. Board Staff, with supporting submissions from VECC, Energy Probe, and SEC argue that only seven of the proposed 12 power transformers need to be replaced and that the remaining five transformers can be addressed through increased maintenance.

131. Contrary to intervener arguments, all the units identified for replacement in this project segment are exhibiting significant symptoms of degradation, such as leaks or the presence of certain dissolved gasses indicative of insulation degradation.[137] While Toronto Hydro agrees with Board Staff that age alone should not be the

[135] Energy Probe Submissions, para. 4.4.12.
[136] See also Toronto Hydro`s Visual Support Booklet, page 42.
[137] Tab 4, Schedule B12, pages 10-32.

sole driver for replacement, it is nonetheless an important factor when determining how to optimally address a degraded condition. The five units in question have an average age of 48, which is beyond the typical useful life of 45 years identified in the depreciation study done for the Board.[138]

132. In addition, the work involved to address these symptoms (as suggested by Board Staff) would be much more involved, costly and invasive than what one could consider "routine maintenance". Furthermore, any degradation to the condition of some of the components, such as the paper insulation, will not be reversed through a maintenance and refurbishment program.

133. Given Toronto Hydro's need to address numerous assets in varying conditions, there is a practical limit on the number of assets that can be "closely monitored" at a frequency that would allow for enough time to intervene if necessary. Toronto Hydro submits that certain assets, and these five transformers in particular, have reached a point in which repair and maintenance is no longer the prudent approach. The evidence, which identifies the age, condition, and documents symptoms such as leaking oil, moisture in the insulation, and presence of fault indicating gasses, all support Toronto Hydro's plan for replacement as being the prudent approach.

134. In addition to the disallowance of the five transformers mentioned above, SEC further argues that the program segment budget is in line with historical spending, and therefore is "business as usual" and should not qualify for ICM relief. This position is discussed later in these submissions. The Board should reject any proposed deductions that are based on arbitrary criteria that do not appear in any guidelines or decision concerning the eligibility for ICM relief.[139]

Segments B13.1 & B13.2 – Stations Switchgear

135. These segments address the targeted replacement of aged and obsolete switchgear in Toronto Hydro's Municipal Substations ("MS") and Transformer Stations ("TS"). All of the MS switchgear and most of the TS switchgear identified for replacement are all over 50 years old and past their useful lives.[140] Toronto Hydro's evidence indicates that these switchgear pose potential risks to both the

[138] Asset Depreciation Study for the Ontario Energy Board, Kinetrics (July 2010), page 61.
[139] See heading 4, "The Board's ICM Model", below.
[140] Tab 4, Schedule 13.1, page 3; Tab 4, Schedule 13.2, page 3.

safety of Toronto Hydro personnel and to the reliability of Toronto Hydro's distribution system.[141]

136. Board Staff supports Toronto Hydro's request in respect of ICM funding for ICM segment B13.2 (TS switchgear), but opposes funding for segment B13.1 (MS switchgear).

Safety – Switchgear Condition and Consequences Catastrophic of Failure

137. Board Staff submits that Toronto Hydro could replace the identified MS switchgear over a longer period of time.[142] In support of this conclusion, Board Staff submits that only one circuit breaker has failed catastrophically in the past ten years, and that Health Index data suggests a majority of the identified circuit breakers are in Fair or Good condition.[143]

138. Toronto Hydro's evidence states that switchgear over its useful design life can fail catastrophically at any time.[144] All of the MS switchgear identified in this segment are past their useful lives.[145] In these circumstances, a catastrophic failure can be a truly high-impact event. The one incidence of failure cited by Board Staff occurred at Lesmil MS in 2009. The fire caused by the failure burned Station J to the ground, leaving no substation equipment to repair.[146] Catastrophic failures such as this, especially when occurring in residential areas, carry potential public safety risks in addition to service interruption and consequential costs.

139. As Toronto Hydro explained in an interrogatory response to Board Staff, the health index of the oil breakers is only one of many considerations in determining the need to replace them.[147] As described above, the useful life of such equipment is an important factor. Toronto Hydro has identified circuit breakers that are beyond their useful lives. Other factors can lead to degradation of such equipment, including complications with maintenance and repair, which become increasingly burdensome as the oil breakers identified are no longer manufactured and any replacement parts must be salvaged or custom-made at significant cost.[148]

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[141] *Idem.*
[142] Board Staff Submission, page 22. Board Staff's argument on this point is adopted by BOMA, Energy Probe, SEC, and VECC.
[143] *Idem*.
[144] Tab 4, Schedule 13.1, page 3, lines 12-13.
[145] *Idem*.
[146] *Idem*; Tab 4, Schedule 13.1, page 9, lines 19-21.
[147] Tab 6F, Schedule 1-48, page 2, lines 15-16.
[148] *Idem*, lines 18-19; *Idem*, page 9, lines 9-10.

140. With respect to the overall condition of the switchgear itself, Toronto Hydro provided health index scores for the four units for which health index scores were available. Each of these four units are in Poor condition.[149] Furthermore, the 2012 Asset Condition Assessment Audit conducted by Kinectrics shows that 28 percent of station switchgear are in Poor condition.[150]

SCADA/ RTUs

141. AMPCO submits that Toronto Hydro should not receive funding for the installation of SCADA/RTU control equipment as part of the MS switchgear work.[151] AMPCO argues that this is not a "like for like" replacement.[152] SEC supports this position.[153] AMPCO indicates that it "has arbitrarily assigned a monetary value of $1.96 Million for the cost of the project considered discretionary."[154] On an equally arbitrary basis, SEC has picked a value of $70k per unit ($840k in total).[155]

142. Toronto Hydro's evidence states that the installation of such equipment is an important benefit that is commensurate with the other work to be done in these jobs. Such equipment allows Toronto Hydro personnel to remotely monitor and control the equipment, thereby managing planned and unplanned outages efficiently to minimize outage time for customers.[156] While such equipment may not be "like for like" with that being replaced—in that SCADA and RTU equipment was not available when the original switchgear were installed over 50 years ago—Toronto Hydro submits that the high benefit and low cost relative to the equipment being installed make the inclusion of such equipment a sensible and more to the point, a prudent component of these jobs.

143. The position advocated by AMPCO and SEC that Toronto Hydro must ignore technological advancement and limit its replacement to a 'bare bones" minimum is not consistent with the Board's direction to consider lowest life cycle cost rather than lowest initial cost. THESL submits that this position should be rejected by the Board.

[149] Tab 6F, Schedule 2-24, page 1, lines 3-4.
[150] Tab 4, Schedule D1, pages 25-26.
[151] AMPCO argument, paras. 157-159.
[152] *Idem,* paragraph 159.
[153] SEC argument, paragraph 7.14.3.
[154] AMPCO argument, paragraph 159.
[155] SEC argument, paragraph 7.14.3.
[156] Tab 4, Schedule B13.1, page 16, lines 6-11.

Proposed Reductions to Transformer Station Work

144. VECC proposes reductions to Toronto Hydro's proposed ICM work on its TS switchgear, on the basis that two transformer stations have Health Indices of "Fair".

145. As with MS switchgear work set out above, health indices do not provide the full context or justification for the proposed TS work. As set out in Toronto Hydro's evidence, catastrophic failure of non arc-resistant switchgear can pose a potential safety risk to personnel operating within transformer stations, and potentially causing a complete station outage.[157]

146. Toronto Hydro also notes that no party takes issue with the reliance on an aging compressed air system for breaker operation or the relatively high maintenance costs associated with air blast breakers and the compressed air system.[158]

147. VECC states that its submissions on this point agree with Board Staff's conclusions.[159] Toronto Hydro believes that VECC has misunderstood Board Staff's position. Board Staff's argument clearly states that it accepts Toronto Hydro's evidence for this segment.[160]

148. Similar to its position on SCADA RTUs, AMPCO proposes that the replacement switchgear that Toronto Hydro has chosen may not represent "like for like" replacement and thus Toronto Hydro's funding should be materially reduced.[161] AMPCO argues that: "Even if Toronto Hydro could establish that there would be additional reliability and operational improvements associated with double bus double breaker supply, it should not be overlooked that it is the most expensive option and not a true like for like replacement."[162] On this basis, AMPCO proposes a $2.43 million reduction to the budget for this segment (although it is not clear what the basis for this particular calculation is).

149. With respect, AMPCO's proposed reduction is not rooted in evidence. Instead, it is based on speculation about bus configurations and switchgear characteristics that presume certain answers to questions that AMPCO did not ask. Hydro has fully supported the replacement technology choices it has made – it has prepared

[157] Tab 4, Schedule B13.2, page 17, lines 4-12.
[158] Tab 4, Schedule B13.2, page 3, lines 7-13; Tab 4, Schedule B13.2, page 5, lines 6-14; Tab 4, Schedule B13.2, page 6, lines 9-13.
[159] VECC argument, para. 122.
[160] Staff argument, page 23.
[161] AMPCO argument, paragraph 163.
[162] *Idem.*

cost-effective designs for this segment, which address reliability and capacity issues specific to each location. Toronto Hydro submits that the Board should provide full funding for this segment and reject AMPCO's proposed disallowance. Toronto

Segment B14 – Stations Circuit Breakers

150. BOMA is supportive of this project segment. Board Staff have no issues or objections. AMPCO and CCC take no position.

151. VECC submits that only five of nine circuit breakers should be replaced, excluding 4 with a current condition rating of fair.[163] Toronto Hydro respectfully disagrees. The failure of circuit breakers is typically a high impact event. The most recent example is the incident at Manby TS in 2010, in which the failure of a single oil circuit breaker resulted in an outage to almost 120,000 customers.[164] Toronto Hydro's evidence demonstrates that the typical useful life of these circuit breakers is 42 years, and only one of the 9 targeted for replacement is less than 37 years old.[165] In addition, over 70 percent of Toronto Hydro's circuit breaker population is over 42 years old, reflecting the urgent need to begin replacing these assets immediately.

152. Energy Probe, as with several other project segments, submits that while it has no objections to the nature of the project qualifying for ICM relief, the funding should be denied to Toronto Hydro solely because the overall project segment budget of $1.31M is relatively small. As discussed later in these submissions, Toronto Hydro submits that Energy Probe's argument is not based on any current ICM criteria and should be dismissed.

153. Similarly, SEC argues that the program segment budget is in line with historical spending, and therefore is "business as usual" and should not qualify for ICM relief. For reasons discussed later in these submissions, Toronto Hydro respectfully disagrees with any proposed deductions based on what is fundamentally an arbitrary criteria that does not appear in any guidelines concerning the eligibility for ICM relief.

[163] VECC Argument, para. 129.
[164] Tab 4, Schedule B14, page 3, lines 12-15.
[165] EB-2010-0142, Exhibit Q1, Tab 2, Schedule 7-2, page 18.

Segment B15 – Stations Control and Communications

154. BOMA supports this segment. Board Staff offer no objection. CCC takes no specific position.

155. In the Stations Control and Communications segment, Toronto Hydro requests $1.14 million in funding across 2012 and 2013 to address reliability and maintenance issues that have developed in respect of Toronto Hydro's SONET fibre optic system and radio system. Toronto Hydro's evidence explains that these systems are vital for operating the system and re-routing electrical supply during planned outages and emergency situations.[166]

156. VECC[167] and SEC[168] argue that, "while the proper operation of the SCADA system is important", the work outlined in this segment is not non-discretionary and therefore ineligible for ICM funding. AMPCO opposes funding for the SONET aspect of the segment, on the grounds that, although losing SONET communications "can be serious", Toronto Hydro has not shown that the work is non-discretionary.[169]

157. As the intervenors acknowledge in the excerpts above, the proper operation of the SCADA and SONET systems is both serious and important to the functioning of Toronto Hydro's distribution system. Toronto Hydro's distribution system is heavily reliant upon a reliable communication network, making redundancy a minimum requirement.[170]

158. The work contemplated by this segment addresses an increasing risk to Toronto Hydro's reliability. Toronto Hydro's witness, Mr. Simpson, testified that the work contemplated by this segment is not a matter of exceeding code requirements or introducing improvements to Toronto Hydro's system. To the contrary, when asked whether the proposed investments exceed Toronto Hydro's requirements, Mr. Simpson stated, "I disagree. If we choose not to make these investments, then we are eroding the reliability that the system presently has."[171]

[166] Tab 4, Schedule B15, page 1.
[167] VECC argument, paragraphs 131-134.
[168] SEC argument, paragraph 7.16.3.
[169] AMPCO argument, paragraph 168.
[170] Tab 4, Schedule B15, page 4, lines 10-11.
[171] 4Tr.30, lines 17-19.

SONET Equipment

159. Toronto Hydro's evidence states that installing the proposed SONET fibre is the "only effective option to mitigate the SONET system reliability issues and ensure continued service. As the SONET lines age, the risk of losing communications in the area where there is no SONET redundancy will increase."[172]

160. Toronto Hydro's evidence sets out the potential adverse reliability consequences of an outage of these systems, including:

- lack of monitoring and controlling vital substation equipment;
- loss of system security and redundancy at HONI supply points and possibly longer outages from poor coordination with HONI; and
- increased risk of prolonged outages to customers served by these communication systems.173

Radio and SCADA Equipment

161. Regarding Toronto Hydro's Etobicoke-area radio communications and SCADA systems, Toronto Hydro has no alternative to the proposed expenditures. The evidence shows that Toronto Hydro's existing equipment has reached its end of life and is obsolete and no longer supported by the manufacturer.[174] The evidence states that customer outage duration will increase "from minutes to hours" with a lack of SCADA communications.[175] Toronto Hydro has previously used spare parts to maintain its existing system, but has exhausted its supply of components and cannot purchase other replacement parts due to obsolescence.[176]

162. Energy Probe submits that, as the dollar amount proposed in this segment is comparatively small, it should not be considered eligible for ICM funding.[177] As discussed later in these submissions, the cost of an individual ICM job, segment, or project is irrelevant to its eligibility for ICM funding. The materiality aspect of the ICM framework is a consideration that applies to the overall ICM application (on an aggregated basis), and not to individual projects, segments, or jobs.

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[172] Tab 4, Schedule B15, page 4, lines 5-6.
[173] Tab 4, Schedule B15, pages 2-3.
[174] *Idem*, pages 16-17; AMPCO IR #27(f), Tab 6F, Schedule 2-27.
[175] Tab 4, Schedule B15, pages 16-17.
[176] *Idem*.
[177] Energy Probe argument, page 53, para. 4.4.16.

Segment B16 – Downtown Station Load Transfer

163. BOMA supports Toronto Hydro's request in respect of ICM funding the Downtown Station Load Transfer ICM segment "because of its importance to Toronto Hydro's ability to backstop a partial or complete station failure, and the fact that the consequences of the failure of a downtown station would be substantial".[178] CCC makes no specific submission.

164. The work in this segment is to address a critical lack of redundancy between Toronto Hydro's downtown stations. The existing distribution system design in the downtown area does not provide back-up for some low probability high impact events such as partial or complete station failure.[179]

165. Board Staff's arguments[180] focus on the completion of Toronto Hydro's partially-constructed feeder tie between Dufferin TS and Bridgman TS. Board Staff submits that Bridgman TS lacks sufficient capacity to provide relief in the event of a significant outage at Dufferin TS, concluding that the proposed investment in this segment is not prudent.

166. Board Staff's analysis underemphasizes two crucial facts. First, the fact that the proposed project will allow these TS to support between 15 and 30% of each other's load means that thousands of customers will have their outage time reduced in the case of a loss of supply to either station. Second, the proposed ICM job for the Dufferin-Bridgman feeder tie is to complete a project that is already 79% complete.[181] The requested $1.94M is necessary to complete the final 21% of this larger, $9.4M project.[182] In Toronto Hydro's submission, it would be imprudent not to complete the final leg of this project and allow it to operate, given the amount of work already completed.

167. Major station outages may be an uncommon occurrence, but when they take place they have a significant effect on a significant number of customers. As Toronto Hydro's evidence states, one 2009 Dufferin TS incident caused 62% of all downtown customer hours of interruption, with this one incident totalling 626,692 customer hours of interruption and 34,308 customer interruptions.[183] Although the Dufferin-Bridgman tie may not have been able to restore service to all affected

[178] BOMA argument, pages 55-56.
[179] Tab 4, Schedule B16, page 2, lines 5-6.
[180] Which are supported by all intervenors other than AMPCO and CCC.
[181] Tab 4, Schedule B16, page 1, line 9.
[182] *Idem*, page 6, lines 2-4.
[183] *Idem*, page 2, lines 18-21.

customers in such an instance, Toronto Hydro considers that a 15 to 30% reduction in the effect of such an event is significant.[184] At the moment, the customers served by the affected feeders have no back-up service, which could expose them to long-duration outages. These are events that can have very significant implications for a broad range of ratepayers.

168. Toronto Hydro believes that the reliability benefit from the work proposed in this segment is sufficiently important to constitute non-discretionary work. Moreover, with nearly 80% of the work already complete, it is manifestly prudent to complete the work and allow the project to function.

Segment B18 – HONI Capital Contributions

169. AMPCO and CCC make no specific submissions in respect of the Hydro One Capital Contributions ICM segment.

170. Board Staff and several other intervenors[186] argue that Toronto Hydro should recover its required capital contributions to Hydro One Networks Inc. ("HONI") on an in-service basis (i.e., when the underlying assets that are the subject of those capital contributions comes into service, and not when Toronto Hydro makes a payment to HONI).[187]

171. Toronto Hydro submits that its capital contributions to HONI are necessary investments and should be recovered on the same basis as any other category of ICM-eligible work in this application. For the reasons discussed earlier in these submissions, Toronto Hydro has filed this application on a capital expenditure basis. Accordingly, recovery for its capital contributions to HONI should be recovered on that basis and not be tied to the date on which associated capital work comes into service.

[184] Technical Conference Tr.1: page 144, line 28; page 145, lines 1, 6-9.
[186] Like Staff, BOMA, EP, SEC, and VECC argue that Toronto Hydro's recovery for capital contributions to HONI should be based on the "Expected Completion Date of Associated Capital Project" table provided in undertaking J3.3.
[187] Staff argument, page 25.

Segment B19 – Feeder Automation

FA Targets Poorly Performing Feeders

172. Board Staff, supported by EP and VECC, opposes any funding for this segment on the sole basis that, it is said, Toronto Hydro's overall Service Quality Indicators (SQIs) are not deteriorating.[188] Toronto Hydro has two responses.

173. First, the overall SQIs referenced by Board Staff say nothing about the reliability of the particular feeders being addressed by this segment. For these feeders, selected for their historically poor reliability, Toronto Hydro has established that installing feeder automation (FA) on the main ("trunk") portions of the feeder will allow Toronto Hydro to use automatic switching to dramatically reduce both the number of customer interruptions (CI) and the duration of interruptions (Customer Hour Interrupted or CHI).[189] Toronto Hydro's uncontroverted evidence shows that implementing FA on these feeders is expected to reduce their CI by 51% and their CHI by 44%.[190]

174. Second, the only reason that Toronto Hydro's overall SQIs have not declined in recent years is because the company has pursued programs like FA and worst performing feeder intervention. In the face of significantly aging infrastructure, Toronto Hydro most continue to develop innovative ways of maintaining reliability. FA is an extremely cost effective way of improving reliability on poorly performing feeders.[191] Toronto Hydro submits that, in order to help Toronto Hydro to continue maintaining existing reliability levels, the Board should approve the funding requested for this segment.

ICM Funding is Not Limited to Spending Focussed on Aged Infrastructure

175. In addition to repeating the claims of adequate reliability addressed above, AMPCO argues that Toronto Hydro's FA spending should not qualify for ICM funding because it does not directly address Toronto Hydro's aging infrastructure.[192] SEC makes a similar argument.[193] In essence, AMPCO and SEC argue that, since Feeder Automation mitigates reliability issues without

[188] Board Staff argument, page 26.
[189] Tab 4, Schedule B19, pages 16-17.
[190] *Idem.*
[191] Tab 4, Schedule B19, page 2.
[192] AMPCO argument, paragraph 179.
[193] SEC argument, paragraph 7.19.2.

focussing on replacing aging infrastructure, the program is discretionary and ineligible for ICM funding.[194]

179. The ICM framework requires that utilities identify the most prudent mechanisms by which to undertake non-discretionary work. The framework does not require that eligible work merely focus on replacing aging infrastructure. Here Toronto Hydro has proposed a particularly cost effective means to improve reliability on feeders that have experienced significant reliability issues in terms of both numbers of outages and outage duration.[195] Toronto Hydro's evidence shows that the work proposed in this segment is the most prudent mechanism by which it can effectively address the imminent reliability degradation discussed above.[196]

FA is Not Being Implemented System-Wide

180. In its argument, BOMA asks a number of questions about FA that are not germane to the funding requested in this application and were never raised in interrogatories, at the Technical Conference or during cross examination.[197] BOMA states that FA "…makes sense when applied to trunk feeders that are experiencing high outages, but are not likely to be replaced in the near future."[198] Despite this statement, BOMA concludes that no funding should be approved for FA because Toronto Hydro has not proposed a comprehensive plan and supporting analyses for a system-wide FA roll out.[199]

181. As Toronto Hydro's evidence makes clear, it is not proposing a system-wide FA roll-out. Instead, Toronto Hydro is proposing to implement FA on particular feeders, which have exhibited poor reliability due to numerous outages on their trunk portion. Thus, while BOMA offers an argument against something that Toronto Hydro is not proposing, it offers nothing to challenge the funding actually requested for this segment.

Other Issues

182. While AMPCO questions whether automatic switching can actually reduce the number of outages customers experience (i.e., CI), Toronto Hydro's evidence on this point is clear and unchallenged. In a typical case, FA will restore between

[194] FA does involve replacing some obsolete switches and other manual switches that are near or at their useful lives, but this is not the focus of the segment (See, e.g., Tab 4, Schedule B19, page 35).
[195] Tab 4, Schedule B19, pages 16-17.
[196] *Idem.*
[197] BOMA argument, pages 58-59.
[198] BOMA argument, page 58.
[199] BOMA Argument, page 59.

67% and 75% of the potentially impacted customers within one minute.[200] In a worst case scenario, 50% of the customers will be restored within a minute.[201] Moreover, compared to rebuilding portions of the feeder trunk, FA is more effective in reducing both CI and CHI because it addresses both asset-related outages and outages due to weather and other non-asset sources.[202] In contrast, rebuilding large portions of the trunk only reduce the probability of equipment-related outages.[203] Finally, AMPCO does not dispute the benefits FA offers in terms of reducing the duration of customer interruptions (CHI).

183. SEC argues that, since Feeder Automation was a pilot project two years ago, it is not possible to characterize it as non-discretionary work today.[204] In Toronto Hydro's submission, the development or relative novelty of a given technology—such as feeder automation—is not material to its eligibility for ICM funding. If, as here, the evidence demonstrates that the proposed work satisfies the ICM criteria, then the fact that the technology being used is relatively new and innovative does not somehow disqualify a project from funding.

Segment B20 – Metering

184. VECC and Energy Probe support Toronto Hydro's proposed ICM work in respect of the Metering ICM segment. Board Staff offers no objection. AMPCO and CCC take no specific position.

185. BOMA argues that Toronto Hydro should "negotiate" a 50% reduction in the amount of legacy transformers required to be replaced by the IESO Market Rules and Measurement Canada.[205] As set out in the evidence, the purpose of the requested capital funding is to fund that portion of the capital work Toronto Hydro must complete in order to remain compliant with IESO Market Rules and Measurement Canada requirements.[206] With respect, Toronto Hydro is not at liberty to "negotiate" obligations arising from its role as a Metered Market Participant. Toronto Hydro has committed to a long-term plan with the IESO for this work and requires the requested funding to complete that plan.[207]

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[200] Tab 4, Schedule B19, page 9. One minute is the cut off point between momentary and sustained interruptions. (Electricity Reporting & Record Keeping Requirements, (Version dated January 1, 2013), Section 2.1.4.2 Reporting on System Reliability Indicators) Momentary interruptions are not considered in either CI or CHI.
[201] *Idem*.
[202] Tab 4, Schedule B19, page 22.
[203] *Idem*.
[204] SEC argument, paragraph 7.19.3.
[205] BOMA argument, pages 59-60.
[206] Tab 4, Schedule B20, page 1.
[207] *Idem,* page 10.

186. Delaying this work could delay the overall implementation of compliant wholesale metering across Toronto Hydro's service territory, which could in turn could leave Toronto Hydro out of compliance with IESO Market Rules. Breach of IESO Market Rules can have serious consequences beyond financial penalties,[208] up to and including the suspension or termination of Toronto Hydro's access to the market.

187. SEC submits that Toronto Hydro's wholesale metering market settlement compliance work is "business as usual" and therefore is not eligible for ICM funding.[209] As discussed above, the novelty of any given piece or category of capital work is irrelevant to its eligibility for ICM funding.

188. SEC further argues that Toronto Hydro has underspent in respect of wholesale metering following its 2011 cost of service ("COS") application (EB-2010-0142) and therefore should not receive the requested ICM funding.[210] SEC's submission overlooks two critical facts.

189. First, the referenced COS application was settled on a reduced, envelope basis and, as such, Toronto Hydro was not required to spend a determined amount on this work. Second, in recent years Toronto Hydro's spending on wholesale metering has been deferred or reduced while Toronto Hydro and the IESO were evaluating a proposed high voltage wholesale metering alternative (the "Alternative Proposal") which had the potential to eliminate the need for distributed wholesale metering throughout individual substations. While the Alternative Proposal ultimately did not provide the benefits that Toronto Hydro and the IESO had hoped, the reduced spending during that evaluative period was appropriate. Toronto Hydro submits that it would be inappropriate to construe the reduced spending during that period as a negative reflection of the need or "executability" of the work proposed in this ICM segment.

<u>Segment B21 – Externally-Initiated Plant Relocations and Expansions</u>

190. Board Staff offers no objection to Toronto Hydro's request for ICM funding in respect of the Externally-Initiated Plant Relocations and Expansions ICM segment. SEC supports Toronto Hydro's proposed Go Transit Georgetown South

[208] *Idem.*
[209] SEC argument, para 7.21.2.
[210] *Idem*, paras. 7.21.3 - 7.21.4.

Service Expansion and Waterfront Toronto work on Queen's Quay.[211] CCC takes no specific position.

Waterfront Toronto / Queen's Quay Boulevard Jobs

191. VECC argues that, while the expansion of Toronto Hydro's proposed plant relocation and expansion work in connection with Waterfront Toronto may be necessary in the long-term, it is not required to address capacity issues in the near term.[212] Similarly, AMPCO claims that this should not receive ICM funding, but doesn't offer any reason. BOMA submits, also without substantive explanation, that Toronto Hydro should bear no more than 50% of the cost of the Waterfront Toronto work.[214] In contrast, SEC supports Toronto Hydro's request for ICM funding in respect of the Waterfront Toronto work.[215]

192. Contrary to VECC's assertion, Toronto Hydro has provided substantial evidence in respect of the near-term capacity issues to be addressed by the Queen's Quay/Waterfront Toronto work. Toronto Hydro's evidence identifies the major development sites along Queen's Quay Boulevard and projected load growth,[216] the existing feeders in this area of substantial development,[217] and the consequent load forecast for Esplanade Station.[218] The evidence shows that if the projected new load were to be connected to Esplanade Station using existing infrastructure, by year 2014 the station's existing bus would exceed the station rated capacity.[219] In Toronto Hydro's submission, the Queen's Quay/Waterfront Toronto work is not only a matter of prudent planning, but also necessary to address near- and long-term capacity issues.

193. The rebuilding of Queen's Quay is a critical component of the plan to revitalize Toronto's Central Waterfront, which is a major joint-initiative of the City of Toronto and the Province. This project is designed to allow for the interconnection and contingency mitigation between downtown stations.[220]

194. Toronto Hydro has coordinated its design and construction with the City and the other parties so that the reconstruction can occur in a coordinated fashion.[221]

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[211] SEC argument, para. 7.20.5.
[212] VECC argument, para. 152.
[214] BOMA argument, page 61.
[215] SEC argument, para. 7.20.5.
[216] Tab 4, Schedule B21, page 13.
[217] *Idem*, page 14.
[218] *Idem*, page 15.
[219] *Idem*.
[220] *Idem*, page 10.
[221] *Idem*, page 7, lines 12-14.

Toronto Hydro understands that the City will impose a moratorium on road cuts in the area once the revitalization is completed, which would prevent Toronto Hydro from installing the additional civil infrastructure.[222] Practically, there will neither be the space nor the opportunity to add underground infrastructure later. The work must be completed prior to the Pan Am Games being hosted by Toronto in July 2015.[223] The upshot is that, if Toronto Hydro does not take part in this large-scale, coordinated planning and construction process, it may be deprived of access to this major utility corridor, resulting in further obstacles and challenges such as alignment constraints and a significant increase in cost.[224]

Other Jobs

195. Toronto Hydro's evidence states that, where electrical plant crosses railway lines, crossing agreements between utility companies and railway corporations typically indicate that the utility is required to pay 100% of relocation costs when requested to move by the railway corporation.[225] Despite this, BOMA submits that Toronto Hydro has not submitted evidence on its obligations to railway corporations.[226] BOMA argues that Toronto Hydro should provide a legal opinion on its obligations under such crossing agreements.[227] BOMA did not raise this issue during cross-examination of Toronto Hydro's witness or in the interrogatory process. Toronto Hydro submits that it has filed evidence on this point, as cited above, and that there is no opportunity now to file the documenation that BOMA requests. Toronto Hydro respectfully submits that the uncontested record on this matter provides sufficient support for the position taken be Toronto Hydro.

196. SEC argues that all jobs proposed in this segment, except the Waterfront Toronto and the Go Transit Georgetown South Service Expansion jobs are "business as usual" and therefore is not eligible for ICM funding.[228] Toronto Hydro discusses why this argument is fallacious later in these submissions.

<u>Engineering Capital Correction</u>

197. With the exception of SEC, no parties take issue with Toronto Hydro's correction to its engineering capital of $8.3M, which for purposes of simplicity and clarity was

[222] *Idem*, page 10.
[223] *Idem*, page 8, lines 4-7, lines 28-31; Page 10, lines 7-17; Appendix B.
[224] *Idem*.
[225] Tab 4, Schedule B21, page 23. This situation is not unique to Toronto Hydro. It is common to many utilities, including natural gas utilities.
[226] BOMA argument, page 61.
[227] *Idem*.
[228] SEC argument, para 7.20.4.

presented as a separate line in its summary of project segments (rather than confusing the record by revising the entire suite of ICM segment budgets). SEC submits that Toronto Hydro has not provided "supporting materials" for its corrected calculation, and as a result the correction should be denied.[229] Toronto Hydro respectfully submits that it had fully explained the reason for the correction in undertaking JT2.10 and in oral testimony,[230] no additional supporting materials were requested by SEC or any other party, and at no time during the proceeding did SEC nor any other party question the validity of this correction. Toronto Hydro submits that there is no valid reason for this correction to engineering capital costs to be rejected.

198. VECC also asks that Toronto Hydro confirm that the $8.3M does not include any amount for "B22 - Grid Solutions."[231] Toronto Hydro confirms that it does not, and that the reference made in oral testimony to segments "B1-B22" meant to refer to the fact that the correction applied to all the project segments, but only those currently under consideration before the Board (*i.e.* specifically B1-B21, but excluding B17 and B18).

C1 – Operations Portfolio Capital

199. Board Staff offers no objection to Toronto Hydro's request for funding in respect of the Operations Portfolio Capital project (the "Operations Portfolio"). AMPCO and CCC take no specific position.

Alleged Overlap between ICM Projects and Emerging Issues

200. A central argument made by several intervenors is that the work proposed within the Operations Portfolio – and particularly within the Emerging Issues sub-portfolio – overlaps with similar categories of work for which Toronto Hydro seeks ICM funding.[232]

201. Intervenors draw differing conclusions from this alleged "overlap". Some conclude that the Emerging Issues portfolio is redundant, alleging that the same work is effectively addressed within other ICM projects, proposing that the OEB grant no funding for emerging work.[233] Other intervenors argue that work addressed under the Emerging Issues portfolio would cannibalize resources from similar jobs within

[229] SEC Argument, para. 7.22.1.
[230] Transcript Vol. 5, page 95-96.
[231] VECC Submissions, para. 156.
[232] BOMA argument, pages 25-26; Energy Probe argument, pages 54-55; SEC argument, page 67; VECC argument, para. 167-168.
[233] Energy Probe argument, page 55; see also BOMA argument, page 26.

ICM projects, with the result that those ICM jobs would be delayed or cancelled.[234]

202. Toronto Hydro submits that these positions should be rejected by the Board, for three reasons.

203. First and foremost, there is no overlap between work in the Operations Portfolio and any ICM project, segment, or job.[235] The Operations Portfolio is required to allow Toronto Hydro to meet its distribution responsibilities to its growing customer base and address the factors leading to gradually worsening reliability.[236]

204. The specific work addressed in the Operations Portfolio is not the subject of an ICM project or segment, or job, but in some cases it will necessarily be of a similar type. For example, if Toronto Hydro must respond to a fault on a direct-buried cable on a reactive or emergent basis, that work will be of a similar character to certain jobs within the Underground Infrastructure ICM segment. However the ICM segments do not encompass all work that may be required on any given type of assets.[237] As a responsible utility, Toronto Hydro must maintain the capacity to respond to non-discretionary work that arises on a reactive or emergent basis.[238]

205. The fact that emergent or reactive work may arise does not detract from the non-discretionary nature of the work identified within Toronto Hydro's proposed ICM projects.

206. Second, Toronto Hydro submits that there is no basis on which to conclude that any work done on a reactive or emergent basis under the Operations Portfolio would have a material impact on the planned work set out within any ICM project or segment. It is in the nature of a mature utility with a dense urban customer base that necessary work will arise on an emergent or reactive basis. The resource requirements of such a situation are "highly dependent on the circumstances" of the individual scenario.[239] If resources must be reallocated from planned work, Toronto Hydro's expectation would be to reschedule that planned work within the same year.[240]

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[234] SEC argument, para. 7.23.2; VECC argument, para. 167.
[235] Tr.1: page 116, lines 26-28.
[236] Tab 4, Schedule C1, page 1.
[237] Tr1: page 81, lines 26-28.
[238] *Idem*, page 119, lines 3-4.
[239] Tr1: page 85, lines 6-7.
[240] Tr1: page 85, lines 18-19.

207. Toronto Hydro has acknowledged that if unplanned, non-discretionary work were to arise at the end of a calendar year, depending on the circumstances and available resources, it may be necessary to reschedule planned work into the next calendar year.[241] Toronto Hydro submits that the possibility of such a scenario – which is based on a series of assumptions – provides no basis to reduce funding for emergent or reactive work. If anything, such a reduction would be likely to increase such resource constraints.

208. Third and finally, Toronto Hydro submits that the work identified in the Operations Portfolio is non-discretionary and that deferral or reduction of Toronto Hydro's ability to react to such circumstances would likely prevent Toronto Hydro from addressing the associated reliability and safety issues, as well as responding to non-discretionary work of external parties.[242]

Customer Connections Capital

209. BOMA argues that Customer connection capital, net of customer contributions, is forecast to increase from 2012 to 2013, as capital contributions are shown to decline sharply on a larger amount of gross connection capital. SEC questions Toronto Hydro's ability to perform the work it has proposed in this application, citing in particular a revised workload in 2012 and the specific job requirements demanded by the proposed ICM projects.[243]

Execution of the Work

210. SEC questions the ability of Toronto Hydro to perform the work proposed in this application, citing in particular a revised workload in 2012 and the specific job requirements demanded by the proposed ICM projects.[244] Toronto Hydro submits that its capacity to complete the work is well documented in evidence[245] and further supported by its historic levels of capital spending, particularly in 2011.[246]

211. In addition, should Toronto Hydro fail to complete any portion of the work approved by the Board, ratepayers will ultimately be protected with an appropriate adjustment at the time of true-up. Given this protection for ratepayers, Toronto Hydro submits that there is no reason to limit or restrict any portion of the proposed work on the ground of potential capacity limitations, especially when no

[241] Tr1: page 85, lines 20-23.
[242] Tab 4, Schedule C1, page 8.
[243] SEC Argument, para. 5.6.3-5.6.4.
[244] SEC Argument, paragraphs 5.6.3-5.6.4.
[245] Transcript Vol 1; page 60-61, 147.
[246] Tab 6B, Schedule 6-9.

such limitations have been established in evidence. Toronto Hydro submits that it is capable of completing all of the proposed work, but, even in the event that circumstances prevent it from achieving full completion, ratepayers will be held harmless.

3. The Feeder Investment Model is a Valuable Tool

212. The Feeder Investment Model (FIM) is a risk based model to identify the economically optimal replacement time for aging assets. Toronto Hydro has been using and refining it over the last few years. The model considers the costs of replacing assets and includes the consequences of asset failure for both the utility and customers. The model compares these consequences of failure against the benefits of delaying the capital spending associated with replacement by extending service life as long as possible.[247]

213. Several parties criticized the FIM and urged the Board either to reject Toronto Hydro's FIM analysis or to view the results sceptically.[249] VECC agrees that analysis such as that represented by the FIM is the appropriate way to approach the assessment of cost effectiveness and associated prudence of proposed projects and supports Toronto Hydro's use of such approaches in this context, but goes on to state that the model has limitations and it is important not to rely too heavily on its results.[250] Board Staff also concludes that the FIM is theoretically sound, but expresses concern about the inputs.[251]

214. Many of the criticisms of the FIM are based on a fundamental misunderstanding of how the FIM is used by Toronto Hydro. The FIM is a tool to evaluate the economically optimal timing for replacing assets, either individually or as part of jobs addressing multiple asset types.[252] The FIM does not determine the need to replace assets and Toronto Hydro has not used it for this purpose.[253] Instead, the FIM shows the cost-effectiveness of Toronto Hydro's proposed projects and segments and thus, as explained by Mr. Otal, it supports their prudence.[254]

215. The specific criticisms of the FIM largely fall into two major categories: 1) the customer interruption costs used in the FIM and 2) the way the FIM calculates the amount of load that would be interrupted in an asset failure. Many of the criticisms

[247] Tab 2, Appendix 4, pages 1 and 4.
[249] Board Staff Submission, pages 14-15; Final Submissions of AMPCO (AMPCO Argument), pages 24-28; SEC Argument, pages 51-54. Energy Probe adopts the general criticisms of the FIM advanced by Board Staff and AMPCO, but adds specific criticisms of the use of FIM in particular business cases (Energy Probe Argument, page 50).
[250] Final Submissions on behalf of the Vulnerable Energy Consumers Coalition (VECC Argument), paragraph 64.
[251] Board Staff Submission, page 12.
[252] Tab 2, Appendix 4.
[253] As detailed throughout Toronto Hydro's evidence, the need for the proposed projects is based on asset condition, age, known reliability issues and safety issues specific to certain assets.
[254] 1Tr.131.

have no evidentiary basis.[255] Some of them are simply wrong. None of them, separately or together, raise any doubt that the FIM is a valuable tool as Toronto Hydro has used it.

Customer Interruption Costs

216. Parties have asserted that the customer interruption costs, are too high, not specific to Toronto and averaged across customer classes. In fact, Toronto Hydro has shown that its customer interruption costs are within the range of costs used by other utilities including Hydro One Networks Inc.[256] These costs were developed with consultants who have worked with utilities in other jurisdictions to derive similar costs.[257] In contrast, the parties claiming that the interruption costs are "too high" offered no evidence on the record to support their view.

217. A number of parties questioned the customer interruptions costs, alleging they are not specific to Toronto Hydro. They asserted that using the data of Hydro One Networks Inc. or other utilities as a proxy was somehow inappropriate. With respect, they offered no evidence, nor any reason why Toronto Hydro's customer interruption costs should be considered to be markedly different than these proxies.

218. Board Staff argues that the FIM is extremely sensitive to the values that Toronto Hydro has chosen for customer interruption costs.[258] This argument is based on a misunderstanding of the response to Undertaking J1.5.[259]

219. In the response to Undertaking J1.5, Toronto Hydro re-ran the FIM analysis for a specific job using customer interruption values that are only 10% and 20% of the values used in the original analysis. Board Staff asserts that this Undertaking response shows that the job is uneconomic at the lower values for customer interruption costs. With respect, this statement is incorrect.[260] What the

[255] AMPCO's argument is particularly striking in the number of unsupported and incorrect assertions it makes about the use of customer interruption costs in utility planning and its reliance on information that it acknowledges is clearly outside the record of this proceeding (AMPCO Argument, paragraph 105). AMPCO pulls figures from the air and offers up its own failure to request additional information as a reason to reject the data provided by Toronto Hydro (AMPCO Argument, paragraphs 105 and 106).
[256] Tab 6F, Schedule 1-27, pages 3 and 4.
[257] Tab 6F, Schedule 1-27, page 1.
[258] Board Staff Submission, pages 13-14.
[259] Tab 8, Schedule 1-5.
[260] Board Staff's argument erroneously compares the Job Cost of $2.9M to the Three-year Avoided Risk Cost. This is incorrect because the Job Cost is already included in calculating the Project Net Cost figures for both 2015 and 2012.

Undertaking response shows is that, even if the customer interruption costs are only a tenth of the values used by Toronto Hydro, the job still has a positive avoided risk cost. That is, it is more economic to do the job now than to postpone it for three years even if the customer interruption costs are only ten cents on the dollar.

220. Toronto Hydro acknowledges that it may ultimately be desirable to develop customer class specific interruption costs. At this time, though, the available data does not allow Toronto Hydro to track usage at the asset level by customer class.[261] This information would be required to integrate customer class-specific interruption costs into the FIM.

221. In any event, the average interruption costs that Toronto Hydro uses are on a per kVA basis. This necessarily means that the interruption costs used for larger customers with larger loads are greater than those for residential customers with smaller loads.[262] For example, using the values in the FIM a two-hour outage for a large 3,000 kVA customer would be valued at $180,000 while that same outage for a 1.5kVA residential customer would be valued at $90.[264] Thus while further refinements to the FIM may be possible, the interruption costs currently employed in the model adequately differentiate among the impacts of outages on various customer classes.

222. This weighting of the customer interruption costs by load also answers AMPCO's criticism that the FIM values an outage that interrupts many residential customers more highly than an outage that interrupts only a few large industrial customers.[266] Contrary to AMPCO's claim, the FIM values an outage caused by a piece of equipment capable of serving a single large industrial customer with a 3,000 kVA load exactly the same as an outage of the same duration caused by a piece of equipment capable of serving 2,000 residential customers each with a 1.5 kVA load.

The difference between these two figures is the Avoided Risk Cost (last column of Undertaking J1.5) , which determines whether it is economic to undertake the job now or postpone it .

[261] 1Tr.136.

[262] 1Tr. page 109; Tr. Tech. Conf. 2, page 67.

[264] Cost for an industrial customer = ($30/kVA* 3,000kVA) +($15/kVA/hour * 3,000 kVA* 2 hours) = $180,000. Cost for a residential customer = ($30/kVA*1.5 kVA) +($15/kVA/hour * 1.5kVA * 2 hours) = $90

[266] AMPCO argument, paragraph 117.

Use of Asset Peak Load as Proxy for Lost Load

223. With respect, Board Staff incorrectly states that the FIM uses "total 'Peak Feeder Load' as a single metric to represent all load undifferentiated by customer classes."[267] AMPCO makes a similar statement.[268] In fact, the FIM uses a more detailed metric than Board Staff or AMPCO suggest: peak loading on the specific assets being analyzed for replacement ("asset peak load"), rather than peak load of the feeder on which these assets are located.[269]

224. Board Staff and AMPCO criticize the FIM because it overstates the amount of load loss likely to be caused by an interruption especially one outside the peak period.[270] It is important to note that the FIM is not a predictive model designed to forecast the likely impact of an outage. Instead, the FIM uses the amount of load that would be lost from the failure of a specific asset as a proxy for the potential impact of an outage.[271] Thus, contrary to AMPCO's suggestion, the FIM does not attempt to predict when an outage will occur. Rather it shows the amount of load that would be lost from an outage caused by the failure of a particular piece of equipment.[272]

225. AMPCO also claims that the use of peak feeder load will show impacts that are disproportionately high for feeders with low demand factors such as residential feeders.[273] AMPCO is incorrect. As explained above, feeder load is not used in the FIM and feeder load factor has no impact on the FIM results.

226. As explained in the evidence, the asset peak load value is used because it is available at the individual asset level, while average asset loading is not.[276] Toronto Hydro submits that its approach is a reasonable one in order to quantify the impacts that customers could suffer as a result of an outage.

[267] See Board Staff Argument, page 12.
[268] AMPCO argument, paragraph 122.
[269] Tab 6F, Schedule 11-28 (c).
[270] Board Staff argument page 12; SEC argument para. 6.3.5.
[271] Tab 6F, Schedule 11-28(c).
[272] AMPCO argument, paragraph 118.
[273] AMPCO argument, paragraph 122.
[276] *Idem*.

Other Issues

224. AMPCO criticizes the FIM for using "reliability statistics at the feeder level and unitized across the whole feeder on a per metre basis."[277] With respect, Toronto Hydro has shown the first part of this criticism to be incorrect above; the second part is also wrong. Asset risks are based on the probability and consequences of failure for the specific assets being replaced.[278] The only risk that is normalized on a per metre level is non-asset risk, which is included only in the business cases where Toronto Hydro is proposing "non-in-kind" replacement (e.g. Rear Lot).[279]

225. AMPCO also criticizes Toronto Hydro's use of a 100 year period for analyzing cost of ownership for "non-in-kind" replacement.[280] Toronto Hydro fully explained the reason why this period was chosen:

> [t]he NPV calculation must be performed over the same time period for all assets being evaluated, such that a comparison can be made between different assets or set of assets and their respective cost of ownership values. The 100-year period is long enough to cover all major asset classes that are evaluated within the Feeder Investment Model (FIM). Assets with an expected life shorter than the 100-year time period are reflected within the cost of ownership calculation as having multiple life cycles – that is, the replacement cost includes the replacement of the asset when it reaches its anticipated end of economic life.[281]

226. Finally, AMPCO suggests that Toronto Hydro has failed to explain the reliability improvement it is seeking to achieve through this ICM Application and that Toronto Hydro is seeking "radical improvement at great cost."[282] To the contrary, Toronto Hydro has been quite clear in stating that: "The specific projects THESL includes within the ICM reflect the minimum amount of infrastructure renewal THESL must undertake over the next three years to maintain current overall levels of system safety and reliability."[283] While some individual jobs will improve

[277] AMPCO Argument, paragraph 124.
[278] Tab 2. Appendix 4, page 3.
[279] Tab 6F, Schedule 11-29 (a); Tab 6F, Schedule 7-44 (a); 1 Tr. page 66.
[280] AMPCO Argument, paragraph 125-26.
[281] Tab 6F, Schedule 7-43.
[282] AMPCO argument, paragraphs 128-129.
[283] Tab 2, page 2.

reliability for customers who are served by the facilities these jobs replace, on a system-wide basis the overall effort proposed represents the work necessary to maintain, not improve, current levels of reliability.

Arguments for Perfection

230. In the end, the specific criticisms of the details in the FIM largely come down to the suggestion that the FIM is not perfect. Toronto Hydro urges the Board not to make the perfect the enemy of the good. The analytic approach used by the FIM is the correct way of comparing the benefits of undertaking capital investments now rather than deferring them.[284] The only independent evaluation of the FIM on the record confirms that it is an important tool that represents an advancement in distribution planning.[285] The FIM clearly supports the cost-effectiveness of the projects and segments that Toronto Hydro has proposed.

[284] Board Staff Argument, page 12;VECC Argument, paragraph 64.
[285] Tab 4, Schedule D4, pages 14 and 15 and Tab 4, Schedule D2, pages 9-11.

4. The ICM Criteria and Factors are Satisfied

Three Core Criteria

231. In its argument in chief, Toronto Hydro pointed out that there are three core criteria for an ICM application, namely, materiality, need and prudence.[286] This basic proposition has not been challenged in the submissions of other parties. Indeed, some arguments accept the proposition, implicitly if not explicitly.[287]

Need: Safety and Reliability

232. A major determinant for Toronto Hydro's proposed non-discretionary projects in this application is worker and public safety. In addition to its internal programs to maintain adequate levels of safety for both its employees and for the public, Toronto Hydro manages its system to comply with external requirements, including the Electrical Utility Safety Rules, the *Ontario Health and Safety Act*, the Canadian Electrical Code, and various regulations of the Electrical Safety Authority. These external requirements are explicit drivers for a number of the projects discussed in reply above.

233. As outlined in its Manager's Summary, Toronto Hydro follows the hierarchy of controls for safety hazards from the OHSAS (Occupational Health and Safety Advisory Services) 18001 standard. Under this standard, the company first aims to eliminate safety risks altogether.[288] Where Toronto Hydro's distribution equipment is not functioning at an acceptable current standard, it may be the case that a residual safety risk exists. In such a case, this residual safety risk exists no matter how effective Toronto Hydro's other controls may be – as the risk cannot be eliminated except by replacement of the equipment. Accordingly, having equipment which functions acceptably is critical to Toronto Hydro's commitment to ensure workplace and public safety.

234. A second major determinant for Toronto Hydro's proposed non-discretionary projects in this application is maintaining system reliability for its customers and the public at large.[289]

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[286] Argument in Chief of Toronto Hydro-Electric System Limited, paragraph 35.
[287] See AMPCO Argument, paragraph 60.
[288] Tab 2, page 18: (Where it is impossible to eliminate the hazard entirely, Toronto Hydro attempts to: a. identify a less hazardous alternative; b. introduce engineering controls; c. introduce systems that increase awareness of potential hazards; d. introduce administrative controls; and mitigate risk through the use of personal protective equipment).
[289] Tab 2 (Manager's Summary), page 24.

235. Several intervenors in their arguments in respect of certain project segments suggest that Toronto Hydro should take a decisively more-reactive approach to its capital work. They suggest that safety and reliability are, in some cases, not real drivers because not enough has "gone wrong" yet.

236. Toronto Hydro has addressed specific intervenor arguments in this regard above. As a general matter, Toronto Hydro submits that these arguments not only fail to observe the evidence, but are deeply flawed in principle.

237. For one, Toronto Hydro has described in detail throughout this application various incidents related to safety and reliability that have contributed, if not solely driven, the need for certain projects.[290]

238. Second, Toronto Hydro submits that the suggestion that a utility must accumulate a critical mass of safety (or reliability) incidents before qualifying for funding to replace the equipment which poses the residual potential safety risk, is directly at odds with the responsibility to ensure worker and public safety.

239. Toronto Hydro submits that it would be inappropriate for any party to suggest that this work, rooted as it is in the safety and reliability of Toronto Hydro's system, should not be approved or funded in a timely fashion.

Need and Prudence

240. Certain intervenor arguments recognize that the FIM "speaks to prudence"[291] and that an analytical tool like the FIM can help to determine "prudence" but not "need".[292] In this connection, BOMA discusses at some length the distinction between "prudence" and expenditures that are "non-discretionary".[293]

241. There is indeed a difference between expenditures that are "prudent" and those that are "non-discretionary". That being said, though, the two concepts are certainly related to each other.

242. In the context of utility regulation, an LDC cannot act imprudently if it expects to recover its costs, so, from the point of view of cost recovery, "prudence" itself is "non-discretionary". In other words, if prudence dictates that an LDC take a particular course of action to address issues with respect to its asset base at a

[290] For example: Tab 4, Schedule B1, pages 18, 114, 123, 124; Tab 4, Schedule B2, pages 9, 19-24; Tab 4, Schedule B3, pages 5-12; Tab 4, Schedule B4, pages 20-26, 37; Tab 4, Schedule B8, pages 1-8.
[291] See for example SEC Argument, paragraph 6.2.5.
[292] SEC Argument, paragraph 6.2.6.
[293] BOMA's Argument, pages 15-16.

particular time or on a particular schedule, it is in most instances "non-discretionary" for the LDC to take that prudent course of action.

240. It should be noted as well that the Board's ICM guidelines specifically include cost-effectiveness as a consideration for ICM treatment. In this regard, the revised Filing Requirements for Electricity Transmission and Distribution Applications dated June 28, 2012 (the Revised Filing Requirements) state that the evidence in support of an ICM application should include evidence that the distributor's decision to incur the amounts represents the most cost-effective option (not necessarily the least cost) for ratepayers.[294]

241. Toronto Hydro submits that the regulatory framework of the ICM surely cannot be intended to exclude situations in which the prudent and cost-effective solution for a distributor, when carrying out non-discretionary work, is to complete other important, associated work.

242. If the Board's ICM guidelines did exclude these situations, then the guidelines would directly conflict with the regulatory construct that is based on an expectation that utilities will make capital expenditure decisions based on prudence and cost-effectiveness. What is more, the guidelines would also directly conflict with common sense.

243. Some intervenors have approached the ICM as if it is a mechanism that applies, when non-discretionary work is required, so as to allow only a bare minimum of work to be completed. In this sense, intervenors equate the ICM with short term cost minimization and, in effect, emergency patchwork. Toronto Hydro submits that this approach is contrary to the prudence standard that is one of the core criteria of the ICM and contrary to the wording of the ICM guidelines with respect to "the most cost-effective option (not necessarily the least cost)".

244. This approach is evident, for example, in the submissions of Board Staff, SEC and Energy Probe with respect to submersible transformers.[295] These submissions suggest that Toronto Hydro could replace only multi-taps within the underground system, leaving the associated replacement of functioning, but near or beyond end-of-life, submersible transformers for a future job. Toronto Hydro

[294] Revised Filing Requirements, page 9. See also all prior iterations of the Board's guidelines for ICM applications and the Report of the Board on 3rd Generation Incentive Regulation for Ontario's Electricity Distributors dated July 14, 2008, Table 5, page 33.
[295] See heading 2, "THESL's Essential Work and Prudent Workplan", above.

submits that this is precisely the type of short-sighted approach that ratepayers should be protected against.

248. Toronto Hydro has demonstrated in this case that the approach proposed in the submissions of others would ultimately result in a 24% higher cost for the individual unit replacement (when performed separately) than the coordinated approach of replacing both components simultaneously.[296] Toronto Hydro submits that it is imprudent to approach asset replacement in a manner such as this that unnecessarily maximizes costs and customer disruption. Surely, in referring to the "most cost effective option" but "not necessarily the least cost", the ICM guidelines were intended to guard against the very approach that has been advocated in this case.

249. Another example of the short-sighted approach is the argument by some parties that Toronto Hydro's pole replacement strategy should target only the specific replacement of individual poles in very poor condition, rather than addressing areas of poor condition poles and replacing all those of a similar vintage. This is not a prudent approach to pole replacement, as clearly indicated in Toronto Hydro's evidence.[297]

250. When work is carried out in particular area, it would in fact be imprudent for Toronto Hydro to address only select assets, such as poles in failing condition, while leaving assets of a similar vintage but more tolerable condition.[298] The short-sighted approach fails to give due weight to the cost implications, and the inconvenience to customers, of having to return to deploy in an area of work a second time (perhaps in short succession after the first deployment).

251. The distribution system, by its very nature, is made up of assets intended to support service to customers over the long term. It is not prudent to take a short term, piecemeal approach to the repair and replacement of long term assets. It is also not appropriate to proceed in a short-sighted manner that will tend to create or contribute to an infrastructure deficit for present or future customers.

252. In summary, Toronto Hydro submits that the repair of its distribution system should not be carried out in the manner suggested by arguments that favour short-term least cost and piecemeal replacement. Toronto Hydro has

[296] Response to Undertaking J3.2.
[297] 2Tr.76-77; Tab 4, Schedule B4, pages 1-10.
[298] 2Tr.73-74.

demonstrated in the evidence, first, that this approach increases overall costs for ratepayers and creates unnecessary and unwanted public inconvenience and, second, that its approach is to seek the most prudent, cost-effective option to address non-discretionary work on its system. The arguments for piecemeal repairs at higher life-cycle costs should be rejected.

Other ICM Factors

253. Beyond the three core criteria, intervenor arguments reveal a variety of views about the principles and eligibility issues that the Board should consider as part of its deliberations on an ICM application. Given this variety of views about the ICM model, it is rather surprising to see intervenor arguments suggesting that the Board's approach to Toronto Hydro's ICM application should be a rigid application of pre-established guidelines.

254. CCC, for example, says it is "imperative" in this case for the Board to make decisions consistent with its well-established IRM policies.[299] AMPCO urges the Board not to depart from the "standard" ICM approach.[300] If one thing is clear from intervenor submissions, however, it is that their arguments are not based on standard or well-established guidelines for ICM applications.

255. The following are some of the areas where intervenor arguments raise eligibility issues that are not based on standard or well-established ICM guidelines. Indeed, in some instances their arguments are predicated on principles that are either in conflict with the guidelines, or are otherwise unreasonable.

(a) "Like for Like" Replacement

256. AMPCO argues that recovery should be denied where a particular area of work is "not a true like for like replacement".[301] The Board's ICM guidelines do not specify that replacement of assets must be "like for like". On the contrary, the Revised Filing Requirements, as discussed above, indicate that an ICM application should include evidence that the distributor's decision to incur the amounts represents the most cost-effective option. In fact, it is often the case that a "like for like" replacement is not the most cost-effective option.

[299] Final Argument of the Consumers Council of Canada (CCC Argument), page 3.
[300] AMPCO Argument, page 41.
[301] AMPCO Argument, paragraph 163.

(b) "Reasonableness"

257. SEC argues that Toronto Hydro should apply a "top-down" constraint to its ICM request and refers to "reasonableness", both as a test to be applied by management[302] and as an overall standard.[303] AMPCO also suggests that the ICM model is subject to an overall "reasonableness" constraint.[304]

258. Toronto Hydro has developed a capital program that is fully compatible with the ICM criteria as they are reflected in the guidelines and past cases. Toronto Hydro notes in this regard that "reasonableness" is not a criterion. Rather, Toronto Hydro understands that the ICM is intended to reflect work that must be conducted in order to meet the expectations of ratepayers. In this regard, and as discussed in further detail in the rate impacts section below, Toronto Hydro has also considered the overall reasonableness of the rate impacts associated with its proposed ICM program.

259. Toronto Hydro submits that, once capital expenditures have been determined to be "non-discretionary" for the purposes of the ICM criteria, it is not possible to say that "non-discretionary" expenditures are "unreasonable". To put it another way, if expenditures can be eliminated, reduced or deferred on the basis that they are "unreasonable", then those expenditures cannot be "non-discretionary". Requiring an ICM applicant to put its proposed capital spending through a "reasonableness" filter would create an inherent contradiction in the applicant's evidence, because an analysis of whether all of the work is "reasonable" would be inconsistent with the applicant's evidence that the work is "non-discretionary".

260. It is correct, of course, that the Board's mandate is to fix or approve just and reasonable rates. In the context of the ICM model, there is an appropriate path to the determination of just and reasonable rates. This path is to establish ICM spending on the basis of the guidelines and, rather than attempting to apply a "top-down" or "reasonableness" constraint, to consider potential rate impacts and, if necessary, rate smoothing or mitigation. This is the approach that Toronto Hydro has taken in its ICM application.[305]

[302] SEC Argument, paragraph 2.3.10.
[303] SEC Argument, paragraphs 4.4.36 to 4.4.38.
[304] AMPCO Argument, paragraph 47.
[305] See "Rate Impacts", below.

(c) Productivity/Efficiency

261. A theme that is apparent from a number of intervenor arguments is that Toronto Hydro should fund essential capital expenditures by finding productivity or efficiency improvements. VECC, for example, indicates that management can look to "efficiencies" in order to "finance needed capital improvements".[306]

262. There are a number of problems with this argument about efficiencies.

263. First, apart from the requirement of prudence for specific projects, the ICM guidelines do not contemplate evidence about generalized productivity or efficiency and there is no place in this case for evidence and debate about such global efficiencies.

264. Second, it is simply unrealistic to think that efficiencies could be a source of funding for a non-discretionary capital program that is as large as that of Toronto Hydro.

265. To put intervenors' suggestion in some perspective, the existing combined productivity and stretch factors subtract $6.9 million in 2012 from Toronto Hydro's approved 2011 base distribution revenue requirement (-1.32% times $522 million), representing 3% of 2011 approved OM&A of $231 million. For every $100 million of capital spending, Toronto Hydro would have to reduce OM&A by a further amount of approximately $10 million, or a further 4.3% of OM&A, in order to fund such expenditures.

266. Reductions of this magnitude are clearly unreasonable, unsustainable and unwarranted. They would in fact mean a large-scale displacement of OM&A by capital, which Toronto Hydro submits would have serious detrimental effects on service quality and utility operations generally. In any case, the consequences of such actions were never examined in the course of this proceeding and the Board has no evidentiary basis upon which to make the determination that capital spending can be funded through efficiencies.

267. Third, the Board's IRM formula already includes both a productivity factor and a stretch factor; as noted by AMPCO, Toronto Hydro's stretch factor is 0.6% on top

[306] VECC Argument, paragraph 29.

of the productivity factor.[307] It would be a double-counting of stretch factors to require that Toronto Hydro attempt to find even more efficiencies to fund non-discretionary capital spending. Toronto Hydro submits that nowhere do the Board's IRM policies call for a productivity factor, plus a stretch factor, plus additional "stretch" in the event that a utility needs to fund essential and non-discretionary capital work.

(d) "Material Change in Circumstances"

268. VECC proposes a "material change in circumstances" test as part of the Board's consideration of whether certain expenditures are non-discretionary. Simply put, the "material change in circumstances" test is not part of any "well-established" or "standard" ICM guidelines or policies of the Board.[308] Toronto Hydro could hardly have been expected to lead evidence to satisfy this proposed test that was not part of the ICM model when it filed its application.

(e) Proposed Criteria and Principles

269. SEC has offered for the Board's consideration "criteria and principles" upon which Toronto Hydro's ICM application can be assessed. Of course, SEC's effort to lay out criteria and principles is not consistent with the notion that intervenors advocate for in this case: namely, that the Board need only apply standard or well-established guidelines.

(f) "Unusual and unanticipated"

270. As noted in argument in chief, the Board itself has specifically stated that its thinking in regard to the ICM has evolved and one clear example of this evolution is the removal of the reference to "unusual and unanticipated" capital projects from the Board's filing requirements.[309] VECC's submissions appear to argue against this change to the filing requirements that has already taken place.[310]

[307] AMPCO Argument, paragraphs 4 and 5.
[308] VECC Argument, paragraph 60.
[309] See Argument in Chief, paragraphs 33 and 34.
[310] VECC Argument, paragraph 55, first sentence.

(g) Project/Segment Materiality

271. In its discussion of several of Toronto Hydro's proposed project segments, Energy Probe submits that funding should be denied to Toronto Hydro solely because the overall project segment budget is relatively small. Energy Probe makes this submission even though it does not object to the work otherwise qualifying for ICM relief based on the existing ICM model. Toronto Hydro submits that Energy Probe has created an additional and entirely arbitrary test of materiality (in addition to the threshold test of materiality) to be applied on a single project or segment basis. This approach is inconsistent with any prior guidelines or decisions concerning the ICM.

272. While intervenors have made many arguments that are not based on "standard" or "well-established" ICM guidelines, the fact is that the work within Toronto Hydro's ICM application closely parallels work that the Board has already approved under the ICM. This is confirmed in argument by SEC, which says that the "jobs" put forward by Toronto Hydro in this case are "essentially identical to" the "projects" in the Kingston case.[311]

273. SEC suggests, however, that there is a difference between this case and the Kingston case because the Kingston "projects" were not "a continuation of a program of spending from a prior year".[312] First, Toronto Hydro's ICM projects and associated jobs are new and incremental to the rebasing year (2011) revenue requirement.[313] Second, the implication of arguments by SEC and other intervenors is that a project cannot qualify under the ICM criteria if spending on a similar project has occurred in a previous year or years. This is the thrust of the "business as usual" argument made by a number of intervenors.

274. If a proposed job during the IRM period is material, necessary and prudent and therefore meets the ICM criteria, there is no reason to exclude the job from ICM treatment simply because some similar material, necessary and prudent spending has occurred in previous years. Given that Toronto Hydro's projects are "essentially identical to" the projects in the Kingston case, the ICM treatment should be the same regardless of whether Toronto Hydro has done similar work in the past.

[311] SEC Argument, paragraph 4.4.35.
[312] SEC Argument, paragraph 4.4.26.
[313] Response to Board Staff interrogatory 26e, Tab 6F, Schedule 1-26, page 3.

275. The asset base of an LDC does not change simply because the LDC moves from COS regulation to an IRM plan. The fact that, during IRM, an LDC proposes to address issues arising from essentially the same asset base that existed under COS is not a meaningful ground to exclude ICM treatment for material, prudent and necessary capital expenditures.

276. SEC made the "business as usual" argument in the Kingston ICM case.[314] SEC argued in that case that three out of the four projects included in the application did not qualify for ICM treatment because they were not outside the ordinary course of business. This argument did not succeed and the Board allowed ICM funding because "…the need and prudence for each of the four applied-for projects … [had] been established."[315]

277. Toronto Hydro submits that, if, following the decision in the Kingston case, there remained any doubt about the merits of the "business as usual" argument, all such doubt was removed when the Board issued the Revised Filing Requirements in July of 2012. In the Revised Filing Requirements, the Board did not use the words which had previously indicated that the evidence for an ICM application should include a demonstration that the proposed projects are "unusual". The "business as usual" argument has been put to rest not only by the Kingston decision but also by the Revised Filing Requirements.

278. Despite their arguments about the Board applying IRM/ICM policies and guidelines, intervenors have put forward positions as if this is a COS case, rather than an IRM/ICM case. SEC relies on a decision of the Board that dealt with capital spending by Enbridge Gas Distribution Inc. in a COS context.[316] CCC comments at length on Toronto Hydro's capital spending evidence in previous COS cases.[317] BOMA discusses at length the differences between COS regulation and incentive regulation,[318] but then seems to think that evidence of capital budgets under COS regulation is relevant in this case.[319]

279. An ICM filing stands to be considered by the Board on the basis of the ICM guidelines. While COS cases may involve consideration of historic levels of

[314] EB-2011-0178.
[315] EB-2011-0178 Decision and Order, April 19, 2012, page 18.
[316] SEC Argument, paragraphs 2.3.12 to 2.3.14 and again at paragraphs 4.4.37 and 4.4.38.
[317] CCC Argument, pages 3-7.
[318] BOMA's Argument, pages 2-5.
[319] BOMA's Argument, pages 23-24.

spending (at least in the context of consideration of historic year, bridge year and test year costs) the ICM guidelines do not contemplate evidence about proposed spending compared to historical levels. To the extent that proposed expenditures are material, prudent and necessary and therefore qualify for ICM treatment, evidence about capital expenditures in earlier COS cases should have no bearing on the ICM-eligible expenditures.

280. SEC asserts that, in the ICM application, Toronto Hydro has included "basically everything in their capital plan".[320] This assertion quite plainly is not based on the evidence in this case. The evidence in this case is that Toronto Hydro carefully applied the Board's ICM model and, in doing so, took a hard look at its capital spending needs to ensure that its ICM application included only non-discretionary work.[321] There can be no doubt on the evidence in this case that the proposed ICM spending does not include all of the company`s capital spending needs. As Toronto Hydro stated in an interrogatory response to Board Staff:

> As part of the process of constructing the present application, THESL sought to eliminate projects that ... while necessary, have been determined not to meet the standard of urgency and priority that characterize the work included in this ICM application.[322]

281. While, as discussed above and in argument in chief, the core criteria of the ICM model are materiality, need and prudence, VECC advances arguments about a "discrete" criterion. VECC submits that, to meet the "discrete criterion", there must be clear definition of when and where each job will occur.[323] Toronto Hydro submits that, for a number of reasons, the Board should not accept this argument by VECC.

282. Toronto Hydro explained, both in the Manager's Summary[324] and in response to an interrogatory,[325] the basis of its categorization of jobs into segments and projects. Jobs, segments and projects were defined on the basis of unifying characteristics that are directly pertinent to the Board's assessment of the need for and prudence of the work proposed (*i.e.*, the "cost drivers"). These characteristics included, for example, asset category, electrical function, and the

[320] SEC Argument, paragraph 4.4.29.
[321] See Manager's Summary, Tab 2, pages 14-17.
[322] Tab 6E, Schedule 1-15.
[323] VECC Argument, paragraph 42.
[324] Tab 2, pages 14-16.
[325] Tab 6E, Schedule 1-17.

skills and equipment needed to complete the work, which vary considerably across different kinds of work.

283. Toronto Hydro specifically avoided categorizing work on some other basis that would not be relevant to the Board's consideration of the ICM application, such as geographic location. Although it would be possible to define "projects" based on a division of Toronto Hydro's service territory into geographic areas, the result would be of no relevance to the application of the ICM model. For example, it would be of no relevance, in considering the application of the ICM model, whether direct buried underground cable that needs to be replaced is located in North York or East York. Furthermore, the work and the costs involved in each project so defined would be highly heterogeneous and difficult to assess for need and prudence.

284. Toronto Hydro submits that its categorization of the work brings into sharp focus the assets (or groupings of specific and interrelated assets) that serve a well-identified distribution function, the condition of those assets, the need for work on those assets, and the associated costs of that work. All of this, Toronto Hydro submits, is of direct relevance to the Board's consideration of the ICM application.

285. The outcome of Toronto Hydro's approach is that each job is distinct and well defined. The jobs are organized into discrete segments that are coherent, homogeneous and differentiated from each other; and, for convenience of analysis, certain segments with common characteristics and functions are further grouped into projects.

286. VECC's arguments in this area also include assertions about "eligibility criteria" that require "linkage" to a "claimed cost driver".[326] It is not clear whether VECC's submissions use the concept of a "cost driver" in the sense of "reason for the work" or in the sense of a "cost determinant".

287. If VECC is using the concept of a "cost driver" in the sense of "reason for the work", it would be incorrect to conclude that, in the case of a particular job or segment, there can only be one specific cost driver. Clearly, there are many examples of particular assets or groups of assets where poor condition leads to both safety and reliability concerns. It would be neither productive nor sensible to

[326] VECC Argument, paragraph 42.

require that an ICM application segregate work driven by a need to address safety concerns from work driven by a need to address reliability concerns.

288. Alternatively, if VECC is using the concept of a "cost driver" in the sense of a "cost determinant", this is precisely the reason why Toronto Hydro's approach is directly pertinent to the Board's consideration of the ICM application. Toronto Hydro submits that it has been very effective in achieving a categorization of the proposed work that distinguishes between different assets, skill sets, and other relevant cost determinants, so as to provide a transparent and detailed depiction of the associated costs.

289. Another argument made by VECC is that Toronto Hydro did not provide detailed capital expenditure, depreciation and Capital Cost Allowance (CCA) amounts for each ICM-eligible segment.[327] In fact, Toronto Hydro did provide this evidence, as can be seen from the following exhibits:

> (a) the ICM worksheets detail, for each segment, each year and each asset within the segment, the proposed capital cost, depreciation rate and CCA rate;[328]
>
> (b) the capital expenditures, depreciation and CCA from these schedules are summarized by segment in schedules which calculate the ICM capital, depreciation and CCA amounts above the threshold;[329] and
>
> (c) the summarized amounts from those schedules are then shown in the ICM Workbooks[330] and applied in the explicit and detailed calculation of the ICM revenue requirement,[331] which only accepts one capital expenditure/depreciation and CCA value.

290. During the oral hearing, to facilitate a comparison of different approaches to the calculation of an ICM revenue requirement, Toronto Hydro used a factor of 10 percent as an approximation of the revenue requirement impact of amounts spent

[327] VECC Argument, paragraphs 43-44.
[328] Tab 4, Schedules F1-F21.
[329] Tab 4, Schedules F1.2 and F2.2.
[330] Tab 4, Schedules F1.1 and F2.1, on sheet F3.1.
[331] Sheet F4.1.

on additions to rate base. Of course, it has always been the intention of Toronto Hydro to use the Board's detailed models in the final calculation of the ICM revenue requirement.

5. Timely Recovery is Warranted

Purpose of ICM

291. Toronto Hydro submits that the purpose of the ICM should be the ultimate guiding principle for how the mechanism is applied in any given circumstance - no criterion, factor, rule or past practice should be applied so as to undermine this guiding principle.

292. As the OEB stated in its Supplemental Report on 3GIRM:

> "Rather, the capital module is intended…where the distributor has no other options for meeting its capital requirements within the context of its financial capacities underpinned by existing rates."[332]

293. In other words, to the extent that a distributor has essential capital needs that are otherwise unfunded by rates during the IRM term, the ICM is intended to operate as a funding tool between rebasings.

294. Toronto Hydro submits that the purpose of the ICM is itself informed by the objectives that guide the Board in setting just and reasonable rates. Namely, the statutory objectives set out by the *Ontario Energy Board Act, 1998*[333], and the regulatory compact.

295. The OEB Act states that "in carrying out its responsibilities", the Board shall be guided by a number of objectives. THESL submits that objectives 1 and 2 are most salient to this application:

> "1. To protect the interests of consumers with respect to prices and the adequacy, reliability and quality of electricity service.
>
> 2. To promote economic efficiency and cost effectiveness in the generation, transmission, distribution, sale and demand management of electricity and to facilitate the maintenance of a financially viable electricity industry."

[332] "Supplemental Report of the Board on 3rd Generation IRM for Ontario's Electricity Distributors", dated September 17, 2008, page 31.
[333] S.O. 1998, CHAPTER 15, Schedule B [*OEB Act*].

296. The regulatory compact operates in tandem with these statutory objectives that seek to balance ratepayer and utility interests. In the ICM context: where a distributor establishes that the capital work is non-discretionary and the workplan is prudent, the regulatory compact requires that the distributor be provided with timely funding to carry out its workplan.

297. Toronto Hydro submits that its non-discretionary capital needs in 2012 and 2013, coupled with the material level of pre-2012 board approved capital amounts[334], creates a funding gap that Toronto Hydro's existing rates simply do not support.

298. Put simply, Toronto Hydro has no other options to fund this essential work.

Application of the Deadband

299. Toronto Hydro submits that for the purpose of calculating rate adders, the threshold plus the 20% deadband is a mere filtering tool to determine whether a distributor is eligible for ICM funding.

300. This understanding of the deadband is supported by the OEB's stated rationale for the deadband to prevent "marginal applications".[335] Toronto Hydro's application is, of course, clearly not marginal. In this way, the deadband has served its purpose of providing Toronto Hydro a clear line as to "when" its capital needs during the IRM term became so material that it would be appropriate to consider an ICM application.

301. Toronto Hydro submits that the deadband has no application beyond operating as a filtering tool to screen out marginal applications. In other words, having used the deadband to determine whether or not the application is material "enough" to warrant an ICM application, the 20% factor (approximately $30 million per ICM year for Toronto Hydro) should not then be subtracted from Toronto Hydro's gross ICM expenditures.

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[334] These amounts arise because they were: (a) included in THESL's Board approved 2011 year end rate base but excluded from existing rates by virtue of the half year rule; or (b) Board-approved as part of THESL's 2011 capital budget but excluded from existing rates as a result of those amounts remaining in CWIP for the purposes of setting 2011 rates.

[335] "Supplemental Report of the Board on 3rd Generation IRM for Ontario's Electricity Distributors", dated September 17, 2008, at page 33.

302. To make this deduction would mean that Toronto Hydro is required to "go without" funding for the portion of its workplan that falls within the deadband. This would not only violate the purpose of the ICM (including the underlying regulatory compact), but also result in a material and prejudicial non-recovery for capital work that has otherwise been deemed to qualify for ICM funding.

Unrecognized Rate Base

303. As illustrated in the various recovery approaches set out below, and discussed as a separate issue within the Manager's Summary, Toronto Hydro has approximately $103.7M in 2011 rate base additions that, as a result of the way in which COS rates are calculated, remain outside of the rate base that underpins existing rates.[336]

304. In the normal course of successive cost-of-service rate years, rates would be adjusted to accommodate the previous year's unrecognized rate base. In the transition from a 2011 COS year to a 2012 IRM year, however, THESL's existing rates have not been adjusted to reflect the incorporation of the outstanding 2011 unrecognized rate base amount.

305. Accordingly THESL has raised as a stand-alone issue in this application the need for an "adjustment" to reflect these amounts. THESL submits that regardless of whether any such adjustment has been specifically contemplated previously in the ICM context, its appropriateness (applying to all models except the Spend Approach) is driven by two factors: (1) the purpose of the ICM; and (2) in the absence of explicit relief, THESL would suffer a permanent loss of tens of millions of dollars of expenditures which were approved by the Board in 2011.

306. THESL's claim for recognition of 2011 rate base amounts that have not been incorporated into rates arises as a result of the Board's decision to use the half year rule in the ICM year immediately prior to rebasing. The half year rule is appropriately adjusted for when a utility transitions from the last year of an IRM to a rebasing year. In the same way, it is necessary for the Board to make appropriate adjustments in the first year of an IRM. More specifically, the appropriate adjustment in this instance is to include the unrecognized 2011 rate amounts in the consideration of 2012 related ICM applications.

[336] As explained in the hearing on December 14 2012 (day 5), this occurs as a result of the use of average Net Fixed Assets for the purposes of calculating the revenue requirement, despite the year end Board Approved Net fixed assets being, in THESL's case, a materially higher amount; 3Tr. 64-65.

307. To the extent that the Board does not grant Toronto Hydro relief pursuant to the Spend Approach, and as illustrated in further detail below, Toronto Hydro submits that the unrecognized 2011 rate base amounts require recognition either as an element incorporated into the rate recovery model, or relief on stand-alone basis. In particular, in order to properly quantify the level of rate base additions beyond the materiality threshold that existing rates do not sustain, these amounts have to be included as rate base additions in the ICM year.

308. However, in view of the comparison between the Ratebase Approach and the revenue requirement generated by the Spend Approach (both set out below), it has become clear to Toronto Hydro that the operation of the Spend Approach serves as a simplified way to resolve the need for additional funding in Toronto Hydro's circumstances. In other words, should the Board grant relief pursuant to this model, the company will no longer seek recovery of any pre-2012 amounts in the context of this proceeding.

Recovery Models: What the Numbers Mean

309. In the remainder of this section, Toronto Hydro will take the Board through a series of approaches to the timely recovery, through rate adders, for the ICM work program proposed in this application. The numbers that follow are predicated on Board approval of the entire ICM program.[337]

310. Toronto Hydro has developed the following graphic presentation of four options that are derived from the evidence in the case, each of which carries its own discrete set of assumptions and preconditions.[338]

311. The first model – the "**Spend Approach**" – assumes that recovery is derived from the company's expenditures, according to the work program. It does not include or make provision for the unaccounted-for, Board approved capital spending from 2011 (the half year rule relief), or pre-2012 CWIP. As Toronto Hydro stated at the hearing, should the Board grant relief pursuant to this model, the company will no

[337] While Toronto Hydro maintains that it has demonstrated that the work program qualifies for ICM funding in its entirety, to the extent that the Board makes any reductions to portions of that program, the logic of these models remains applicable.
[338] While Toronto Hydro maintains its submission that the deadband should not be subtracted from otherwise ICM-eligible amounts contained within its work plan (as discussed above), pursuant to requests received from parties it has included the deadband in each of its recovery models.

longer seek recovery of any pre-2012 amounts in the context of this proceeding. This would provide for adder recovery equivalent to $90.9M.

312. The second model – the "**Ratebase Approach**" – assumes that recovery is derived on a "traditional" approach to rate base. It is based on the average net fixed assets in each of the three years, which takes into account the opening net fixed assets including the half-year rule consequences in 2012, all in-service additions and CWIP. This would provide for adder recovery equivalent to $87.3M.[339]

313. The third model – the "**True ISA Approach**" – assumes that recovery is derived from the following: opening 2012 incremental net-fixed assets,[340] in-service additions of pre-2012 CWIP, as well as in-service additions for the work program. It includes specific provision for Board approved 2011 capital spending. This would provide for adder recovery equivalent to $97.0M.[341]

314. The fourth model – the "**Hybrid Approach**" – calculates recovery on the basis of the in-service additions associated with the work program, applying the threshold and deadband.[342] It includes pre-2012 CWIP, but does not include the unaccounted for, Board approved capital spending from 2011. Under this model, Toronto Hydro would continue to seek recovery of the unaccounted for capital spend from 2011 as a stand-alone category. This would provide for adder recovery equivalent to $82.5M.

315. In none of these four models does Toronto Hydro seek recovery for any "overspending" beyond historic Board approved amounts, within the context of this proceeding.

[339] Because this model by definition accounts for the so-called 2011 half-year rule relief amounts, should the Board grant relief pursuant to this model, the company would no longer seek stand-alone recovery of any pre-2012 amounts in the context of this proceeding.
[340] This represents the difference between average net-fixed assets in 2011 and closing net-fixed assets in 2011 (i.e. it is equivalent to the 2011 half-year rule relief that Toronto Hydro requested in its application).
[341] Because this model by definition accounts for the so-called 2011 half-year rule relief amounts, should the Board grant relief pursuant to this model, the company would no longer seek stand-alone recovery of any pre-2012 amounts in the context of this proceeding.
[342] The details of this model are set out below. Toronto Hydro calls it the Hybrid Approach because, in Toronto Hydro's submission, to the extent that the Board applies an in-service additions approach, this model is most consistent with the Board's past ICM decisions.

316. The table below (and in Appendix "B" to these submissions) illustrates the application of these four approaches to Toronto Hydro's work program:[343]

TORONTO HYDRO 2012-2014 Rate Application
Summary of Funding Options

	Spend Approach			Rate Base Approach			True ISA Approach			Hybrid Approach		
CAPITAL COMPONENTS	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
Pre-2012 CWIP	✗	✗	✗	67.0	45.5	32.3	67.0	45.5	32.3	67.0	45.5	32.3
PCI Capital												
2012	149.5			67.4	82.1		67.4	82.1		149.5		
2013		145.0			89.2	55.9		89.2	55.9		145.0	
ICM Capital												
2012	125.0			48.9	58.5	17.6	48.9	58.5	17.6	48.9	58.5	17.6
2013		330.0			194.6	135.4		194.6	135.4		194.6	135.4
2011 HYR	✗	✗	✗				103.7			✗	✗	✗
TOTAL OF CAPITAL COMPONENTS	**274.5**	**475.0**	**-**	**183.3**	**469.9**	**241.1**	**287.0**	**469.9**	**241.1**	**265.4**	**443.6**	**185.2**
Average NFA (Calculated)				*2,127.1*	*2,312.6*	*2,520.3*						
Less: Average NFA (in Rates)				*2,015.1*	*2,028.8*	*2,042.6*						
SUBTOTAL	**274.5**	**475.0**	**-**	**112.0**	**283.8**	**477.7**	**287.0**	**469.9**	**241.1**	**265.4**	**443.6**	**185.2**
Less:												
Threshold (PCI)	145.0	145.0					145.0	145.0	145.0	145.0	145.0	145.0
Deadband	28.0	28.0					28.0	28.0	28.0	28.0	28.0	28.0
ICM	**101.5**	**302.0**	**-**	**112.0**	**283.8**	**477.7**	**114.0**	**296.9**	**68.1**	**92.4**	**270.6**	**12.2**

BASE FOR ICM FUNDING	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
2012 ICM Eligible	101.5	101.5	101.5	112.0	112.0	112.0	114.0	114.0	114.0	92.4	92.4	92.4
2013 ICM Eligible		302.0	302.0		283.8	283.8		296.9	296.9		270.6	270.6
2014 ICM Eligible						477.7			68.1			12.2
TOTAL BASE FOR ICM FUNDING	**101.5**	**403.5**	**403.5**	**112.0**	**395.8**	**873.4**	**114.0**	**410.9**	**479.0**	**92.4**	**363.0**	**375.2**

ESTIMATED ADDERS	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
2012 ICM Eligible	10.2	10.2	10.2	11.2	11.2	11.2	11.4	11.4	11.4	9.2	9.2	9.2
2013 ICM Eligible		30.2	30.2		17.2	17.2		29.7	29.7		27.1	27.1
2014 ICM Eligible						19.4			3.4			0.6
ANNUAL ESTIMATED ADDERS	**10.2**	**40.4**	**40.4**	**11.2**	**28.4**	**47.8**	**11.4**	**41.1**	**44.5**	**9.2**	**36.3**	**36.9**
CUMULATIVE ESTIMATED ADDERS			**90.9**			**87.3**			**97.0**			**82.5**

Notes

(a) All approaches are exclusive of amounts THESL invested in its distribution system prior to 2012 over OEB-approved amounts (i.e.. overspend).
(b) All approaches are exclusive of the Bremner station project.
(c) All approaches are exclusive of the rate impacts resulting from the 2014 capital program.
(d) The rate base approach is exclusive of the impact of working capital allowance. The half-year rule consequences are included in average NFA.
(e) The calcuation of adders are based on an estimated 10% rate. This will be updated upon rate finalization.
(f) Under the rate base approach, the 'Base for ICM Funding' is stated on a cumulative basis consistent with the rate base approach. The corresponding adder for 2013 is therefore given by (283.8-112.0)*10%, or 171.8*10% = 17.2.
(g) Under the True ISA and Hybrid Approaches, 2014 estimated adders are obtained by applying the half year rule to the 2014 Base for ICM Funding amounts, and multiplying the result by 10%. The half year rule is applied to 2014, per the Board's 3GIRM methodology.

[343] See Undertaking Response J5.10. Note that the models presented in this document have been corrected to exclude amounts related to the Bremner projects.

Discussion of Four Approaches

317. Toronto Hydro filed its ICM application on the basis of the Board's "capital spending" model and it set out in its argument in chief some of the many indications in the Board's ICM guidelines that this is the correct approach for an ICM application. VECC's argument acknowledges that the "documentation of the ICM" uses the term "capital expenditures" and not "in-service additions".[344] VECC goes on to say that:

> …VECC does not particularly fault THESL for the approach it adopted. In VECC's view this issue is one that clearly falls into the category of what THESL has characterized as "special issues" where clarification is required from the Board.[345]

318. Similarly, CCC says that

> …the term CAPEX and capital spending have been used throughout these documents. Going forward the Board needs to clarify this … distinction and ensure the correct terminology is incorporated into the relevant documents.[346]

319. Later in its argument, CCC adds the following to its comments in this regard:

> The Council, therefore acknowledges that there can be some confusion about the use of capital expenditures vs. in-service addition given the various policy documents refer to "CAPEX". The Council is of the view that this needs to be clarified by the Board, and going forward guidelines and directives be clear that using in-service additions is the appropriate approach"[347]

320. The import of CCC's submission is that, in its view, the IRM policies that CCC referred to as "well-established" must be clarified and indeed amended. As well, Energy Probe says that the OEB Workforms "should be modified to reflect In-

[344] VECC Argument, paragraph 71.
[345] VECC Argument, paragraph 73.
[346] CCC Argument, page 13.
[347] CCC Argument, page 14.

Service Additions (ISAs) rather than CAPEX".[348] AMPCO specifically states its support for this position that the Board workforms should be modified.[349]

321. Needless to say, these proposals that the Board amend its ICM guidelines and its workforms are extremely problematic when taken in the context of this application that Toronto Hydro filed in good faith on the basis of the Board documents that existed at the time of filing. Even if the Board sees fit to amend the guidelines and workforms in the manner suggested by others, any such changes should take effect prospectively and should not operate retrospectively to the prejudice of Toronto Hydro's application.

322. Moreover, the fact that intervenors consider these changes to be necessary for future applications is strong support for the conclusion that Toronto Hydro's application, filed under the now-existing guidelines, should be based on the Spend Approach. Toronto Hydro discusses other support for this conclusion later in these submissions.

323. There is more to the prejudicial effect on Toronto Hydro's application that flows from the positions taken by intervenors. This can be seen from the way in which the intervenors' positions vary on issues such as the inclusion or exclusion of Construction Work in Progress (CWIP) incurred before the ICM period:

> (a) Intervenors accept that, using their "in-service additions" approach to the ICM, it is appropriate to include a carry-forward of Construction Work in Progress (CWIP). Energy Probe says that "carry-forward of CWIP <u>is</u> part of the ISA approach to ICM".[350] (Emphasis in original.) CCC says that it is not opposed to an approach under which in-service additions for 2012 would reflect CWIP from 2011, although it has concerns.[351] SEC says that, in many of the Board's ICM decisions, "the ICM included capital spending in prior years that was brought into service in the ICM year".[352]
>
> (b) VECC accepts that some of Toronto Hydro's pre-2012 CWIP should be included in the "non-discretionary budget" for 2012 and

[348] Energy Probe Argument, page 21.
[349] AMPCO Argument, paragraph 88.
[350] Energy Probe Argument, page 5.
[351] CCC Argument, page 15.
[352] SEC Argument, paragraph 4.2.9.

2013.[353] Other intervenors, however, reject any carry-forward of pre-2012 CWIP. They say that Toronto Hydro should have led evidence that the 2011 projects were non-discretionary[354] and that the projects qualified for ICM treatment.[355]

(c) At the same time, SEC says that the reason for the absence of evidence about whether projects included in pre-2012 CWIP were non-discretionary is because Toronto Hydro filed its application on the basis of the Spend Approach rather than the in-service additions approach advocated by intervenors.[356]

324. It can be seen from this diversity of views that some intervenors seem more willing than others to cherry-pick outcomes resulting in unprincipled disallowances.

325. Toronto Hydro based its ICM application on the Spend Approach, as laid out in the Board's guidelines and workforms. Intervenors now say that these documents should be changed, but Toronto Hydro followed the documents as they existed at the time of the application – and as they now exist. Because Toronto Hydro followed the Board's documents and filed its evidence on the basis of the Spend Approach, certain intervenors say that evidence on pre-2012 CWIP is lacking and Toronto Hydro should be penalized with a denial of all pre-2012 CWIP – even though carry-forward of CWIP is part of their "ISA approach". Beyond any shadow of a doubt, this is not fair; it is not just; and it is not reasonable.

326. A major element of the reasoning that underlies the intervenors in-service additions approach is their perception of what they call the "used and useful" rule. SEC says that the "used and useful" rule has a long history and universal acceptance.[357] BOMA argues that assets in-service, rather than "capital expenditures per se", are the basis for "an ICM treatment" because the Board's ICM policy should be read in light of the "long established" used and useful principle.[358]

[353] See VECC Argument, paragraphs 112, 148 and 169.
[354] SEC Argument, paragraph 4.3.5. See also CCC Argument, page 15.
[355] Energy Probe Argument, page 13.
[356] SEC Argument, paragraph 4.3.3.
[357] SEC Argument, paragraph 4.2.21.
[358] BOMA Argument, page 13.

327. As the Board will recall, before the governing statute empowered the Board, in the fixing or approval of rates, to "adopt any method or technique that it considers appropriate"[359] (such as incentive regulation), the Board was required by statute to "determine a rate base" when setting rates for natural gas utilities.[360] During the period when the Board was required to determine a rate base, the statute explicitly set out requirements for rate base determination.[361]

328. The statutory requirements for rate base determination did not include the "long established" used and useful rule. The specific statutory test was "used or useful". More precisely, the provisions of the *Ontario Energy Board Act* with respect to the determination of rate base included the following:

> The rate base to be determined by the Board … shall be the total of,
>
> (a) a reasonable allowance for the cost of the property that is used or useful in serving the public … and … .[362]

329. In short, the traditional and long established test in Ontario has been the "used or useful" rule.[363] In recent years, the "used and useful" concept has been creeping into Ontario regulatory terminology. As this case reveals, parties seeking to argue for a more restrictive approach to inclusion of assets in rate base tend to favour the "used and useful" terminology.

330. The "used and useful" formulation of the test has been prevalent in the United States.[364] Those who seek to rely on it for argument purposes here in Ontario presumably do so because their perception is that the conjunctive nature of the phrase "used and useful" works to their advantage, in contrast to the disjunctive phrase "used or useful".

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[359] *Ontario Energy Board Act, 1998*, S.O. 1998, c. 15, Sch. B, subsection 36.3.
[360] *Ontario Energy Board Act*, R.S.O. 1990, c. O.13, subsection 19(2).
[361] *Ontario Energy Board Act*, R.S.O. 1990, c. O.13, subsection 19(3).
[362] *Ontario Energy Board Act*, R.S.O. 1990, c. O.13, subsection 19(3), paragraph (a).
[363] See, for example, *Re Union Gas Limited and Ontario Energy Board et al* (1983), 43 O.R. (2d) 489, at page 496, where the Divisional Court (per Anderson J.) said: "The phrases 'just and reasonable' …. and 'used or useful' have been employed to describe the principles and methodology to be used by public utility boards and commissions in fixing utility rates … for many years." For an example of an Ontario Energy Board decision, see the decision in EB-2008-0244 (PowerStream Inc. rates effective May 1, 2009). It is said in this decision (at page 8) that: "The test is used or useful." As well, the decision indicates that submissions by SEC about rate base inclusion were not consistent with "the long-standing regulatory practices in this regard".
[364] See, for example, James J. Hoecker, *"Used and Useful": Autopsy of a Ratemaking Policy"*, (1987), 8 Energy Law Journal 303.

331. Applying the phrase "used and useful" as if it should be read conjunctively is problematic for a number of reasons. While Toronto Hydro will not canvas all of those reasons in this argument, the following observation by the Alberta Court of Appeal is worthy of note:

> The case law, and common sense, dictate that there may be assets included in a rate base which are not in actual use such as standby equipment, and the phrase is <u>often</u> used disjunctively to recognize that situation.[365] (Emphasis added.)

332. As a result, the "used and useful" formulation of the test may be viewed as both conjunctive and disjunctive.[366] In the words of the Alberta Court of Appeal, the phrase "used and useful" has come to import a measure of flexibility in determining when assets may be brought into the rate base.[367] The flexibility of the "used and useful" formulation of the test was expanded upon by an American commentator, who said:

> "This study … shows how flexibly the standard is applied. Used and useful no longer requires that there be a direct and immediate benefit to identifiable ratepayers. …
>
> The criteria of used and useful broadened while its constitutional meaning diminished. It continued to be invoked to protect consumers from bearing certain risks associated with speculative investments and providing profits on prudent investments gone sour, but used and useful ceased to deny utilities access to the ratepayer's purse simply because a utility asset was not actively employed and no immediate service or benefit was being supplied."[368]

It is not correct, as certain intervenors argue, that a "long established" used and useful rule drives the conclusion that the ICM model should be based on in-service additions.

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[365] *Alberta Power Limited v. Alberta Public Utilities Board*, 1990 ABCA 33 (CanLII), at paragraph 47.
[366] *Alberta Power Limited*, *supra*, at paragraph 49.
[367] *Ibid*.
[368] *"Used and Useful": Autopsy of a Ratemaking Policy"*, *supra*, at page 333.

333. As Toronto Hydro pointed out in argument in chief, the intervenors' in-service additions approach means that the initial phase of this proceeding would need to address the 2014 impacts of 2013 spending (or indeed 2012 spending) that comes into service in 2014, due to the inter-year implications of using that approach.[369] VECC[370] and CCC[371] both state explicitly that they take no issue with this point.

334. Energy Probe, however, discusses the impact of "ISAs" in 2014, including amounts from 2014 projects coming into service in 2014 and expresses the concern that what it calls the "likely 2014 Outlook" is "not sustainable from a rates perspective".[372] While Toronto Hydro does not accept Energy Probe's characterization of that outcome as "not sustainable", the ISA analysis presented by Energy Probe is precisely the point that Toronto Hydro has made about rate smoothing.

335. Toronto Hydro's evidence and argument in chief made clear that the capital spending approach to the ICM has a beneficial rate smoothing effect.[373] As set out in argument in chief, Mr. Williams gave the following evidence in this regard:

> As Mr. Seal just described, there's a – given the ICM adders as proposed, there would be a gradual step-up in 2012, 2013. We haven't talked about 2014, but depending on what happens there, there could be either the flat or the step-up.
>
> But I think that what it would do is it allows a gradual path towards the total amount of capital that, subject to a prudence, would be incorporated into Toronto Hydro's net fixed assets during the rebasing period.[374]

336. Toronto Hydro previously provided a representation of the outcome of applying the Spend Approach to the ICM application. The Spend Approach is based directly and specifically on a plain language reading of the Board's own

[369] Argument in Chief, paragraph 52.
[370] VECC Argument, paragraph 75.
[371] CCC Argument, page 14.
[372] Energy Probe Argument, pages 16-17.
[373] Argument in Chief, paragraph 63.
[374] 5Tr.196-197.

methodology for translating capital spending into revenue requirement amounts for the purposes of calculating ICM rate adders.[375]

337. Toronto Hydro submits that there are multiple benefits associated with the Spend Approach. It is preferable that a mechanism used as part of an IRM regime be relatively straightforward and capable of direct and discrete application. As compared to the intervenors' in-service additions approach, the Spend Approach serves this purpose.

338. The Spend Approach, through the application of the threshold to capital expenditures in the year, remains focused on the year in question. For example, Toronto Hydro's application for 2012 ICM relief is limited to the non-discretionary funds expended by Toronto Hydro in 2012. On a capital spending basis there is no need to continue to track the capital spending beyond the ICM year, or to examine the spending from previous years that come into service in the ICM year. By contrast, a model based on in service additions, necessarily involves tracking the interaction between spending in the year that happens to go into service in that year, and spending from previous years that may also go into service in the ICM year.

339. The use of the Spend Approach, in the circumstances of this application, advances the resolution of the issue that arises from the material level of unrecognized rate base associated with Toronto Hydro's Board-approved 2011 capital additions.[376] The actual effect that Toronto Hydro's proposed 2012/2013 work program will have on net fixed assets (and consequential revenue requirement) during the ICM term based on project in-service additions is approximately $87.3 million (expressed as total cumulative rate adders). As discussed at the oral hearing, to the extent that the Board were to determine adders on the basis of the Spend Approach, Toronto Hydro would no longer need to pursue the so-called 2011 half-year rule relief.

340. One of the primary benefits of the operation of the Spend Approach is that it provides sufficient funding for Board-approved changes in Toronto Hydro's rate base during the IRM relative to the rate base that is embedded in rates, without the need to specifically address those needs through a separate mechanism or through the modification of the existing ICM.

[375] See Argument in Chief, paragraphs 20 to 25.
[376] Cite the transcript where this amount is forgone assuming the Spend Model is implemented.

341. As has been explained throughout the course of this proceeding, Toronto Hydro has $103.7 million in 2011 rate base additions that, as a result of the way in which COS rates are calculated, remain outside of the rate base that underpins existing rates.[378] In the normal course of successive COS rate years, rates would be adjusted to accommodate the previous year's unrecognized rate base. In the transition from a 2011 COS year to a 2012 IRM year, however, Toronto Hydro's existing rates have not been adjusted to reflect the incorporation of the outstanding 2011 unrecognized rate base amount.

342. Accordingly, Toronto Hydro raised the need for such an adjustment as an issue separate from the application for ICM-related relief. However, in view of the comparison between the revenue requirement generated by the Spend Approach and the revenue requirement generated by an approach based on changes in net fixed assets, Toronto Hydro concluded that the revenue requirement produced by the operation of the Spend Approach would not leave a need for additional funding in respect of the 2011 unrecognized rate base amount.

343. On the other hand, and as explained further below, were the Board to accept the intervenors in-service additions approach, failure to account for the 2011 unrecognized rate base amount would result in Toronto Hydro being materially underfunded in relation to Board-approved capital spending.

344. The intervenors' in-service additions approach does not produce sufficient funding because it fails to recognize that the materiality threshold, insofar as it represents the "room" in existing rates to accommodate rate base additions, needs to accommodate not only in-service additions related to the particular ICM year spending – it also has to accommodate, at least in the first year subsequent to rebasing, the addition of the unrecognized rate base amounts from the rebasing year that have come into service.

345. Specifically with respect to Toronto Hydro, the calculated materiality threshold assumes $173 million in "room" for rate base additions in 2012 before any additional funding is needed. This is not an accurate view of Toronto Hydro's ability to fund capital spending in 2012. There is an additional $103.7 million in Board-approved rate base amounts that must be accommodated under the materiality threshold in 2012 as well.

[378] As explained in the hearing, this occurs as a result of the use of average Net Fixed Assets for the purposes of calculating the revenue requirement, despite the year end Board Approved Net fixed assets being, in THESL's case, a materially higher amount.

346. Put another way: even if, in theory, Toronto Hydro did not spend a single dollar on capital in 2012, it is not the case that Toronto Hydro's rate base would be implicitly inflated by an amount equal to the materiality threshold (minus the deadband). In reality Toronto Hydro's rate base would be increased, but only by the amount of the materiality threshold (minus the deadband) minus the $103.7 million in rate base that would be implicitly included in rates for the first time in 2013.

347. Similarly, the intervenors' in-service additions approach fails to recognize that, in addition to Board-approved 2011 unrecognized rate base amounts, the materiality threshold (minus the deadband) must also accommodate Board-approved pre-2012 CWIP amounts that become in-service amounts in 2012.

348. In the case of Toronto Hydro, again, even if Toronto Hydro did not spend a single capital dollar in 2012, the materiality threshold, which is approximately equal to 2012 depreciation plus the deadband, would be offset by additions to net fixed assets of not only the $103.7 million in 2011 unrecognized rate base, but also the $67 million in pre-2012 Board-approved CWIP that went into service in 2012. Those amounts total $170.7 million, compared to the standard threshold of $173.0 million. If the deadband is removed, the threshold becomes $145.2 million, and the sum of these two amounts exceeds the threshold by $25.5 million, even if Toronto Hydro spends no capital dollars in 2012.

349. Intervenors take the position that their "ISA" approach has been and should be used by the Board in an ICM context. In support of this position, intervenors argue that that previous ICM applications have been decided on the basis of ISAs[379]; that the use of the 'spend' approach would depart from established regulatory principles[380]; and that the eventual true up mechanism itself is based on 'revenue requirement' which in turn is based on ISAs.[381]

350. If the Board elects to use the ISA model for the calculation of Toronto Hydro's rate adders, then Toronto Hydro submits, as it did in argument in chief, that the Board should ensure that that concept is applied consistently and in accordance with the purpose and principles underlying the ICM framework. The True ISA Approach, as illustrated above, accomplishes this. The approach taken by Board Staff and intervenors generally reflects only a partial recognition of ISAs, which in its effect is not consistent with the purpose and principles underlying the ICM framework.

[379] SEC Argument, para 1.2.8, VECC Argument, page 23-25.
[380] SEC Argument, para 4.2.3; VECC Argument, page 25-26.
[381] VECC Argument, para. 72.

351. In particular, the proposed ISA approach demonstrably underfunds Toronto Hydro with respect to its Board-approved capital needs. In order to remedy this underfunding, pre-2012 CWIP amounts and actual Board-approved 2011 expenditures need to be recognized as occupying a portion of the threshold. This follows logically from the ISA approach as these amounts closed to net fixed assets clearly attract revenue requirement in the same manner as "new" capital (ICM) in-service additions during the ICM years.

352. In the alternative, to the extent that the Board elects to determine ICM adders on an ISA basis but not take account of actual Board approved 2011 expenditures, Toronto Hydro submits that the "Hybrid Approach" is appropriate. This approach is consistent with the model applied by the Board in other ICM cases: actual expenditures below the threshold (less the deadband) should be presumed on a capital spending (rather than ISA) basis.

353. In this case, intervenors have argued that the "ICM must be on an in-service basis", but have (incorrectly) extended their ISA approach to the total capital budget for each of 2012 and 2013 in establishing eligibility above the threshold. What the intervenors propose in respect of calculating the threshold is actually inconsistent with how it has generally been treated by the Board in the past.

354. In past cases, the value used to determine a distributor's ICM eligibility as compared to the materiality threshold has been based on two components: (a) the cost of the ICM project(s); and (b) the distributors remaining capital PCI budget, which was typically presented as "capital spend" for the year.[382] Toronto Hydro submits that even if the Board determines that funding for ICM projects should be granted on an in-service additions basis, the calculation for the material eligibility of funding for ICM relief by application of the materiality threshold should be done on a capital spending basis. In other words, that approach that would be most consistent with the decisions in previous cases would be for the Board to calculate and apply the threshold on a capital spending basis, but apply the in-service rate to qualifying ICM amounts in determining the adders.

[382] The Guelph Hydro (EB-2010-0130) application only refers to "forecast capital expenditures" that will "eventually become in-service assets". Similarly, the Oakville application (EB-2010-0104) refers only to "forecasted capital expenditures", without specifying any in service dates for non-ICM projects. In the Oshawa decision (EB-2008-0205), the Board refers only to a "total capital budget" and eligible "capital spending", without mention of in-service dates. Centre Wellington (EB-2011-0160) based its ICM application on a "capital budget", without mention of in-service dates. Kingston (EB-2011-0178) presents the completion dates of projects above a materiality of $55K, but it is not clear that the entire capital budget used in determining materiality would be in-service that same year. In its Decision, the Board refers only to Kingston's "capital budget".

355. In short, Toronto Hydro submits that the Spend Approach is the most appropriate, administratively simple, and principled model for recovery.

356. Should the Board consider that an ISA-type model is preferable, Toronto Hydro submits that at least one of two fundamental modifications are required in order to correct the inherent inconsistencies in the intervenors' ISA approach. Either pre-2012 CWIP and 2011 Board-approved-but-unrecognized expenditures should be recognized as occupying part of the threshold, which is accomplished by the True ISA Approach or in the alternative, the threshold amounts should be calculated and applied on a capital spending basis. This is accomplished through the Hybrid Approach.

357. In addition, Toronto Hydro has provided a recovery model that is predicated on the "traditional" rate base methodology that would be common in a COS environment. This model has the virtue of illustrating the actual effect of the work program – including 2011 Board approved expenditures and pre-2012 CWIP – on Toronto Hydro's rate base.

358. As discussed above, certain intervenors have argued that there is no evidence that the pre-2012 CWIP relates to non-discretionary work. Of course, pre-2012 CWIP, arising from Board-approved expenditures (*i.e.* excluding the additional capital above the Board-approved amount that Toronto Hydro was required to spend in 2011), represents the completion and putting into service of Board-approved capital spending, when those amounts are closed to net fixed assets. It is difficult to imagine how these expenditures, and the projects to which they relate, could become "discretionary" in 2012. Toronto Hydro cannot undo the work that has been done, and it would be extraordinary to simply stop an incomplete project indefinitely without bringing it to a safe and functional conclusion.

359. Several parties suggest that if the Board applies an in-service additions model to Toronto Hydro's funding request, that the Board should defer granting adders for any of the 2012/2013 work program that comes into service in 2014 until phase 2 of this application is heard[383]

360. With respect, such an argument not only implicitly proposes a violation of the regulatory compact, but it also fails to recognize the prejudicial effect that a lack of

[383] Board Staff Argument, page 9.

timely funding would have on the company's cash flow, financial leverage and avoidable financing costs.[384]

361. Toronto Hydro submits that a 2014 adder for the portion of the 2012/2013 work program that comes into service in 2014 is required in the event that the Board applies one of the recovery approaches other than the Spend approach (as set out above).

362. The reason for this is that to the extent that the phase 1 work program is approved by the Board, timely funding for that approved work is required. Indeed, THESL requires that timely funding and certainty in order to maintain its financial viability.

363. Finally, Toronto Hydro submits that the ISA approach adds a complexity to the true-up process that does not arise from the use of the Spend Approach. If rate adders are to be calculated on an ISA basis, this would require the Board to track and account for the in-service years of spending, with ICM year spending that does not go into service until subsequent years being brought forward for separate, additional relief in a subsequent application.

364. Toronto Hydro submits that all of these factors taken together support Board approval of rate adders in this case on the basis of the Spend Approach. To the extent that the Board nevertheless decides to apply an ISA approach to determine rate adders, Toronto Hydro submits that the Board should be guided by what is just, fair and reasonable. For the reasons given above, the intervenors' ISA proposal in this case is none of these things because it would result in demonstrable underfunding of Toronto Hydro's ICM work.

[384] Discussed in greater detail in Toronto Hydro's Argument-in-Chief, page 7.

6. Rate Impacts are Relatively Modest

365. SEC's argument includes lengthy commentary, which is not based on evidence on the record in this proceeding, about Toronto Hydro's rates and capital spending, as compared to other utilities.[385] This commentary should be given no weight by the Board because it is not from the evidence in this proceeding and because the Toronto Hydro witnesses were not given an opportunity to respond to it in evidence.

366. The filing guidelines make no provision for the inclusion of productivity evidence in an ICM proceeding. It would have been inappropriate for Toronto Hydro to try to insert, in this proceeding, evidence related to this subject matter. Toronto Hydro has an important productivity story to tell, and will at the first appropriate opportunity make it available to the Board and on the public record.

367. As discussed above, SEC also argues that Toronto Hydro should apply a "top-down" constraint to its ICM request and, in common with AMPCO, suggests that the ICM model is subject to an overall "reasonableness" standard.[386] Toronto Hydro's submission is that the correct approach is to establish proposed ICM spending on the basis of the Board's guidelines and, rather than attempting to apply some "top-down" approach.

368. In this case, Toronto Hydro's filing included evidence with respect to bill impacts.[387] As confirmed in the oral testimony of Mr. Seal, the rate impacts of Toronto Hydro's proposed spending are modest. Furthermore, when considered in the context of the proposed essential and prudent ICM work that will help Toronto Hydro meet customers' expectations of safety and reliability, these low-level rate impacts represent real value for ratepayers.

369. The relatively modest impacts of Toronto Hydro's ICM proposal, in comparison with total bills and in comparison with the previous years' bills, can be seen below. The following table shows the distribution-only component for a number of Toronto Hydro's rate classes (excluding rate riders). This table also shows the ICM rate rider request, as well as the total bill (inclusive of distribution, rate riders, ICM rate adders, and transmission, regulatory and commodity components).

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[385] SEC Argument, paragraphs 2.2.1 to 2.3.11.
[386] SEC Argument, paragraph 2.1.3; AMPCO Argument, paragraph 47.
[387] See Manager's Summary, Tab 2, page 30 and see Tab 3, Section C.

Typical Monthly Bill Estimate

	2011 Actual	2012 Current	2013 Proposed	% Increase 2013 vs 2012	ICM Amt in 2013 as % of customers total bill
Residential					
Distribution only	30.41	30.41	30.72	1.0%	
ICM Rate Adder	-	-	3.13	n/a	2.5%
Total Bill	112.53	117.75	123.05	4.5%	
GS<50 kW					
Distribution only	69.24	69.24	70.17	1.3%	
ICM Rate Adder	-	-	7.18	n/a	2.3%
Total Bill	280.85	294.52	306.96	4.2%	
GS 50-1000 kW					
Distribution only	2,206.65	2,206.65	2,236.79	1.4%	
ICM Rate Adder	-	-	226.67	n/a	1.1%
Total Bill	18,425.53	19,398.19	19,891.59	2.5%	
GS 1-5MW					
Distribution only	8,598.03	8,598.03	8,715.50	1.4%	
ICM Rate Adder	-	-	883.06	n/a	0.9%
Total Bill	94,238.61	99,117.96	101,116.63	2.0%	
Large Users					
Distribution only	47,731.93	47,731.93	48,383.37	1.4%	
ICM Rate Adder	-	-	4,902.50	n/a	0.9%
Total Bill	523,889.86	551,200.28	562,748.19	2.1%	

Sources: Tab 3, Schedule C1.2
Tab 3, Schedule C2.2

Notes: ICM Rate adder in 2013 reflects implementation of both 2012 and 2013 ICM request

370. Even though the rate impacts of its proposed capital spending are modest, Toronto Hydro went further in its filing and put forward an alternative approach that would have a rate mitigation effect.[388] The rate mitigation alternative does not appear to have found favour with intervenors, apparently because of a concern about the Board moving away from the "Standard ICM approach".[389] It is surprising, to say the least, that intervenors would reject a rate mitigation proposal

[388] See Manager's Summary, Tab 2, pages 10-13.
[389] See AMPCO Argument, paragraphs 74-78.

on this ground, given that, as set out above, there are many areas where intervenor arguments depart from a standard or well-established application of the ICM model.[390]

[390] See paragraph 52, above.

7. THESL's Implementation Proposals are Appropriate

371. Certain intervenors argue that the effective date for the 2012 rate adjustment should be November 1, 2012, rather than June 1, 2012. This argument apparently is based on the notion that Toronto Hydro should not be allowed a rate adjustment as of the date when the Board's interim order took effect because of delays and because of the evidence update that was filed on October 31, 2012.

372. As for the suggestion of delays, it is clear from the record in this case that Toronto Hydro moved promptly and invested significant resources in preparing and filing a highly detailed and thorough ICM application after the release of the Board's decision in EB-2012-0144 on January 5, 2012. On this subject, SEC states that "there is no suggestion that the current Application was delayed unreasonably after the EB-2011-0144 decision".[391]

373. A notion put forward in CCC's argument is that the motion for review and the appeal filed by Toronto Hydro in connection with the prior Board decision contributed to delay.[392] Toronto Hydro submits, however, that it is entirely inappropriate to penalize a party for exercising appeal rights that are open to it under the legal and regulatory framework, absent some determination that such rights were exercised in an abusive or otherwise improper manner. As well, Toronto Hydro disagrees with the unsupported presumption in CCC's argument that a delay of this application was an unavoidable or consequential outcome of Toronto Hydro taking advantage of appeal rights available to it in respect of the prior decision.

374. As for the evidence update, it is certainly not the case that Toronto Hydro updated the evidence to advance its own interests or to gain some benefit or advantage. Essentially, Toronto Hydro was left with little choice but to proceed with an update because so much time had passed in 2012 that it had become necessary to "take account of the reality" that a Board decision in respect of 2012 spending would not be available until late 2012 or early 2013.[393] No party has taken the position that the evidence update was either inappropriate or unhelpful.

375. For all of these reasons, Toronto Hydro submits that the Board should not accept the arguments about an implementation date of November 1, 2012. It is

[391] SEC Argument, paragraph 11.1.5.
[392] CCC Argument, page 19.
[393] Toronto Hydro letter to the Board regarding the evidence update dated September 13, 2012.

submitted that the rate adjustment for 2012 should be effective as of the date when rates became interim, that is, June 1, 2012.

The Issues List

376. In light of the evidence in this proceeding and the submissions made by Toronto Hydro both in this reply and in argument in chief, Toronto Hydro's has set out its position on each of the issues in the Board-approved Issues List in the Appendix "A" to these submissions.

Conclusion

377. For all the reasons contained in its argument in chief, these reply submissions, and the evidentiary record, Toronto Hydro submits that the relief it requests as set out in Tab 1 of its Application should be granted.

All of which is respectfully submitted.
January 29, 2013

[original signed by]

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Fred D. Cass
Counsel for Toronto Hydro-Electric System Limited

[original signed by]

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Amanda Klein
Counsel for Toronto Hydro-Electric System Limited

APPENDIX A – TORONTO HYDRO POSITION ON BOARD APPROVED ISSUES LIST

APPENDIX "A" – TORONTO HYDRO POSITION ON BOARD APPROVED ISSUES LIST

1. Incentive Regulatory Mechanism ("IRM) Schedules and Models

1.1. Are the IRM Model filings by THESL, including the tax sharing proposal for 2012, in accordance with the Board's requirements and, if not, are any proposed departures adequately justified?

Toronto Hydro submits that it has filed the IRM, ICM, Shared Tax savings, and RTSR models in accordance with the Board's requirements, and that these should be accepted by the Board as filed and as updated. THESL expects that the Board will direct THESL to update the GDP-IPI and stretch factor components of the IRM model for the 2013 IRM and ICM calculations, in accordance with the values issued by the Board for May 1 rate implementation.

1.2. Is THESL's proposal that the Board approve under the IRM framework separate and successive ICM revenue requirements and corresponding distinct electricity distribution rates and rate adders for each of the 2012, 2013 and 2014 rate years appropriate?

Toronto Hydro submits that its application for annual IRM rate changes and ICM rate adders reflecting capital spent in each successive year is appropriate. THESL has already proposed, and the Board accepted, that the 2014 ICM proposed capital spending and resulting rate adders be addressed in a separate phase of the current hearing.

1.3. Is THESL's proposal that the Board recognize in rates THESL's approved 2011 year-end rate base appropriate?

Toronto Hydro submits that, to the extent that the Board does not grant Toronto Hydro relief pursuant to the Spend Approach, the unrecognized 2011 rate base amounts require recognition either as an element incorporated into the model used to determine the rate adders, or as relief on a stand-alone basis.

1.4. What is the consequence of this application on any future application by THESL for rates for 2013 and/or 2014?

Toronto Hydro submits that the Board has provided a full answer to this issue, by bifurcating this proceeding into Phase 1, covering 2012 and 2013, and Phase 2, covering 2014.

2. Incremental Capital Module ("ICM")

2.1. Is THESL's application of the ICM criteria appropriate?

Toronto Hydro's submits that its application of the ICM criteria is appropriate.

2.2. Has THESL provided sufficient evidence including consultant reports, business cases and consideration of alternatives, for the proposed capital projects to adequately justify them?

Toronto Hydro submits that it has provided sufficient evidence including consultant reports, business cases and consideration of alternatives, for the proposed capital projects to adequately justify them.

2.3. Is THESL's proposal that the Board consider ICM projects for a three-year period, severable into three successive one-year rate periods, each with its own ICM rate adder appropriate?

Toronto Hydro submits that its proposal that the Board consider ICM projects for a three-year period, severable into three successive one-year rate periods, each with its own ICM rate adder is appropriate.

2.4. Is THESL's proposal for an alternative to the standard treatment of the calculation of the ICM threshold together with the Board's practice of exempting certain ICM-approved capital expenditures from the application of the half year rule appropriate?

Toronto Hydro submits that its proposal for an alternative to the standard treatment of the calculation of the ICM threshold together with the Board's practice of exempting certain ICM-approved capital expenditures from the application of the half year rule is appropriate.

3. Deferral and Variance Accounts

3.1. Is the proposed final disposition of the PILs Deferral Account 1562 appropriate, including the proposed rate riders?

Toronto Hydro submits that the Board should approve these values. No parties have opposed THESL's updated calculation of the PILS 1562 Deferral account balance, and the proposed rate riders.

3.2. Is the proposed final disposition of all remaining Deferral and Variance Accounts (i.e. the Group 1 Accounts as well as the Special Purpose Charge Variance Account 1521) appropriate, including the proposed rate riders?

Toronto Hydro submits that clearance of the balance in the 1521 Special Purpose charge account is appropriate. Board staff has suggested that carrying charges on the balances be calculated to December 31, 2012. Toronto Hydro does not object, and

submits the Board should approve the updated amount provided by Toronto Hydro, in accordance with the Board's Decision, in the draft rate order.

4. Implementation

4.1. Has THESL appropriately complied with the Final Order Regarding Suite Metering Issues dated April 26, 2012 in EB-2010-0142 including its use of the name "Competitive Sector Multi-Unit Residential" for the new Quadlogic class?

Toronto Hydro submits that it has appropriately complied with the Board's Final Order regarding Suite Metering issues, including proposing the starting rate for this class. Toronto Hydro has proposed an appropriate name for the class, as well as a clear description of the customers that would make up this class.

4.2. Are THESL's proposals relating to rate implementation appropriate for each of the years 2012, 2013 and 2014?

Toronto Hydro submits that its proposals relating to rate implementation for each of the years 2012, 2013 and 2014 are appropriate.

APPENDIX "B" – SUMMARY OF RECOVERY APPROACHES

TORONTO HYDRO 2012-2014 Rate Application
Summary of Funding Options

	Spend Approach			Rate Base Approach			True ISA Approach			Hybrid Approach		
CAPITAL COMPONENTS	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
Pre-2012 CWIP	✗	✗	✗	67.0	45.5	32.3	67.0	45.5	32.3	67.0	45.5	32.3
PCI Capital												
2012	149.5			67.4	82.1		67.4	82.1		149.5		
2013		145.0			89.2	55.9		89.2	55.9		145.0	
ICM Capital												
2012	125.0			48.9	58.5	17.6	48.9	58.5	17.6	48.9	58.5	17.6
2013		330.0			194.6	135.4		194.6	135.4		194.6	135.4
2011 HYR	✗	✗	✗				103.7			✗	✗	✗
TOTAL OF CAPITAL COMPONENTS	**274.5**	**475.0**	**-**	**183.3**	**469.9**	**241.1**	**287.0**	**469.9**	**241.1**	**265.4**	**443.6**	**185.2**
Average NFA (Calculated)				*2,127.1*	*2,312.6*	*2,520.3*						
Less: Average NFA (in Rates)				*2,015.1*	*2,028.8*	*2,042.6*						
SUBTOTAL	**274.5**	**475.0**	**-**	**112.0**	**283.8**	**477.7**	**287.0**	**469.9**	**241.1**	**265.4**	**443.6**	**185.2**
Less:												
Threshold (PCI)	145.0	145.0					145.0	145.0	145.0	145.0	145.0	145.0
Deadband	28.0	28.0					28.0	28.0	28.0	28.0	28.0	28.0
ICM	**101.5**	**302.0**	**-**	**112.0**	**283.8**	**477.7**	**114.0**	**296.9**	**68.1**	**92.4**	**270.6**	**12.2**
BASE FOR ICM FUNDING	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
2012 ICM Eligible	101.5	101.5	101.5	112.0	112.0	112.0	114.0	114.0	114.0	92.4	92.4	92.4
2013 ICM Eligible		302.0	302.0		283.8	283.8		296.9	296.9		270.6	270.6
2014 ICM Eligible						477.7			68.1			12.2
TOTAL BASE FOR ICM FUNDING	**101.5**	**403.5**	**403.5**	**112.0**	**395.8**	**873.4**	**114.0**	**410.9**	**479.0**	**92.4**	**363.0**	**375.2**
ESTIMATED ADDERS	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**	**2012**	**2013**	**2014**
2012 ICM Eligible	10.2	10.2	10.2	11.2	11.2	11.2	11.4	11.4	11.4	9.2	9.2	9.2
2013 ICM Eligible		30.2	30.2		17.2	17.2		29.7	29.7		27.1	27.1
2014 ICM Eligible						19.4			3.4			0.6
ANNUAL ESTIMATED ADDERS	**10.2**	**40.4**	**40.4**	**11.2**	**28.4**	**47.8**	**11.4**	**41.1**	**44.5**	**9.2**	**36.3**	**36.9**
CUMULATIVE ESTIMATED ADDERS			**90.9**			**87.3**			**97.0**			**82.5**

Notes

(a) All approaches are exclusive of amounts THESL invested in its distribution system prior to 2012 over OEB-approved amounts (i.e.. overspend).
(b) All approaches are exclusive of the Bremner station project.
(c) All approaches are exclusive of the rate impacts resulting from the 2014 capital program.
(d) The rate base approach is exclusive of the impact of working capital allowance. The half-year rule consequences are included in average NFA.
(e) The calcuation of adders are based on an estimated 10% rate. This will be updated upon rate finalization.
(f) Under the rate base approach, the 'Base for ICM Funding' is stated on a cumulative basis consistent with the rate base approach.
The corresponding adder for 2013 is therefore given by (283.8-112.0)*10%, or 171.8*10% = 17.2.
(g) Under the True ISA and Hybrid Approaches, 2014 estimated adders are obtained by applying the half year rule to the 2014 Base for ICM Funding amounts, and multiplying the result by 10%. The half year rule is applied to 2014, per the Board's 3GIRM methodology.