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November 1, 2011

via RESS e-filing – signed original via courier

Ms. Kirsten Walli
Board Secretary
Ontario Energy Board
P.O. Box 2319
2300 Yonge St
Toronto, ON M4P 1E4

Dear Ms. Walli:

RE: **Toronto Hydro-Electric System Limited's ("THESL")**
Application for 2012-2014 Electricity Distribution Rates
OEB File No. EB-2011-0144
Preliminary Issue – THESL Witness Statements and Curriculum Vitae

As noted during today's appearance before the Board, due to a formatting error, the original witness statement of Mr. McLorg filed yesterday did not include the intended footnotes. THESL is accordingly providing the following replacement witness statement via RESS, three hard copies to the Board, and by email to the intervenors of record in the above-noted proceeding.

Other than the addition of footnotes (and the shift in pagination that naturally occurred as a result), nothing else has changed as between the two versions.

Yours truly,

[original signed by Anna Crespo for]

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cc: J. Mark Rodger, Borden Ladner Gervais
Intervenors of record, EB-2011-0144

Q1. Mr. McLorg, you are the Manager, Regulatory Policy and Relations of Toronto Hydro-Electric System Limited?

A1. Yes.

Q2. Mr. McLorg, what is the purpose of this Witness Statement on the Preliminary Issue?

A2. I will address and explain THESL's view that there are certain structural cost pressures that utilities may face, that arise from a combination of their obligations as distributors and the Board's protocols around ratemaking, that cannot be accommodated under IRM as it is presently exists. As a result, the imposition of IRM, on utilities that are in certain circumstances that I will describe, would create a structural deficit in allowed revenue that would be severely problematic for those utilities and their customers.

Q3. What specific topics will you address?

A3. Generally, I will discuss the different types or sources of growth in revenue requirement; whether and how costs in different categories are susceptible to the productivity improvements that underpin the design of IRM; how infrastructure and workforce renewal create structural cost pressures, including a discussion of the effects of historical cost ratemaking, depreciation, and capital contributions; whether and how IRM can accommodate different structural cost pressures; and how the application of IRM in specified circumstances creates a structural deficit in revenue requirement.[1]

[1] See Exhibits A1-T1-S2 (p. 13-30) and R1-T1-S2.

Q4. Please summarize the evidence in this Witness Statement.

A4. In summary, this evidence demonstrates that:

- while IRM may function as anticipated in certain circumstances, there is a class of utilities who face certain structural costs pressures which cannot be accommodated under the mathematical formula embodied in IRM;
- these structural cost pressures arise as a result of factors that are inherent in the ratemaking process, such as the historical cost basis for recognizing ratebase and depreciation, and the operation of capital contributions, combined with the obligations of the utility to continue to provide safe, reliable electricity distribution service;
- these structural cost increases can be moderated, but not eliminated, by productivity improvements;
- while a limited number of discrete projects in THESL's capital plan might quality for ICM treatment, they would be exceptions – the majority of THESL's capital program is composed of routine, core-business requirements of a distributor;
- the result of applying IRM as the method of ratemaking to utilities in these circumstances is the creation of a structural deficit between the revenues required by the utility to carry out its responsibilities, and the revenue available under the IRM-PCI framework; and
- the structural deficit in turn places the utility in the untenable position of having to severely curtail investment in infrastructure renewal in order to maintain financial viability - this directly and materially harms the interests of customers in the quality and reliability of electrical service.

Q5. As a further preliminary question, does the structural deficit you mention occur in all cases where IRM is applied?

A5. No. In THESL's view, it occurs to a significant degree when utilities have to replace infrastructure extensively, provide for workforce renewal, and experience low or negative load growth, but these are not circumstances faced by every distributor in Ontario.[2]

Q6. Please explain then the different sources of growth in revenue requirement you referred to.

A6. THESL distinguishes two major categories of cost growth. These are inflationary cost growth and structural cost growth.

Inflationary cost growth occurs as a result of inflation in the ordinary course. Although the relative prices of goods and services are constantly shifting in the economy, a rise in the general or average price level constitutes inflation. For utilities, inflation is experienced in the prices of supplies and services purchased by the utility from outside sources, the costs of internal labour, and in items such as taxes and fees that are payable by the utility.

Revenue requirement and rates are of course expressed in current or nominal dollars, and as inflation proceeds, the purchasing power of nominal dollars declines. Under IRM, the Board has provided the inflation factor within the Price Cap Index, or PCI, to compensate utilities for the effects of inflation on their nominal costs. Assuming that the inflation factor accurately compensates utilities for actual inflation, and assuming that other cost pressures are absent, a utility's rates could rise at the same rate as inflation without there being any increase (or decrease) in "real", or inflation adjusted, rates.[3]

[2] See Exhibit R1-T1-S2.
[3] See Exhibits A1-T1-S2 (p. 22) and R1-T2-S4.

Q7. Please explain then what is meant by structural cost growth.

A7. Structural cost growth occurs for a number of reasons which I will address, but generally it refers to growth in the real, or resource, cost of providing service to customers, as reflected in revenue requirement. In other words, structural cost growth is growth in cost that is not due to general inflation and which would occur even if actual inflation were zero. It is cost growth in "real" terms.[4]

Q8. What are the sources of structural cost growth for utilities?

A8. Considered first with respect to the absolute level of revenue requirement itself, structural cost growth is defined as a real, or non-inflationary increase in revenue requirement. Such increases are caused by a number of different factors, principally including system expansion, growing customer numbers, replacement of existing infrastructure at end-of-life, transitory increases in the number of employees for purposes of workforce renewal, and growth in the scope of service required to be provided to customers. These factors in turn require greater resources in order to provide that service to customers.

It is important though that not all of these factors entail a proportional increase in rates. System expansion is typically accompanied by growth in load and the number of customers, which generate new revenues, and it also typically attracts capital contributions. New distribution revenues and capital contributions diminish the effect on rates of the corresponding system expansion.[5]

Q9. Do all utilities experience these structural cost pressures, and do they do so to the same degree?

[4] See Exhibit R1-T1-S2.
[5] See Exhibit A1-T1-S2 (p. 16-19) and R1-T1-S2.

A9. THESL cannot speak in detail about the circumstances of other utilities in Ontario. However, THESL believes on the basis of its communications and publicly available data that some of these structural cost pressures are shared by most utilities, while others are not.

THESL believes that the demographic forces underlying the need for workforce renewal apply broadly to all or most distributors and indeed throughout the economy. With respect to other factors though, such as the need to replace end-of-life infrastructure and the rates of load and customer growth, even neighbouring utilities can be in very different circumstances depending on the vintage of their infrastructure and the different characteristics of their service areas.[6]

Q10. Please explain how those latter factors could be different.

A10. In its response to Board Staff interrogatory 2, at Exhibit R1, Tab 1, Schedule 2, THESL explains in detail and with examples how neighbouring utilities can exhibit different system vintages and growth rates. In summary, as urban and suburban development occurs in different areas over decades, some service areas will reach relative saturation or maturity at different times than others, and at a given moment in time this leads to conditions where utilities could have quite different rates of growth and average system ages, even though the general pattern of utility evolution could be quite similar across utilities.

Q11. Please explain THESL's views that some kinds of costs are susceptible to productivity improvements while others are not.

A11. This stems from the fact that the productivity of existing resources is generally subject to ongoing improvements, and those improvements can lead to cost reductions or the avoidance of costs that would otherwise be necessary. However, when it becomes necessary to add resources to meet obligations, after having achieved productivity

[6] See Exhibit R1-T1-S2.

improvements over existing resources so as to minimize the need for additional resources, those incremental resources generally cannot be added without incurring the corresponding incremental cost.

To take just two concrete examples, consider a situation where a particular feeder has reached end-of-life and must be replaced. Certainly the manner and efficiency with which THESL would secure the materials and perform the capital work to replace the feeder are areas where there are ongoing efforts to improve productivity. These would include things such as acquiring the materials at competitive costs; organizing the work process and crews efficiently; coordinating electrical work with planned work that other (telephone and gas) utilities are undertaking; and in some cases improving the technical efficiency of the system by converting the voltage level of the feeder. So in all those kinds of ways, THESL continuously strives to improve the efficiency of its execution of capital projects.

However, THESL cannot avoid the fact that the new feeder will enter ratebase and revenue requirement at higher costs than the feeder being replaced. The replaced feeder is likely to be fully, or nearly fully depreciated, and as such, it creates zero or minimal capital-related revenue requirement. As a result, simply to maintain connection to the same existing loads and customers, costs in revenue requirement must increase and that increase cannot be subject to productivity improvements itself. Stated differently, the level of the incremental cost is subject to productivity improvements, but after those are achieved, the fact of the remaining cost increase cannot be. Ratebase cannot be increased while return remains constant.

Similarly, labour productivity can be and has been improved at THESL, for example through the implementation of Mobile Work Management. But after those productivity enhancements are exhausted, and it is still necessary to increase the number of employees for example to bring apprentices into the workforce, their incremental wages represent a

new cost that is not subject to productivity improvement. The number of employees cannot increase while the total labour bill remains constant.[7]

Q12. How do these facts affect the applicability of IRM?

A12. IRM is founded on the assumption that utility costs are subject to productivity improvements, and for ratemaking purposes, the rate of productivity improvement is assumed to be not less than the sum of the productivity factor and the stretch factor. THESL's observation is simply that while some costs are susceptible to productivity improvements, other structural cost increases, which can be significant for utilities in certain circumstances, are not. It is a mistake to assume that a utility's entire revenue requirement is subject to productivity growth.[8]

Q13. Earlier you mentioned that structural cost growth arises in part as a result of ratemaking protocols. What are those protocols and how do they create structural cost growth?

A13. I will begin by noting that all of this discussion is with reference to ratebase and revenue requirement. Although that may seem obvious, there is in fact a difference between the total capital employed by a utility to provide service and the amount of that capital reflected in ratebase at any moment.

Generally with respect to capital, the protocols of interest here are that ratebase and depreciation are reflected in terms of the historical cost of acquisition, or the installed cost of capital equipment. When a utility project is completed and closed to ratebase, the addition to ratebase is stated at the nominal cost actually incurred by the utility, at that

[7] See Exhibit R1-T2-S4.
[8] See Exhibit R1-T2-S4.

time in then-current dollars. Similarly, depreciation is calculated based on that historical acquisition cost.[9]

THESL does not dispute the use of historical cost for ratemaking purposes, and this approach is widely adopted throughout North America by utility regulators. However, because much of the capital used by utilities has long lives, in the order of 40 to 60 years, and because utility distribution systems also evolve over decades, one result of this approach is that ratebase at any moment in time is really an amalgam of costs incurred over many decades. In addition, ratebase calculated on this basis does not reflect the effect of inflation of many decades. A feeder installed in 1960 attracts capital-related costs in revenue requirement in terms of 1960 dollars, not 2011 dollars.

Q14. Is THESL saying that the use of historical cost for ratemaking is somehow unfair to utilities?

A14. No, not per se. Over the lifetime of the equipment, the utility recovers both the capital invested, through depreciation, and the cost of that capital, through return.

Q15. How then do these protocols give rise to structural cost pressures?

A15. While the equipment in question is in service, the structural cost pressures do not arise. In fact, the capital-related costs attracted by the asset decline over the entire lifetime of the equipment, and if the asset in fact lasts longer than the period of depreciation, then during that period of 'excess life', so to speak, the asset provides service without imposing any capital-related cost in revenue requirement.

By saying this, THESL does not discount the facts that maintenance costs for the asset typically increase toward the end-of-life of the asset, and that those costs are reflected in revenue requirement.

[9] See Exhibit A1-T1-S2, p. 13-14.

Nevertheless, the problem with capital-related structural cost pressure does not arise while the equipment is in service. It arises when the asset has to be replaced.

Looking at those circumstances, in which (say) a 50 year old asset has to be replaced, even despite significant technological advancements and productivity improvements, the capital cost in current dollars simply has to be significantly greater than the amount of capital reflected in ratebase and revenue requirement for the asset which is being replaced.

Simply as a matter of ratemaking arithmetic, the historical cost approach has to give rise to significant increases in revenue requirement when old equipment is replaced, because by definition, historical cost ratemaking does not account for replacement cost, under the assumption that revenue requirement remains constant.

Looked at from a slightly different perspective, the depreciation in revenue requirement is historical cost depreciation, not replacement cost depreciation. As a result, it follows arithmetically that depreciation expense in current revenue requirement is insufficient to maintain a mature distribution system in a sustainable, steady-state condition.[10]

Q16. How do capital contributions affect these structural cost pressures?

A16. The effect of capital contributions in this context is really to create a larger difference between the physical capital used by the utility to provide service and the level of capital reflected in ratebase and revenue requirement. Over the life of the contributed capital, the equipment is used to provide service to customers but it attracts no capital-related revenue requirement costs. Like the factors discussed above, this does not become problematic until it is time to replace the capital in question.

However, at that time the same structural cost pressures ensue as they do in the case with equipment that has been substantially or fully depreciated. That contributed equipment,

[10] See Exhibits A1-T1-S2 (p. 16-19) and R1-T1-S2.

which has never attracted any capital-related revenue requirement, must be replaced with equipment that is installed at current costs and attracts a significant capital-related revenue requirement. It is arithmetically unavoidable that ratebase and revenue requirement must increase under these circumstances.

The main effect then of contributed capital in this context is to enlarge the base of assets for which a strong differential revenue requirement comes into existence at the time of replacement.[11]

Q17. Overall then, is THESL critical of the Board's use of these ratemaking protocols?

A17. No. THESL believes, and anticipates that most parties would agree, that historical cost ratemaking and capital contributions have served to minimize revenue requirement, and the growth in revenue requirement stemming from customer additions, in a fair manner that has kept all parties whole. With respect to capital contributions, those costs have essentially migrated out of the electricity system per se and have become embedded in real estate prices. Clearly it would be inappropriate for utilities to also collect depreciation and return on contributed capital.

Nevertheless, the life of distribution equipment, while long, is finite. However that equipment was initially provided, by capital contribution or otherwise, the time comes when it must be replaced. Electricity distributors are clearly responsible for the replacement of that equipment, and equally clearly, they have not been compensated throughout history on a 'replacement cost' basis.

Therefore, it would be inconsistent for the Board now to hold that although distributors have the responsibility to replace that equipment, the costs of that replacement will not be allowed in revenue requirement, or to impose a system of regulation that predictably does

[11] See Exhibits A1-T1-S2 (p. 16-19) and R1-T1-S2.

not provide for the necessary increases in revenue requirement for the purpose of infrastructure renewal.

Q18. Turning now to one of the other sources of structural growth in revenue requirement, please explain how workforce renewal creates such an effect.

A18. In some respects workforce renewal is analogous to infrastructure renewal. In the same sense that ratebase cannot be increased without increasing revenue requirement, incremental employees cannot be hired without increasing the total labour bill, and whether the labour is capitalized or expensed, revenue requirement must increase commensurately.

This is not to say that THESL should not be responsible to take steps to improve labour productivity in order to minimize the number of new positions required, and indeed THESL does that. However, certain demands for increased labour exist independently of achievable improvements in labour productivity, and a principal one of these demands arises because THESL has to train apprentices over multiple years to take over for retiring workers. The number of incremental positions necessary, and the costs for training are matters for examination and determination in a rate case, but to the degree that it is found that incremental positions are necessary, it is not possible to simply divide the existing total cost of labour among more workers in order to maintain revenue requirement at a constant level.[12]

Q19. Is it possible that growth in load and the number of customers can offset the structural increase in revenue requirement stemming from these various causes?

A19. As noted earlier, to address this it is necessary to distinguish revenue requirement from rates.

[12] See Exhibits R1-T1-S3 and R1-T2-S4.

Growth in customer numbers and load do not act to offset the increase in revenue requirement, and in fact can be principal causes of such growth. However, such growth is accompanied by new revenues, and may be funded to a significant degree by capital contributions. Furthermore, growth in customer numbers and load creates a larger base over which to spread fixed and quasi-fixed costs. All these factors act to mitigate or possibly eliminate the need for an increase in rates to recover the larger revenue requirement.[13]

Q20. What is the effect if customer and load growth are low or even negative?

A20. Those conditions would be characteristic of a utility with a mature service territory, as contrasted to one with a growing service territory.

In reality of course most utilities experience some degree of customer growth, although the same cannot be said for load growth, which can be positive or negative. Furthermore most utilities would have some requirement for infrastructure renewal, as equipment that was originally installed decades ago comes to end-of-life.

The question is really one of which effects are predominant. For a mature utility, which may in fact be adjacent to a growing utility, needs for infrastructure renewal may come to dominate the total need for capital expenditures. In that case the capital expenditures to replace already-existing equipment may generate little or no additional load or customers and thus not generate new revenue; the new assets may not attract any capital contributions to defray the total project costs since connections already exist; and the new equipment may replace existing equipment which contributes little to the existing revenue requirement.

[13] See Exhibit A1-T1-S2 (p. 16-19).

When those conditions and requirements come to be dominant or even significant, the imposition of IRM creates a structural deficit in revenue requirement.[14]

Q21. Please summarize then how this occurs.

A21. The first effects become manifest in the year following rebasing. Assuming that the utility is carrying out its duty to reinvest in the system, at a minimum to the degree necessary to prevent grid health from further deteriorating, it will necessarily be making capital expenditures in excess of depreciation in the rebasing year. Similarly, it may be hiring for net new positions such that the year-end count of employees is greater than the average count across the rebasing year. In both these cases, the rebasing year revenue requirement will be less than that of the following year, even if ratebase and employee count in the following year are held constant at opening balance levels.

In the first PCI year, growth in revenues in real terms could be negligible, zero, or negative depending on growth in load and customers, assuming that actual inflation was just compensated by the inflation factor, and that actual productivity increases in areas where that was possible offset the sum of the productivity and stretch factors.

However, even under those assumptions, the underlying cost growth for the system would continue unabated. The deterioration of the assets would continue as would the departure of skilled members of the workforce. Hence while revenue requirement in real terms grows, allowed revenues remain essentially static. As a result a structural deficit is created between required revenue and allowed revenue, which would continue and worsen over the duration of the IRM period. The revenue required by the utility to carry out its responsibilities would be denied by the imposition of the PCI methodology of revenue determination, and the utility would be faced with an untenable choice between meeting its duties as a distributor and maintaining its financial viability.[15]

[14] See Exhibit R1-T1-S2.
[15] See Exhibits A1-T1-S2 (p. 27) and R1-T1-S3.

Q22. Could the structural deficit you describe be eliminated or reduced by the Incremental Capital Module?

A22. No. While a limited number of discrete projects in THESL's capital plan might qualify for ICM treatment, they would be the exceptions. The majority of THESL's capital program is composed of routine, core-business requirements of a distributor: customer connection, infrastructure renewal, and other capital for customer services and distribution support. These expenditures are clearly not extraordinary, and the Board has clearly stated that the ICM was not intended for, and does not apply in, these circumstances.[16]

Q23. Finally Mr. McLorg, given all that you have described in this Witness Statement, the evidence that has been pre-filed, and THESL's interrogatory responses, is it THESL's view that its particular circumstances could be addressed by THESL returning to the Board each year with an 'early rebasing' application?

A23. No, it is not. Repeated, successive early rebasing applications would defeat the purpose of the Board's IRM framework, create significant regulatory burden, and put THESL in a perpetual state of uncertainty with respect to its ongoing operations.

As stated in THESL's response to VECC IR #2, "It is not possible for THESL to conduct its business responsibly while planning for dramatically different business condition scenarios that would exist as alternatives for the same period." And as explained in THESL's response to Board Staff IR # 1, the differences between the COS framework and the IRM framework are real and material in terms of THESL' operational plans.

Furthermore, the circumstances in which THESL operates are not expected to change year over year, and the logic of ratemaking is not expected to change year over year. The issues faced by the Board, THESL, and other parties with respect to THESL's revenue requirement will not change in character year over year for the foreseeable future.

[16] See Exhibit A1-T1-S2, p. 30-33.

Therefore, successive, repetitive early rebasing applications depart from the Board's intention for early rebasing applications and would impose significant and unnecessary regulatory burden on all parties.

In THESL's respectful submission, the best balance currently available between regulatory efficiency, and fairly meeting the needs of THESL and its customers, is for the Board to adopt a multi-year COS framework for the purposes of regulating THESL.