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January 4, 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, 27<sup>th</sup> floor  
Toronto, ON M4P 1E4

Dear Ms. Walli:

**Re: Toronto Hydro-Electric System Limited (“THESL”)  
OEB File No. EB-2012-0064 (the “Application”)  
Capital Program Comparison**

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THESL writes in respect of the above-noted matter.

Pursuant to the Ontario Energy Board (“OEB”) direction made during the hearing of this matter on December 13, 2012, please find attached a document comparing the capital program proposed in this Application against THESL’s historic spending in the capital portfolios as filed in EB-2010-0142 (as per the example provided in School Energy Coalition’s Panel 2B compendium, Exhibit K3.2, page 13, table 5). As directed, THESL has conducted this comparison at a high-level and identified areas in which it believes a meaningful comparison against historic spending is not possible. An exception to this approach is the Metering ICM project, which THESL has compared directly against historic spending.

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

Yours truly,

*[original signed by]*

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:AK/RB

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

1     **CAPITAL PROGRAM COMPARISON**

2  
3     To the extent possible given the significant restructuring of THESL's capital work in the  
4     present application (i.e., THESL effectively went "back to the drawing board" with its  
5     present application), THESL has developed the following high-level comparison of  
6     proposed ICM capital work against the company's historic spending. As directed,  
7     THESL has presented its historic spending in the capital portfolios as filed in EB-2010-  
8     0142 (as per the example provided in SEC's Panel 2B compendium, Exhibit K3.2, page  
9     13, table 5).

10  
11     As set out in prior evidence, while THESL seeks to be of assistance to the OEB and  
12     parties in achieving a full understanding of the matters relevant to this proceeding,  
13     THESL believes that this comparison is of little material value or relevance. This is  
14     because THESL's ICM capital plan is, in many respects, structurally incomparable with  
15     the portfolios into which the company's capital work has been organized in prior cost of  
16     service ("COS") applications. The jobs that comprise the capital projects and project  
17     segments were not carried forward wholesale from previous applications and are not  
18     grouped on the same basis as they would have been in prior applications – as a  
19     consequence, the capital projects presented in THESL's COS applications are not  
20     generally analogous to those presented in THESL's ICM application. THESL has  
21     identified particular incompatibilities below and cautions against drawing conclusions  
22     based on direct comparisons of capital portfolios against ICM projects and segments.

23  
24     Also, please note that all ICM job estimates contain an additional component to account  
25     for overhead, including Engineering Capital and Major Tools, which were accounted for  
26     separately in THESL's prior COS applications.

1 **1. Underground Infrastructure and Rear Lot**

2

3 **Table 1**

|                            | 2008<br>Actual | 2009<br>Actual | 2010<br>Actual | 2011<br>Actual | Related ICM Segment(s)          | 2012 IRM | 2013 IRM |
|----------------------------|----------------|----------------|----------------|----------------|---------------------------------|----------|----------|
| Underground Direct Buried  | 23.8           | 31.9           | 42.4           | 47.0           | B1 - Underground Infrastructure | 45.11    | 88.37    |
|                            |                |                |                |                | B6 - Rear Lot                   |          |          |
| Underground Rehabilitation | 38.2           | 36.7           | 69.1           | 52.1           | B1 - Underground Infrastructure | 45.11    | 88.37    |
|                            |                |                |                |                | B6 - Rear Lot                   |          |          |

4 The Underground Infrastructure and Rear Lot ICM segments can be compared to a partial  
 5 subset of the Underground Direct Buried and Underground Rehabilitation COS  
 6 portfolios. As both COS portfolios contained elements of work included in the  
 7 Underground Infrastructure and Rear Lot ICM segments, THESL is unable to allocate the  
 8 segments to a single COS portfolio.

9

10 There are categories of work included within the two COS portfolios that are not included  
 11 in either ICM segment. For example, direct buried cable replacements driven by primary  
 12 voltage conversion plans were part of the Underground Direct Buried COS portfolio but  
 13 are not included in any ICM segment. Similarly, projects focused on the replacement of  
 14 aged XLPE cable already contained in concrete-encased ducts were part of the  
 15 Underground Rehabilitation COS portfolio but are not included in any ICM segments.

16

17 **2. Overhead Infrastructure and Box Construction**

18

19 **Table 2**

|                 | 2008<br>Actual | 2009<br>Actual | 2010<br>Actual | 2011<br>Actual | Related ICM Segment(s)       | 2012 IRM | 2013 IRM |
|-----------------|----------------|----------------|----------------|----------------|------------------------------|----------|----------|
| Overhead System | 19.3           | 20.5           | 31.7           | 39.3           | B4 - Overhead Infrastructure | 9.65     | 78.92    |
|                 |                |                |                |                | B5 - Box Construction        |          |          |

1 The Overhead Infrastructure and Box Construction ICM segments can be compared to a  
 2 partial subset of the Overhead System COS portfolio. Certain jobs contained within the  
 3 Overhead Infrastructure ICM segment were not included within the COS portfolio,  
 4 including those associated with CSP transformers, undersized conductor on heavily  
 5 loaded feeders and porcelain hardware replacements. In addition, and as outlined in  
 6 THESL's evidence, the rapid deterioration of assets has resulted in more outages and led  
 7 to a greater number of jobs targeting such assets. Safety concerns associated with box  
 8 construction infrastructure such as difficulty maintaining clearances specified by EUSR,  
 9 as well as working with legacy assets that produce potential safety hazards, drive the  
 10 investment requirements, while also ensuring that prudent investment is made when  
 11 addressing legacy 4kV asset replacement.

12  
 13 There are also categories of work included within the Overhead System COS portfolio  
 14 that are not included in the Overhead Infrastructure and Box Construction ICM segments.  
 15 These categories include voltage conversion, aging transformers, switches susceptible to  
 16 corrosion in heavily trafficked areas, non-standard remote switches without fault sensors  
 17 (North York), and the Worst Performing Feeder program (WPF).

18  
 19 **3. Network Vaults & Roofs, Fibertop Network Units, and ATS & RPB**

20  
 21 **Table 3**

|                | 2008<br>Actual | 2009<br>Actual | 2010<br>Actual | 2011<br>Actual | Related ICM Segment(s)  | 2012 IRM | 2013 IRM |
|----------------|----------------|----------------|----------------|----------------|---|----------|----------|
| Network System | 4.7            | 5.0            | 7.4            | 4.8            | B11 - Automatic Transfer Switches (ATS) &<br>Reverse Power Breakers (RPB) | 4.31     | 29.74    |
|                |                |                |                |                | B9 - Network Vault & Roofs  |          |          |
|                |                |                |                |                | B10 - Fibertop Network Units  |          |          |

22 The Fibertop Network Unit, ATS & RPB, and Network Vault & Roof ICM segments can  
 23 be compared to a partial subset of the Network System COS portfolio.

1 The Fibertop Network Units ICM segment is a targeted replacement program for the  
 2 Fibertop Network Unit asset class. While THESL has replaced Fibertop units in the past,  
 3 it had not established a targeted replacement program. As such, the Fibertop Network  
 4 Unit ICM segment has no true comparator within the COS portfolio. Network Unit  
 5 replacement programs within the COS were based around the condition of the  
 6 transformer, and not driven based upon protector type.

7  
 8 There are also categories of work included within the Network System COS portfolio that  
 9 are not included in the Fibertop Network Unit, ATS & RPB, and Network Vault & Roof  
 10 ICM segments. For example, THESL is no longer executing Cable Chamber rebuilds  
 11 within the secondary network system.

12  
 13 **4. Stations**

14  
 15 **Table 4**

|                                 | 2008<br>Actual | 2009<br>Actual | 2010<br>Actual | 2011<br>Actual | Related ICM Segment(s)   | 2012 IRM | 2013 IRM |
|---------------------------------|----------------|----------------|----------------|----------------|--|----------|----------|
| Transformer Station             | 8.5            | 8.6            | 12.2           | 8.5            | B12 - Stations Power Transformers  | 3.00     | 26.85    |
|                                 |                |                |                |                | B13.1 & B13.2 - Stations Switchgear - Municipal and Transformer Stations |          |          |
|                                 |                |                |                |                | B14 - Stations Circuit Breakers  |          |          |
|                                 |                |                |                |                | B15 - Stations Control & Communication Systems                           |          |          |
| Municipal Substation Investment | 8.3            | 5.5            | 4.8            | 9.7            | B12 - Stations Power Transformers  | 3.00     | 26.85    |
|                                 |                |                |                |                | B13.1 & B13.2 - Stations Switchgear - Municipal and Transformer Stations |          |          |
|                                 |                |                |                |                | B14 - Stations Circuit Breakers  |          |          |
|                                 |                |                |                |                | B15 - Stations Control & Communication Systems                           |          |          |

16 The Stations Power Transformer, Stations Circuit Breaker, Stations Switchgear -  
 17 Municipal & Transformer Stations and Stations Control & Communications Systems  
 18 ICM segments can be compared to partial subsets of the Transformer Station and  
 19 Municipal Station Investment COS portfolios.

1 There are categories of work included within the COS portfolios that are not included in  
 2 the ICM segments. For example, the Transformer Station and Municipal Station  
 3 Investment COS portfolios included replacement of batteries/chargers, station  
 4 decommissioning, and work on fire alarm systems, none of which are included in any  
 5 ICM segments.

6

7 **5. Externally-Initiated Plan Relocations and Expansions**

8

9 **Table 5**

|  | 2008<br>Actual | 2009<br>Actual | 2010<br>Actual | 2011<br>Actual | Related ICM Segment(s)                                      | 2012<br>IRM | 2013<br>IRM |
|--|----------------|----------------|----------------|----------------|---|-------------|-------------|
| Externally Initiated Plant Relocations | -              | -              | -              | 7.8            | B21 - Externally-Initiated Plant Relocations and Expansions | 10.16       | 24.84       |

10 The relocations aspect of the Externally-Initiated Plant Relocations and Expansions ICM  
 11 project can be compared to the Externally-Initiated Plant Relocation COS portfolio,  
 12 which was created in 2010. Plant expansions were not tracked in an independent COS  
 13 portfolio. Prior to 2012, aspects of externally-initiated plant relocations and expansions  
 14 were generally tracked within the capital portfolio that most closely corresponded to the  
 15 nature of the expansion or relocation at issue. As set out in THESL's evidence, costs  
 16 associated with this segment are generally driven by work initiated by other agencies and  
 17 therefore the volume and cost of work to be undertaken in each year depends on the  
 18 specific requests received in that year.

19

20 **6. Hydro One Capital Contributions**

21

22 **Table 6**

|                               | 2008<br>Actual | 2009<br>Actual | 2010<br>Actual | 2011<br>Actual | Related ICM Segment(s)                | 2012 IRM | 2013 IRM |
|-------------------------------|----------------|----------------|----------------|----------------|---------------------------------------|----------|----------|
| Capital Contributions to HONI | 0.4            | 0.3            | 1.1            | 27.8           | B18 - Hydro One Capital Contributions | 22.98    | 48.12    |

1 The HONI Capital Contributions ICM project is generally comparable to the Capital  
 2 Contributions to HONI COS portfolio. The increase in relative costs reflected in the ICM  
 3 application is primarily a result of Hydro One's Leaside-Birch transmission  
 4 reinforcement project, the high-voltage connection for Bremner TS, and settlement of  
 5 capital contributions for outstanding work completed in previous years.

7

8 **7. Handwell Replacement**

9

10 **Table 7**

|                   | 2008<br>Actual | 2009<br>Actual | 2010<br>Actual | 2011<br>Actual | Related ICM Segment(s)    | 2012 IRM | 2013 IRM |
|-------------------|----------------|----------------|----------------|----------------|---------------------------|----------|----------|
| Standardization   | -              | 5.7            | 30.2           | 44.6           | B3 - Handwell Replacement | 13.65    | 16.65    |
| Secondary Upgrade | -              | -              | 2.6            | 3.9            |                           |          |          |

11 The Handwell Replacement ICM segment can be compared to a partial subset of the  
 12 Standardization and Secondary Upgrades COS portfolios. There are categories of work  
 13 included within the Standardization COS portfolio that are not included in the Handwell  
 14 Replacement ICM segment, including replacement of CSP transformers, as well as a  
 15 program targeting older SCADA-Mate switch replacements (but not necessarily SCADA-  
 16 Mate R1 switches).

17

18 **8. Downtown Station Load Transfers**

19

20 **Table 8**

|                      | 2008<br>Actual | 2009<br>Actual | 2010<br>Actual | 2011<br>Actual | Related ICM Segment(s)                | 2012 IRM | 2013 IRM |
|----------------------|----------------|----------------|----------------|----------------|---------------------------------------|----------|----------|
| Downtown Contingency | -              | -              | 1.1            | 4.7            | B16 - Downtown Station Load Transfers | 0.68     | 2.14     |

21 The Downtown Station Load Transfers ICM segment can be compared to a partial subset  
 22 of the Downtown Contingency COS portfolio. Whereas the COS portfolio included work  
 23 targeting underground feeder ties, the work proposed in the ICM segment targets mainly  
 24 overhead feeder ties.

1 **9. Bremner TS**

2

3 **Table 9**

|                              | 2008<br>Actual | 2009<br>Actual | 2010<br>Actual | 2011<br>Actual | Related ICM Segment(s)            | 2012 IRM | 2013 IRM |
|------------------------------|----------------|----------------|----------------|----------------|-----------------------------------|----------|----------|
| Stations System Enhancements | -              | (1.0)          | 5.8            | 4.7            | B17 - Bremner Transformer Station | 8.50     | 81.00    |

4 The Bremner TS ICM project is a continuation of the Stations System Enhancements  
5 COS portfolio. The spending in the Station System Enhancement COS portfolio that  
6 occurred prior to 2012 primarily covers design costs and land acquisition.

7

8 **10. Operations Portfolio Capital**

9

10 **Table 10**

|                              | 2008<br>Actual | 2009<br>Actual | 2010<br>Actual | 2011<br>Actual | Capital Work below<br>Materiality Threshold                      | 2012<br>IRM | 2013<br>IRM |
|------------------------------|----------------|----------------|----------------|----------------|--|-------------|-------------|
| Engineering Capital          | 26.4           | 25.8           | 34.5           | 23.6           | C1 - Operations Portfolio Capital (Engineering Capital)          | 9.5         | 9.5         |
| Worst Performing Feeder      | -              | -              | 16.7           | 19.3           | C1 - Operations Portfolio Capital (Worst Performing Feeder)      | 4.9         | 5.4         |
| Customer Connections (Gross) | 42.8           | 37.6           | 42.6           | 58.2           | C1 - Operations Portfolio Capital (Customer Connections - Gross) | 42.08       | 49.25       |
| Reactive Capital             | 19.3           | 20.7           | 25.1           | 28.6           | C1 - Operations Portfolio Capital (Reactive Capital)             | 25.4        | 29.3        |

11 Subject to the notes below, the Engineering Capital, Worst Performing Feeder, Customer  
12 Connections, and Reactive Capital portfolios under COS reasonably represent reasonably  
13 comparable types of work as the respective portfolios under IRM regulatory framework.

14

15 Please note that:

- 16 • A portion of the full cost associated with Engineering Capital has been integrated  
17 across all segments within the ICM filing as an additional component of those  
18 segments, and therefore, compared to COS filing, this results in a reduced cost



1 associated with the Engineering Capital for projects as documented in the  
 2 Operations Portfolio Capital Overview (Tab 4, Schedule C1).

- 3 • Historically, Worst Performing Feeder (WPF) projects were funded under the  
 4 WPF Operations Capital portfolio. Within the present application, WPF projects  
 5 are distributed between jobs within an ICM segment and projects within the  
 6 Operations Portfolio Capital Overview (Tab 4, Schedule C1). Therefore, the 2012  
 7 and 2013 IRM costs associated with WPF in the table above are only a subset of  
 8 the complete WPF expenditures proposed for those years.

9  
 10 **11. ICM Segments without COS Portfolio Comparators**

11  
 12 **Table 11**

| ICM Segment(s) without Comparators                               | 2012 IRM | 2013 IRM |
|--|----------|----------|
| B2 - Paper Insulated Lead Covered Cable - Piece Outs and Leakers | 0.08     | 5.42     |
| B7 - Polymer SMD-20 Switches                                     | -        | 1.53     |
| B8 - SCADA-Mate R1 Switches                                      | -        | 1.43     |
| B19 - Feeder Automation  | 2.30     | 20.66    |
| C1 - PCI Ops - Continuing Projects and Emerging Issues Portfolio | 55.73    | 40.00    |

13 The jobs included in the Paper Insulated Lead Covered Cable - Piece Out and Leakers  
 14 ICM segment consist of activities not previously performed.

15  
 16 The Polymer SMD-20 Switches ICM segment focuses on the targeted replacement of the  
 17 polymeric SMD-20 switches, which has no comparable COS portfolio. As stated in  
 18 THESL's evidence, the defective switch addressed by this segment was only identified in  
 19 late 2011.

1 The SCADA-Mate R1 ICM segment consists of the targeted replacement of the SCADA-  
2 Mate R1 asset class. While THESL has replaced individual SCADA-Mate R1 units in  
3 the past, THESL only identified the inherent design flaws and safety risks associated with  
4 the units recently. THESL had not previously established a targeted replacement  
5 program. As such, there is no comparable COS portfolio.

6

7 The Feeder Automation ICM segment involves the deployment of Feeder Automation  
8 within THESL's distribution system. A program of this type only existed under a pilot  
9 study during the 2011 COS, and therefore this segment has no comparable COS portfolio.

10

11 THESL only began tracking the Continuing Projects and Emerging Issues in 2012. By its  
12 nature, the work within Continuing Projects and Emerging Issues would be distributed  
13 across a wide number of COS portfolios.

1 **METERING SEGMENT – DIRECT COMPARISON**

2

3 As directed by the OEB on December 13, 2012, THESL has conducted a direct  
 4 comparison of its historic spending in respect of the jobs that comprise the Metering ICM  
 5 project. THESL confirms that the Market Settlement Compliance work in the ICM  
 6 project is comparable to the scope of work previously included in the Wholesale  
 7 Metering COS portfolio. The comparison has been provided below based on the two  
 8 sub-categories of work in the ICM project, namely Market Settlement Compliance and  
 9 Expiring Seal Meters.

10

11 **Table 12**

|                                    | 2008<br>Actual | 2009<br>Actual | 2010<br>Actual | 2011<br>Actual | 2012 IRM | 2013 IRM |
|------------------------------------|----------------|----------------|----------------|----------------|----------|----------|
| Market Settlement Compliance (\$M) | 4.4            | (0.5)          | 1.8            | -              | 1        | 6.3      |
| Expiring Seal Meters (\$M)         | -              | -              | -              | -              | 3.7      | 2.1      |
| Total                              | 4.4            | (0.5)          | 1.8            | -              | 4.7      | 8.4      |

12 ***Market Settlement Compliance (Wholesale Metering Replacement)***

13 The 2012 and 2013 market settlement compliance wholesale metering replacement  
 14 program addresses meter replacements in accordance with regulatory requirements of  
 15 both IESO and Measurement Canada. Per-unit wholesale metering replacement costs  
 16 typically range considerably from year to year due to a varying degree of complexity  
 17 between jobs, and this variability is reflected in the values provided in the table above.

18

19 The work in the Market Settlement Compliance category can be complex for a number of  
 20 reasons. In particular, wholesale meter replacement projects at Hydro One (HONI)  
 21 owned transformer stations require a high degree of coordination and alignment between

1 HONI and THESL work schedules. As well, at these locations the meter replacements  
2 need to be completed in conjunction with the replacement of station switchgear and/or  
3 transformers, and often require relocation of the metering plant to a location outside of  
4 HONI's building/asset. In addition, projects often extend over multiple years.

5

6 ***Expiring Seal Meters***

7 The 2012 and 2013 expiring seal program addresses scheduled re-sealing and verification  
8 of meters in accordance with the regulatory requirements of both IESO and Measurement  
9 Canada. During the implementation of its Smart Meter program, THESL had received a  
10 temporary exemption from the requirements to seal and verify meters. As a result, no  
11 significant spending on re-sealing and re-verification occurred during the 2008-2011  
12 period.