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December 13, 2012

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")
Oral Hearing Undertaking Responses

THESL writes in respect of the above-noted matter. Please find enclosed THESL's responses to the following undertakings from the oral hearing of phase one of the Application:

- J1.2
- J2.2
- J2.3
- J2.4
- J3.2
- J3.3
- J3.4

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

Yours truly,

[original signed by]

Amanda Klein
Director, Regulatory Affairs
Toronto Hydro-Electric System Limited
regulatoryaffairs@torontohydro.com

: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

ORAL HEARING UNDERTAKING RESPONSE
INTERVENOR 10 – SCHOOL ENERGY COALITION

UNDERTAKING NO. J1.2:

Reference(s):

Contact Capgemini to:

a) request a description of the contents of the appendices and to identify any barriers to providing the appendices;

b) determine the age of the underlying data in the report.

RESPONSE:

a) Request a description of the contents of the appendices and to identify any barriers to providing the appendices.

Capgemini has informed THESL that it did not produce formal appendices to the Reliability Peer Group Cities Comparison report. Capgemini informed THESL that the "appendices" identified in the report are in fact multiple raw data files and work documents that were used in preparation of the report. The appendices contain tens of thousands of rows of raw data and hundreds of thousands of data points.

At THESL's request, Capgemini provided the following descriptions of the appendices' contents:

Appendix 1: Peer Group Cities Criteria – This document included the criteria (e.g., size, population, industrial/commercial/residential customers ratios, major business types; climate) used in identifying potential cities that would be considered peers (similar) to Toronto for comparison.

ORAL HEARING UNDERTAKING RESPONSE
INTERVENOR 10 – SCHOOL ENERGY COALITION

Appendix 2: Potential Peer Group Cities – This was a list of cities that met the criteria above to be considered for comparison.

Appendix 3: Toronto Hydro Reliability Data – This is failure data provided by Toronto Hydro that they collect on certain electric assets.

Appendix 4: Toronto Hydro Reliability Data Analysis – This included the approach and results of the analysis conducted on the Toronto Hydro Reliability Data.

Appendix 5: Other Cities Reliability Data – This was data made available through contact with a number of other Canadian electric utilities and information available from an IEEE Working Group.

Appendix 6: Data Analysis – This appendix describes the process and shows the results that are contained in the Section 6 tables.

Appendix 7: Toronto Reliability Plan – This is a Toronto Hydro document that evaluated electric network problems, particularly in downtown Toronto, and identified primarily capital investments to improve reliability.

Appendix 8: Circuits Schematics – These are the same figures as shown in Section 6.7 of the report, specifically for the Toronto Hydro electric network.

Appendix 9: Transformation Map – This is the same figure as shown on page 49 of the report.

ORAL HEARING UNDERTAKING RESPONSE
INTERVENOR 10 – SCHOOL ENERGY COALITION

Capgemini has informed THESL that it is not at liberty to publicly disclose the data files that comprise "Appendix 5: Other Cities Reliability Data."

b) Determine the age of the underlying data in the report.

Capgemini has informed THESL that the data is primarily from 2007 and 2008.

ORAL HEARING UNDERTAKING RESPONSE
INTERVENOR 7 – ENERGY PROBE RESEARCH FOUNDATION

UNDERTAKING NO. J2.2:

Reference(s):

Provide a listing of which feeders in the ICM application have insulator washing performed on them as per THESL's maintenance program.

RESPONSE:

As this undertaking was given during cross-examination in respect of the Feeder Automation segment, the list of feeders below has been broken into two tables:

1) **Table 1** lists the feeders where Feeder Automation is proposed in 2012 and 2013 and the trunk portion of these feeders is affected by the insulator washing program.
2) **Table 2** lists all other feeders affected by the insulator washing program, both on trunk and lateral portions of the feeder.

Also note that the insulator washing program is not a feeder based program and only targets high contamination areas. Only portions of the feeders listed may be washed.

Table 1: List of feeders where Feeder Automation is proposed in 2012 and 2013 and these feeders are affected by the insulator washing program

38M4	80M8	SCNAE5M4
38M5	80M10	SCNAE5M10
38M8	80M21	SCNAE5M21
38M12	SCNA502M22	SCNAE5M24
30M9	SCNA502M23	SCNAE5M26
30M8	SCNA502M24	SCNAE5M29
30M1	SCNA502M26	SCNAE5M30
80M29	SCNAE5M2	

ORAL HEARING UNDERTAKING RESPONSE
INTERVENOR 7 – ENERGY PROBE RESEARCH FOUNDATION

Table 2: All other feeders affected by the insulator washing program (both trunk and lateral portions)

38M23	85M10	SCNA502M26
38M25	85M9	88M13
30M3	SCNT63M1	38M16
30M7	SCNA502M28	38M7
30M10	51M27	51M8
88M9	55M24	51M26
30M27	55M22	53M24
38M1	55M23	53M25
88M46	55M7	SCNAE5M6
55M26	55M21	80M2
80M27	51M4	85M30
80M7	51M25	55M8
55M2	51M32	85M32
55M30	35M7	85M24
55M18	85M1	55M25
85M4	85M5	
85M6	85M23	
85M7	85M8	
85m31	85M26	
29M6	47m17	
29M1	47m7	
88M2	47m14	
88M5	SCNAE5M23	
88M45	H9M30	
55M1	SCNA502M29	
55M10	SCNAE5M9	
55M11	H9M23	
55M12	H9M24	
88M25	SCNA502M32	
55M29	43M25	
85M25	43M26	
85M12	53M7	

ORAL HEARING UNDERTAKING RESPONSE
INTERVENOR 7 – ENERGY PROBE RESEARCH FOUNDATION

UNDERTAKING NO. J2.3:

Reference(s):

Does THESL have directional boring equipment?

RESPONSE:

THESL does not own any directional boring equipment.

ORAL HEARING UNDERTAKING RESPONSE
INTERVENOR 7 – ENERGY PROBE RESEARCH FOUNDATION

UNDERTAKING NO. J2.4:

Reference(s):

Confirm whether the cost of option 6 on page 25 of the Energy Probe compendium (Panel 2B, Part 2) is correct.

RESPONSE:

Due to an addition error, the referenced $32,896.57 cost is incorrect. The correct cost is $34,237.90, which is the total of material, electrical and civil costs presented in Table 2 in THESL's response to Energy Probe interrogatory 24. For clarity, the breakdown is as follows:

Material:	$1,341.00 (or $13.41/metre)
Electrical:	$2,162.90
Civil:	$30,734.00 (or $307.34/metre)

As indicated in the response to Energy Probe interrogatory 24, the above cost pertains to the installation of 100 metres of #1/0 Al TR-XLPE cable (one-phase only) in a 2x3 duct configuration. A straight stretch of local road without any bends is assumed. The costs of transformers, switchgear, and secondary distribution are not included.

ORAL HEARING UNDERTAKING RESPONSE
INTERVENOR 10 – SCHOOL ENERGY COALITION

UNDERTAKING NO. J3.2:

Reference(s):

Provide the estimated cost of replacing a multi-tap on its own and the cost of replacing a multi-tap and submersible transformer simultaneously, including labour savings and other related costs.

RESPONSE:

The total cost of replacing a submersible transformer and removing the three-point junction (also known as a multi-tap) is $11,973.12, and is broken down as follows:

$2,034.12	Isolation and De-energization (i.e., Outage)
$441.88	Transformer Install
$441.88	Transformer Removal
$8,378.10	Transformer (100 kVA submersible, feed-thru, switchable) and Elbows
$677.14	Termination and Connection

The total cost of replacing a three-point junction is $3,713.55, and is broken down as follows:

$2,034.12	Isolation and De-energization (i.e., Outage)
$233.71	Loadbreak three-point Junction
$266.44	Loadbreak Elbows
$1,179.28	Termination and Connection

The total cost of firstly replacing a multi-tap and then subsequently, at a later date, replacing the submersible transformer, is $15,686.67.

ORAL HEARING UNDERTAKING RESPONSE
INTERVENOR 10 – SCHOOL ENERGY COALITION

The total cost of replacing the submersible transformer and eliminating the multi-tap in one job together, is $11,973.12. This is a 24% cost savings compared to replacing the multi-tap and then the submersible transformer in two separate steps. By performing this submersible transformer replacement in job areas addressed by direct buried cable replacement, further efficiencies are gained. This makes the replacement of the submersible transformers at the same time as cable replacement the most prudent investment decision.

ORAL HEARING UNDERTAKING RESPONSE
INTERVENOR 10 – SCHOOL ENERGY COALITION

UNDERTAKING NO. J3.3:

Reference(s):

For each HONI capital contribution job, identify when it is expected that the work in respect of the underlying project will be complete.

RESPONSE:

The table below shows the expected completion dates for the underlying projects from THESL's perspective. These dates are based on the information that is currently available to THESL and have not been confirmed by Hydro One. Actual dates will depend on a number of factors, many of which are not directly within THESL's control.

Job	Expected Completion Date of Associated Capital Project
Bremner TS Capital Contribution	2014
Leaside-Birch Transmission Reinforcement	2014
Wiltshire TS, A3-4 switchgear replacement engineering study	2014
Wiltshire TS, A3-4 replace incoming circuit breakers capital contribution	
Wiltshire TS, A5-6 switchgear replacement engineering study	2015
Wiltshire TS, A5-6 replace incoming circuit breakers capital contribution	
Wiltshire TS, transformers upgrade for A1-2 bus engineering study	2015
Strachan TS, A7-8 switchgear replacement engineering study	2014
Strachan TS, A7-8 replace incoming circuit breakers capital contribution	

ORAL HEARING UNDERTAKING RESPONSE
INTERVENOR 10 – SCHOOL ENERGY COALITION

Job	Expected Completion Date of Associated Capital Project
Strachan TS, A5-6 switchgear replacement engineering study	2015
Strachan TS, A5-6 replace incoming circuit breakers capital contribution	
Strachan TS A3-4 switchgear replacement capital contribution	Completed
Windsor TS, A5-6 switchgear replacement engineering study	2015
Windsor TS, A5-6 replace incoming circuit breakers capital contribution	
Duplex TS, A5-6 switchgear replacement engineering study	2014
Duplex TS, A5-6 replace incoming circuit breakers capital contribution	
Glengrove TS A5-6 switchgear replacement capital contribution	Completed
Malvern TS two new circuit breakers engineering study	2013
Malvern TS two new circuit breakers required capital contribution	
Leslie MS switchgear replacement engineering study	2013
Leslie MS switchgear replacement estimate capital contribution	
Horner TS second bus expansion engineering study	2017
Runnymede TS second bus expansion HONI engineering study	2017
Bridgman/High Level transformer upgrade HONI engineering study	2015
Esplanade TS second bus expansion HONI engineering study	2020

ORAL HEARING UNDERTAKING RESPONSE
INTERVENOR 10 – SCHOOL ENERGY COALITION

UNDERTAKING NO. J3.4:

Reference(s):

Provide the aggregated amount of equipment being removed during rear lot conversion jobs for 2012/2013.

RESPONSE:

The table below provides the aggregated amount of equipment being removed during rear lot conversion jobs for 2012 and 2013. Please note that the length of conductor being removed exceeds the circuit length being converted as some parts of the rear lot areas addressed in the business case have three phase power, not just one phase.

Rear Lot Equipment Being Removed During Rear Lot Conversion Jobs for 2012 and 2013			
Overhead and Underground Assets	Switches		117
	Transformers		261
	Poles		394
	Conductor and Cable	Circuit Length (km)	41.65
		Conductor Length (km)	78.59