



Amanda Klein

Director, Regulatory Affairs

Toronto Hydro-Electric System Limited

14 Carlton Street

Toronto, Ontario M5B 1K5

Telephone: 416.542.2729

Facsimile: 416.542.3024

regulatoryaffairs@torontohydro.com

www.torontohydro.com

February 22, 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
Responses to Undertakings on Oral Hearings on Bremner &
Request for Confidential Treatment**

THESL writes in respect of the above-noted proceeding.

Enclosed is THESL’s written response to the Bremner Oral Hearing Undertaking J6.6.

Pursuant to Rule 10.01 of the OEB’s *Rules of Practice and Procedure* and in accordance with the OEB’s Practice Direction on Confidential Filings (the “Practice Direction”), THESL requests that Appendix C of its response to this undertaking be treated as confidential. This document contains detailed information regarding specific busses at THESL’s stations. As certain busses serve or have served only one customer, this information could reveal confidential customer information, including sensitive usage, CDM, and DG data regarding specific identifiable customers. THESL requests that this entire document be treated confidentially, as it is not able to isolate the specific busses that may reveal confidential customer information. The content of the document is described in THESL’s response to undertaking J6.6.

THESL requests that, should any party wish to cross-examine or address this document in any way during this proceeding, those proceedings be conducted *in camera*, and any submissions or other written material pertaining to this document be filed in confidence, all in accordance with the Practice Direction.

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

Yours truly,

[original signed by]

Amanda Klein

Director, Regulatory Affairs

Toronto Hydro-Electric System Limited

regulatoryaffairs@torontohydro.com

:AK/RB/acc

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

**BREMNER ORAL HEARING UNDERTAKING RESPONSE
INTERVENOR 12 – ENVIRONMENTAL DEFENCE**

1 **UNDERTAKING NO. J6.6:**

2 **Reference(s):**

3

4 Provide a copy of the new load forecast provided to the OPA in January 2013, including
5 any supporting documents justifying that forecast.

6

7 **RESPONSE:**

8 THESL provided two draft spreadsheets to the OPA in January 2013 concerning the 25-
9 Year Spatial Peak Demand Forecast in support of the Toronto Regional Plan. THESL
10 stresses that these spreadsheets are drafts.

11

12 1. In an email on January 9, 2013, THESL sent the OPA a spreadsheet setting out its
13 net peak demand forecast, inclusive of CDM and DG components, on a station
14 bus-level basis. Copies of the spreadsheet and email are provided as Appendices
15 A and B, respectively.

16

17 2. In an email on January 14, 2013, THESL sent the OPA a second spreadsheet
18 breaking down Appendix A into its components (gross load forecast, CDM
19 forecast, and DG forecast). Copies of the spreadsheet and email are provided here
20 as Appendices C and D, respectively.

21

22 As noted in its letter of February 22, 2013, THESL has requested that Appendix C
23 be treated as confidential, as it could reveal sensitive usage, CDM, and DG data
24 regarding specific identifiable customers

25

26

**BREMNER ORAL HEARING UNDERTAKING RESPONSE
INTERVENOR 12 – ENVIRONMENTAL DEFENCE**

1 The individual components provided in Appendix C are intended to assist the OPA in
2 developing CDM/DG scenarios for the Toronto Regional Plan. The 25-Year Spatial Peak
3 Demand Forecast is intended for long-range planning of transmission supply and
4 distribution infrastructure using economic growth factors and the official plan for the City
5 of Toronto. The 10-Year Station Bus Forecast which appears elsewhere in evidence is
6 intended for near-term operational planning using current growth, firm projects and
7 planned station upgrades. The 25-Year Spatial Peak Demand Forecast will not align
8 completely with the 10 Year Station Bus Forecast as they are used for different purposes.

Bus	Load Bus	Power Fac	2012 MW	2013 MW	2014 MW	2016 MW	2018 MW	2021 MW	2026 MW	2031 MW	2036 MW
B & Y	AGINCOURT (230KV/27.6KV) TS	use IESO	77	77	76	80	82	84	86	89	91
A5-6	BASIN (115KV/13.8KV) TS	use IESO	34	35	35	37	38	40	43	47	45
A7-8	BASIN (115KV/13.8KV) TS	use IESO	19	19	19	35	36	37	38	40	47
B & Y	BATHURST (230KV/27.6KV) TS	use IESO	131	133	133	139	141	144	147	152	156
J & Q	BATHURST (230KV/27.6KV) TS	use IESO	107	108	109	114	116	118	121	124	128
B & Y	BERMONDSEY (230KV/27.6KV) TS	use IESO	110	111	111	119	122	126	132	138	144
J & Q	BERMONDSEY (230KV/27.6KV) TS	use IESO	51	51	51	55	56	58	61	64	71
A1-2B	BRIDGMAN (115KV/13.8KV) TS	use IESO	30	31	31	32	33	33	34	35	36
A1-2H	BRIDGMAN (115KV/13.8KV) TS	use IESO	46	47	47	49	50	51	52	53	55
A5-6H	BRIDGMAN (115KV/13.8KV) TS	use IESO	28	28	29	30	30	31	31	32	33
A7-8H	BRIDGMAN (115KV/13.8KV) TS	use IESO	51	51	51	53	54	55	56	58	60
A8-9	CARLAW (115KV/13.8KV) TS	use IESO	33	33	33	36	37	39	32	36	39
A4-5	CARLAW (115KV/13.8KV) TS	use IESO	10	10	9	10	11	11	12	13	14
A10-11E (CARLAW (115KV/13.8KV) TS	use IESO	24	24	23	25	26	28	30	33	35
J & Q	CAVANAGH (230KV/27.6KV) TS	use IESO	104	103	101	108	110	113	117	121	124
A1-2	CECIL (115KV/13.8KV) TS	use IESO	27	27	27	28	28	29	30	32	33
A3-4	CECIL (115KV/13.8KV) TS	use IESO	29	29	29	31	31	32	33	35	36
A5-6	CECIL (115KV/13.8KV) TS	use IESO	48	48	48	50	51	52	54	56	58
A7-8	CECIL (115KV/13.8KV) TS	use IESO	53	53	53	55	56	58	60	62	65
A1-2	CHARLES (115KV/13.8KV) TS	use IESO	28	28	28	29	30	31	32	33	35
A3-4	CHARLES (115KV/13.8KV) TS	use IESO	29	29	29	30	31	32	33	34	36
A5-6	CHARLES (115KV/13.8KV) TS	use IESO	38	38	38	40	41	42	44	45	47
A7-8	CHARLES (115KV/13.8KV) TS	use IESO	32	32	32	33	34	34	36	37	39
A1-2	DUFFERIN (115KV/13.8KV) TS	use IESO	34	34	34	35	36	36	37	38	39
A3-4	DUFFERIN (115KV/13.8KV) TS	use IESO	22	23	22	23	24	24	25	25	26
A5-6	DUFFERIN (115KV/13.8KV) TS	use IESO	38	38	38	41	42	43	44	46	47
A7-8	DUFFERIN (115KV/13.8KV) TS	use IESO	28	28	28	29	30	30	31	32	33
A1-2	DUPLEX (115KV/13.8KV) TS	use IESO	33	33	33	35	36	37	39	41	42
A3-4	DUPLEX (115KV/13.8KV) TS	use IESO	29	29	29	31	32	33	34	40	42
A5-6	DUPLEX (115KV/13.8KV) TS	use IESO	41	41	41	44	45	46	48	47	49
J & Q	ELLESMERE (230KV/27.6KV) TS	use IESO	147	150	151	160	165	170	176	185	193
A1-2GD	ESPLANADE (115KV/13.8KV) TS	use IESO	63	64	64	57	59	62	57	62	66

Bus	Load Bus	Power Fac	2012 MW	2013 MW	2014 MW	2016 MW	2018 MW	2021 MW	2026 MW	2031 MW	2036 MW
A3-4GD (A)	ESPLANADE (115KV/13.8KV) TS	use IESO	56	56	56	59	61	63	57	61	65
A1-2X	ESPLANADE (115KV/13.8KV) TS	use IESO	54	54	54	45	47	49	53	57	61
B & Q	FAIRBANK (115KV/27.6KV) TS	use IESO	112	112	101	79	81	84	87	91	94
Y & Z	FAIRBANK (115KV/27.6KV) TS	use IESO	72	72	81	87	88	89	92	94	96
B & Y	FAIRCHILD (230KV/27.6KV) TS	use IESO	150	151	151	158	161	164	169	174	179
J & Q	FAIRCHILD (230KV/27.6KV) TS	use IESO	104	105	105	110	112	114	117	121	124
B & Y	FINCH (230KV/27.6KV) TS	use IESO	138	140	142	146	149	151	154	159	164
J & Q	FINCH (230KV/27.6KV) TS	use IESO	126	128	130	134	136	138	141	145	150
A1-2	GERRARD (115KV/13.8KV) TS	use IESO	26	25	25	27	28	30	51	54	56
A3-4	GLENGROVE (115KV/13.8KV) TS	use IESO	27	27	27	29	30	31	32	34	35
A7-8	GLENGROVE (115KV/13.8KV) TS	use IESO	33	33	32	35	36	37	39	41	42
B & Y	HORNER (230KV/27.6KV) TS	use IESO	140	167	167	175	178	182	188	184	190
B & Y	LEASIDE (230KV/27.6 - 13.8KV) TS	use IESO	91	92	92	99	101	105	110	115	116
A1 & A2	LEASIDE (230KV/27.6 - 13.8KV) TS	use IESO	38	38	38	41	42	44	46	48	50
Q1 & Q2	LEASIDE (230KV/27.6 - 13.8KV) TS	use IESO	23	23	23	24	25	26	27	28	30
B & Y	LESLIE (230KV/27.6-13.8KV) TS	use IESO	97	97	97	87	89	91	94	97	100
H1 & H2	LESLIE (230KV/27.6-13.8KV) TS	use IESO	27	27	27	28	29	29	30	31	32
J & Q	LESLIE (230KV/27.6-13.8KV) TS	use IESO	119	120	119	140	142	145	149	153	157
A1-2MN	MAIN (115KV/13.8KV) TS	use IESO	33	33	33	35	36	38	33	37	40
A3-4MN	MAIN (115KV/13.8KV) TS	use IESO	38	38	38	26	27	29	33	37	40
J & Q	MALVERN (230KV/27.6KV) TS	use IESO	109	120	121	125	127	129	160	164	167
B & Y	MANBY (230KV/27.6KV) TS	use IESO	74	66	46	50	51	53	56	59	62
Q & Z	MANBY (230KV/27.6KV) TS	use IESO	66	63	54	57	59	60	63	61	63
V & F	MANBY (230KV/27.6KV) TS	use IESO	91	78	78	83	85	88	91	100	104
B & Y	REXDALE (230KV/27.6KV) TS	use IESO	60	60	59	62	63	64	66	68	70
J & Q	REXDALE (230KV/27.6KV) TS	use IESO	54	54	53	56	56	57	59	61	63
B & Y	RICHVIEW (230KV/27.6KV) TS	use IESO	54	54	54	56	57	58	60	62	64
J & E	RICHVIEW (230KV/27.6KV) TS	use IESO	122	122	122	127	128	130	134	139	143
Q & Z	RICHVIEW (230KV/27.6KV) TS	use IESO	87	87	86	90	91	92	95	98	101
B & Y	RUNNYMEDE (115KV/27.6KV) TS	use IESO	85	86	86	91	93	94	97	100	102
B & Y	SCARBOROUGH (230KV/27.6KV) TS	use IESO	102	103	104	111	114	117	122	129	134
J & Q	SCARBOROUGH (230KV/27.6KV) TS	use IESO	127	128	129	138	141	146	152	160	167

Bus	Load Bus	Power Fac	2012 MW	2013 MW	2014 MW	2016 MW	2018 MW	2021 MW	2026 MW	2031 MW	2036 MW
B & Y	SHEPPARD (230KV/27.6KV) TS	use IESO	108	98	98	107	110	114	92	99	105
J & Q	SHEPPARD (230KV/27.6KV) TS	use IESO	52	52	52	56	58	60	63	66	69
A1-2	STRACHAN (115KV/13.8KV) TS	use IESO	39	39	38	41	42	43	45	47	48
A9-10 (A3-	STRACHAN (115KV/13.8KV) TS	use IESO	24	24	23	31	31	33	34	35	40
A5-6	STRACHAN (115KV/13.8KV) TS	use IESO	32	31	31	33	34	35	36	38	37
A7-8	STRACHAN (115KV/13.8KV) TS	use IESO	38	37	37	33	34	35	36	38	37
A1-2	TERAULEY (115KV/13.8KV) TS	use IESO	45	44	42	46	47	50	55	58	61
A3-4	TERAULEY (115KV/13.8KV) TS	use IESO	44	43	41	44	46	48	53	56	58
A5-6	TERAULEY (115KV/13.8KV) TS	use IESO	55	53	51	55	57	61	55	59	63
A9-10	TERAULEY (115KV/13.8KV) TS	use IESO	39	38	36	39	40	43	47	50	52
J & Q	WARDEN (230KV/27.6KV) TS	use IESO	104	105	106	113	116	120	125	131	137
A1-2	WILTSHIRE (115KV/13.8KV) TS	use IESO	19	19	19	20	20	21	21	22	22
A3-4	WILTSHIRE (115KV/13.8KV) TS	use IESO	21	21	21	22	23	23	23	24	25
A5-6	WILTSHIRE (115KV/13.8KV) TS	use IESO	30	30	30	32	32	33	33	34	35
New A11-	WINDSOR (115KV/13.8KV) TS	use IESO	56	51	51	40	0	26	28	30	32
A13-14	WINDSOR (115KV/13.8KV) TS	use IESO	37	37	38	39	33	35	36	38	39
A15-16	WINDSOR (115KV/13.8KV) TS	use IESO	67	68	68	63	64	42	45	48	51
A17-18	WINDSOR (115KV/13.8KV) TS	use IESO	44	44	44	46	40	42	44	45	47
New A3-4	WINDSOR (115KV/13.8KV) TS	use IESO	51	51	52	0	56	58	60	62	64
New A5-6	WINDSOR (115KV/13.8KV) TS	use IESO	56	63	0	50	51	53	55	58	60
FEEDERS	WOODBIDGE (230KV/27.6KV)	use IESO	19	19	19	19	20	20	20	21	22
A1-2	Bremner	use IESO	0	0	63	63	63	63	63	63	63
A3-4	Bremner	use IESO	0	0	0	39	39	39	50	50	50
A5-6	Bremner	use IESO	0	0	0	0	0	0	0	0	0
A7-8	Bremner	use IESO	0	0	0	0	0	0	0	0	0
Excess		use IESO	0	0	0	0	0	0	0	0	0
Excess	MANBY (230KV/27.6KV) TS	use IESO	0	0	30	30	30	30	30	40	40
Excess	ESPLANADE (115KV/13.8KV) TS	use IESO	0	0	0	10	10	10	30	30	30
Excess		use IESO	0	0	0	0	0	0	0	0	0
Excess	FAIRBANK (115KV/27.6KV) TS	use IESO	0	0	0	30	30	30	30	30	30

Angelo Boschetti - Toronto Regional Plan Spatial Load Forecast--Update

From: Angelo Boschetti
To: Alexandra Barrett; Steven Norrie
Date: 09/01/2013 10:07 PM
Subject: Toronto Regional Plan Spatial Load Forecast--Update
CC: Chun Hung Ngai
Attachments: Model 0002P THESL SPDF Scenario 1 Worksheet_27Dec2012.xlsx

Steven/Alexandra,

In response to the action item of the November 28, 2012 meeting regarding the forecast results in the Manby sector, we have re-examined the projection of the system results to the transmission areas.

We have identified a method to more accurately determine the industrial/commercial employment ratio per area and then recalculated the projection of system results to all transmission areas. (Please note that there has not been a change to the system wide regression model.) A better transmission area fit, which is notable in both the Manby East and Manby West areas, has been achieved.

We have then allocated the projected transmission area loads onto the stations. The spatial forecast was then load balanced to reflect transfers that are already planned to occur by THESL and we have prepared the load transfers required through the entire 25 year period so that the LTRs of all station buses are respected. Where load could not be transferred intra-station to deal with an LTR violation, a new bus was created to hold the load so that we could create a feasible load model for performing a load flow. The attached file 'Model 0002P THESL SPDF Scenario 1 Worksheet_27Dec2012' contains the revised bus level figures. It has been prepared in PSS/E format for your convenience.

For greater clarity, the attached 'Model 0002P THESL SPDF Scenario 1 Worksheet_27Dec2012' supercedes 'Model 0001P THESL SPDF Scenario 1 Worksheet_V2' provided to you on September 28, 2012. As with the previous results, the attached document is provided in confidence and is for the exclusive use of the Toronto Regional Plan.

We point out that because the station loads have changed the number and location of the 'excess busses' to deal with LTR violations has changed. There is also a system wide adjustment increase of 39 MW to correct for a double counting that occurred in the first edition.

As always, please feel free to contact us with any questions or comments regarding the attached.

Thank you,

Angelo Boschetti, P.Eng, M.Eng
Leader,
Capacity Planning, Asset Management
Toronto Hydro-Electric System Limited
500 Commissioners St, 3rd floor
Toronto ON M4M 3N7

Office Phone: 416.542.3034
Office Fax: 416.542.2630

www.torontohydro.com

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Angelo Boschetti - RE: Toronto Regional Plan Spatial Load Forecast--Update

From: Angelo Boschetti
To: Alexandra Barrett; Steven Norrie
Date: 14/01/2013 1:52 PM
Subject: RE: Toronto Regional Plan Spatial Load Forecast--Update
CC: Christopher Reali; Chun Hung Ngai
Attachments: THESL SPDF Derivation of Scenario 1__RVSD27Dec2012.xlsx

Alexandra/Steven:

In answer to your questions:

1. The overall CDM assumptions have not changed and therefore 'Model 0002P THESL SPDF Scenario 1 Worksheet_27Dec2012' was developed with the same assumptions as was 'Model 0001P THESL SPDF Scenario 1 Worksheet_V2'.

For greater clarity, we have updated the file provided to you in my October 25, 2012 email and have attached it to this email. As described in previous correspondence, it permits you to calculate peak demand scenarios of your choice.

2. We had provided you our residential/non-residential customer counts in the correspondence of September 28, 2012. Please note that this was not a forecast of residential/non-residential customer counts. We have no new information regarding actual or forecasted residential/non-residential customer counts.

3. Our experience is that power factors do vary by station and therefore recommend you use power factors from historical station data. It will be faster for you to obtain that information from the IESO directly than it is for me to do so.

4. We prefer to supply any Toronto Regional Plan member with the needed data directly. Please ask them to contact me directly.

Please contact me with any questions or comments.

Thank you,

Angelo Boschetti, P.Eng, M.Eng
Leader,
Capacity Planning, Asset Management
Toronto Hydro-Electric System Limited
500 Commissioners St, 3rd floor
Toronto ON M4M 3N7

Office Phone: 416.542.3034
Office Fax: 416.542.2630
www.torontohydro.com

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confidential and/or privileged material. Any review, retransmission, dissemination or other use of, or taking any action in reliance upon, this information by persons or entities other than the intended recipient is prohibited. If you received this in error, please contact the sender and delete the material from any computer. >>>
Alexandra Barrett <Alexandra.Barrett@powerauthority.on.ca> 10/01/2013 11:50 AM >>>

Thanks Angelo, we will get to work on this new data

A few quick questions:

- Could you please confirm that the overall CDM assumed in this new allocation matches that from the previous iteration? We will eventually need the breakdown by TS for reporting purposes, but I can get started on creating new CDM scenarios as long as the total system CDM has remained the same.
- Also related to CDM, could you please confirm that no new information is available related to customer composition trends over the forecast period? We are currently assigning CDM proportional to peak demand and the expected residential/non residential share at each station. For the moment, we are assuming that the ratio remains fixed over the study period, and only total demand varies.
- The file you provided indicates "use IESO" for power factor assumptions. Please let us know whether this should be the IESO recommended 0.9 as per ORTAC, or the IESO's reported historical power factor by bus?
- Finally, could you please confirm that we are free to distribute this forecast to team members of the Toronto Regional Plan.

Thanks again for all your hard work, and happy New Years!

Alexandra

From: Angelo Boschetti [mailto:aboschetti@torontohydro.com]
Sent: Wednesday, January 09, 2013 10:08 PM
To: Alexandra Barrett; Steven Norrie
Cc: Chun Hung Ngai
Subject: Toronto Regional Plan Spatial Load Forecast--Update

Steven/Alexandra,

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load could not be transferred intra-station to deal with an LTR violation, a new bus was created to hold the load so that we could create a feasible load model for performing a load flow. The attached file 'Model 0002P THESL SPDF Scenario 1 Worksheet_27Dec2012' contains the revised bus level figures. It has been prepared in PSS/E format for your convenience.

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Thank you,

Angelo Boschetti, P.Eng, M.Eng
Leader,
Capacity Planning, Asset Management
Toronto Hydro-Electric System Limited
500 Commissioners St, 3rd floor
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Office Phone: 416.542.3034
Office Fax: 416.542.2630
www.torontohydro.com

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