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**BY E-MAIL**

March 2, 2015

Attention: Ms. Kirsten Walli, Board Secretary

Dear Ms. Walli:

**Re: Hydro One Networks Inc.**
**Board Staff Interrogatories for Phase 1 (Leave to Construct)**
**Board File Number EB-2013-0421**

In accordance with Procedural Order No. 3 Amended January 30, 2015, please find attached Board Staff interrogatories for the above-referenced application.

Yours truly,

*Original Signed By*

David Richmond
Manager, Electricity Facilities and Infrastructure

Attachment

cc: Parties to Phase 1 of Proceeding EB-2013-0421

# Board Staff Interrogatories in EB-2013-0421 Phase 1

## IR Ph1-Staff-1

***Ref: Ex A/T1/S1***

*Preamble*: The updated application is seeking an order of the Board for leave to construct "*transmission line facilities*" including: (a) Construction of approximately 13 km of new 230 kV double-circuit line; (b) installation of optic ground wire and (c) the proposed transmission station at Leamington ("Leamington TS"). For the construction of Leamington TS, please provide the information requested in the parts (i) to (v) below:

i. The evidence on Land Matters, at Ex B/T6/S7, provides a description of the lands required for the transmission line only. Please provide a description of the land required for the transformer station and the status of the land acquisition process with respect to these lands.
ii. The forms of agreement provided at Ex B/T6/S7 include agreements in relation to the construction of the transmission line only. If Leamington TS is to be located on private lands please provide the form of agreement if it is different than the one for the transmission line land. .
iii. At Ex B/T4/S2/p4/Table 2, Hydro One provides the Cost of Comparable Projects and compares the line work on the SECTR project with line work on the Hurontario Station and Transmission Line Reinforcement Project, on a $/km basis. However, no comparison has been provided in relation to the costs for the Leamington TS. Please provide a similar cost comparison for the station-related work.

## IR Ph1-Staff-2

***Ref: Ex B/T1/S5/p.6 - OPA Evidence on Need***

At page 6 of the above reference, it is stated that a regional plan that considered the needs to supply the Windsor-Essex Region was first developed as part of the 2007 IPSP. Please submit the relevant sections of the referenced plan.

**IR Ph1-Staff-3**

***Ref: Ex B/T1/S5/p.6 - OPA Evidence on Need***

At page 6 of the above reference, the OPA references the Integrated Regional Resource Plan ("IRRP") planning process in the Windsor-Essex Region and states that the need for the SECTR project was established as part of the regional planning process that was in place prior to the IRRP planning process.

What is the status of the plan that is being developed as part of the IRRP planning process?

How will the SECTR project be integrated into the regional plan that is being developed as part of the IRRP process for Windsor-Essex Region?

**IR Ph1-Staff-4**

***Ref: Ex B/T1/S5/p.7 - OPA Evidence on Need***

At page 7 of the above reference, it is stated that a study that was undertaken in 2010 determined that there was no immediate need for augmenting electricity supply in the Windsor-Essex Region. Please submit the relevant sections of the referenced study/assessment.

**IR Ph1-Staff-5**

***Ref: Ex B/T1/S5/p. 13 & 14 - OPA Evidence on Need***

At page 14, the OPA states:

> "The summer peak demand planning forecast of the Windsor-Essex area is shown in Figure 5, along with the gross demand and net demand for the area. Within the Windsor-Essex area, the planned peak demand reduction between 2014 and 2033 is approximately 150 MW from CDM, and approximately 15 MW from DG".

At p. 13 the OPA estimates CDM impact to be 172 MW (65MW+107MW) by 2033. Further, with respect to the impact of DG, at p. 14 the OPA estimates the impact to be 80MW by 2033. These impacts appear to be different from those that are quoted in the extract above. Please clarify the apparent inconsistency.

**IR Ph1-Staff-6**

***Ref: Ex B/T1/S5/p. 15 & 16 – Figure 5 and 6 - OPA Evidence on Need***

Please provide the annualized values in table format for Gross Demand, Net Demand and Planning Forecast Demand that were used to produce the graphs in Figure 5 and 6 at the above reference.

**IR Ph1-Staff-7**

***Ref.: Ex B/Tab1/S5 - OPA Evidence on Need - J3E-J4E Subsystem Restoration Needs***

At the reference on page 40, lines 5-16, Hydro One describes the implication of its preferred solution of constructing the new Leamington TS and states in part that:

> The 95 MW of demand which would be transferred from Kingsville TS to Leamington TS in 2016 would correspondingly reduce the J3E-J4E subsystem demand to approximately 655 MW that year. This is within approximately 30 MW of the restoration capability for the period up to 2030, as described in Section 5.2.1, however the restoration capability is expected to decline beyond that date, due to the contract expiry date for the East Windsor Cogeneration Centre. […]The restoration capability described in Section 5.2.1 is therefore able to substantially meet the reduced restoration need for the J3E-J4E subsystem.

(a) What other measures would be needed to fully meet the restoration needs of the J3E-J4E subsystem, which basically would cover the 30 MW gap identified in the first reference, and what are the corresponding costs.
(b) What are the implications of not fully meeting the ORTAC requirements in this case under the stated assumptions?
(c) What other measures and their estimated costs in the event that the load in the J3E/J4E subsystem, during the study period, exceed the current forecast, in terms of meeting fully the ORTAC requirements.

**IR Ph1-Staff-8**

***Ref.: Ex B/Tab1/S5 – OPA Evidence on Need - Transmission Connected Generation***

At the reference on page 28, lines 5 – 7, it is indicated that the gas-fired generating units at Brighton Beach GS which is connected to the 115 kV bus at Keith TS, allows the capability of the J3E/J4E transmission line to be fully utilized post-contingency.

At the reference on page 35, lines 7 – 16 it states in part that:

> The contract for the TransAlta Windsor generating station expires in December, 2016, reducing the amount of generation capability within the J3E-J4E subsystem which is available for restoration. Re-contracting this gas-fired generation would help meet the restoration requirement in the J3E-J4E subsystem, but would leave a gap of approximately 76 MW of unmet restoration requirement. As noted in Section 4.2, the contract for West Windsor Power also expires in 2016, however, this generating station is connected to the Essex 115 kV bus and is therefore not part of the J3E-J4E subsystem. Large generation is therefore not a feasible means of addressing the restoration needs of the J3E-J4E subsystem. The OPA may proceed to negotiate a new contract for one or both of these facilities if the new contract results in cost and reliability benefits for Ontario. [emphasis added].

At the same reference on page 30, lines 10 – 13 it states that:

> The OPA's provincial forecast shows that Ontario will experience a capacity shortfall beginning around 2019. The 180 MW constrained capacity at Brighton Beach GS could, however, advance the need for system capacity resources. The capital cost of supplying 180 MW of peaking capacity is approximately $160 million based on the cost of a simple cycle gas-fired generator.

(a) Please confirm that the generation of West Windsor is connected to the Keith 115 kV Bus, and not to the Essex 115 kV Bus as Hydro One indicated on page 35 of the reference.

(b) If the answer to (a) is affirmative, please comment on the view that in the event that the West Windsor contract is renewed by the OPA, its generation output would contribute to load restoration by allowing the capability of the J3E/J4E transmission line to be fully utilized post-contingency, same as the Brighton Beach units connected at the 115 kV bus at Keith.

(c) If the answer to (a) above is affirmative, and in the event that the OPA is successful in renegotiating its contract with West-Windsor (107 MW) and the TransAlta Windsor (74 MW) prior to their expiry in 2016, please comment on whether or not such a measure would address the 76 MW gap to meet the restoration time for the J3E/J4E subsystem identified at the above reference on page 35, lines 9 -11.

(d) Please elaborate on the view that renewal of the two noted contracts by the OPA in 2016 appear to be more economic, given that the noted generating facilities are in place, and thus their capital costs have been recovered, than the alternative of relieving the 180 MW of Brighton Beach constrained capacity by a180 MW of peaking capacity at a cost of $160 million based on a simple cycle gas-fired generator as stated at page 30 of the reference.

(e) Notwithstanding whether renegotiating the two noted contracts is the most economical solution, please provide an evaluation of the value of that 180 MW bottled generation using the forecast Hourly Ontario Energy Price ("HOEP") for the study period. In providing that analysis, please provide all assumption including the probability of all bottled generation events, the

number of hours in each event and amount of bottled energy as well as the corresponding cost.

**IR Ph1-Staff-9**

**Kingsville TS Reinforcement Cost**
***Ref.: Ex B/Tab6/S3 "Draft SIA Report, May 9, 2014"/pp. 12-13***
***Ex B/Tab4/S3/p. 3/lines 6 - 19***

At the first reference, the draft SIA report in analyzing the "Kingsville Load Transfer Options" indicated that option B, proposed by Hydro One, which involves retaining two transformers with 54 MW of load at Kingsville TS and transfer the remaining load to the new TS (about 95 MW), is better than option A, which involves retaining four transformers with 124 MW. The draft SIA report however stated in part that:

> With two transformers retained at Kingsville in option B, for loss of one transformer, post-contingency loading above the 10-day long term rating (LTR) will occur on the remaining transformer with the more limiting rating. Should option B be retained, Hydro One has indicated that they have plans to replace this transformer with a new transformer that has a higher 10-day LTR

At the second reference, Hydro One stated in part that

> With the establishment of Leamington TS sufficient load will be transferred from Kingsville TS to Leamington TS. This will reduce the need for the current four transformers at Kingsville TS to two transformers. Three of the transformers at Kingsville TS are at end-of-life with planned replacement in 2015 (under Hydro One Transmission's Sustainment program). With the planned load transfer to Leamington TS, only one of these three transformers will need to be replaced. The estimated cost to replace three transformers is $18M, while the estimated cost to replace one transformer and reconfigure the station to a two-transformer station is $12M. This represents a $6M reduction in cost due to the SECTR Project.

(a) Please indicate whether the fourth transformer at Kingsville TS that will remain in use has a higher 10-day LTR capability required to meet the post-contingency loading as stated in the SIA report as noted in the first reference.
(b) If the fourth transformer does not meet the higher 10-day LTR capability noted in the first reference, would Hydro One purchase a second transformer? And in that event would there be an additional cost of $6M to the project?
(c) Please provide a description of the work required to reconfigure Kingsville TS to a two-transformer station, and a breakdown of the $6M cost including any new system elements such as breakers.

**IR Ph1-Staff-10**

**Land Matters**

***Ref: Land Matters – Ex B/T6/S7 and Filing Requirements from Transmission and Distributions Applications, dated May 12, 2012 ("LTC Filing Requirements")***

Please provide the following information in relation to the proposed transmission facilities (Transmission Line and Leamington TS)

(a) Please submit a map showing the route/location of the proposed facilities and the land parcels along the route with PIN/LOT No. for the properties on which or adjacent to which the proposed facilities are to be located.
(b) Please submit a map showing the right-of-way dimensions and an indication of where the route crosses privately owned land.
(c) Please submit as a confidential filing a landowner list (in table format) identifying the PIN/LOT number and the property owner. Please ensure the landowner list is consistent with the information in part (a).

**IR Ph1-Staff-11**

***Ref: Land Matters – Ex B/T6/S7***

(a) The evidence states that the corridor for the transmission line crosses 39 privately owned properties, a rail corridor and eight municipal road allowances. For each of the 39 properties, and for additional properties required for the Transmission Station, please provide in table format, the PIN/LOT Numbers, description of property (residential, agricultural, greenhouses, commercial etc.), description of infrastructure to be located on the property, type of land rights required and whether property-owner and Hydro One have successfully executed a land use agreement.
(b) What is the status of negotiations between Hydro One and the Municipality of Leamington, with respect to lands that are owned by the municipality?

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