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September 5, 2012

Ontario Energy Board  
2300 Yonge Street  
P.O. Box 2319  
Suite 2700  
Toronto, ON M4P 1E4

**Attention: Ms Kirsten Walli  
Board Secretary**

Dear Ms. Walli:

**Re: Hydro One Networks Inc.  
Change to Electricity Transmission Revenue Requirement and Rates  
HQ Energy Marketing Inc. ("HQEM") Interrogatories  
Board File No: EB-2012-0031**

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Please find attached the interrogatories of the HQ Energy Marketing Inc. ("HQEM") in the above-noted application. HQEM also intends to file evidence in the above-noted proceeding.

Sincerely,

*signed in the original*

George Vegh

- c. Mr. Matthieu Plante, Hydro Québec
- Mr. Yannick Vennes, Hydro Québec
- Mr. Michael Roger, Elenchus
- Mr. D.H. Rogers, Q.C., Counsel to the Applicant (e-mail)
- Mr. Pasquale Catalano, Regulatory Affairs, Hydro One Networks (e-mail)
- All Interested Parties (e-mail)

**EB-2012-0031**

**Interrogatories of Hydro Quebec**

**Interrogatory 23.0-HQ-1. Reference: General Interrogatory to IESO and Hydro One.**

- i. The IESO is asked to confirm whether any of the generation capacity currently in operation or in construction in Ontario is, or is expected to be, exported as firm capacity to any neighbouring jurisdiction, tagged as such in NERC e-Tags, and possibly designated as an external network resource or an equivalent installed capacity designation by the external control area. If so, please indicate the quantity of firm exports and to which control area(s).
- ii. The IESO and/or Hydro One are asked to advise whether Hydro One has built or plans to build transmission capacity to serve any given level of firm exports and, if so, please advise the cost of this capacity and the level of firm exports served by it.
- iii. Please advise of an estimate of the short run marginal cost of transmission service (for clarity, other than marginal losses).

**Interrogatory 23.0-HQ-2. Reference: Letter from IESO to Hydro One, Exhibit H1-5-2 Appendix B, p. 1 of 102.**

- i. Please provide all protocols and practices of the IESO with respect to the provision of export service and, in particular, those that address when export services may be curtailed. More specifically, the IESO is asked to provide its emergency operating practices (or references in the relevant market rules and market manuals) when internal transmission constraints or resource adequacy issues require the curtailment of either exports or internal loads.
- ii. The IESO is asked to confirm that it has authority to, and does, curtail export and wheel-through transactions that may create or exacerbate constraints on internal transmission interfaces, such as the ones listed in section 3 of the IESO's *Ontario Transmission System* report (ref.: [http://www.ieso.ca/imoweb/pubs/marketReports/OntTxSystem\\_2012jun.pdf](http://www.ieso.ca/imoweb/pubs/marketReports/OntTxSystem_2012jun.pdf)). The IESO is further asked to confirm that it would curtail export and wheel-through transactions before it would curtail loads if doing so would help relieve the internal transmission constraints.

**Interrogatory 23.0-HQ-3. Reference: Export Transmission Tariff Study (“Study”), Exhibit H1-5-2.**

- i. Please file the responses to questions not addressed in the IESO stakeholder meeting on May 24th, 2012, dated June 22, 2012, (IESO’s consultation process SE-94).

**Interrogatory 23.0-HQ-4. Reference: Export Transmission Tariff Study (“Study”), Exhibit H1-5-2, Appendix B, p. 5 of 102.**

The exhibit states that the author of the Study has assessed proposed options “on the basis of conformance with generally accepted rate-making principles (consistency with neighbouring markets, simplicity, fairness and efficiency).”

- i. Please advise who the author of the Study is.
- ii. Please provide authority for the statement that “consistency with neighbouring markets, simplicity, fairness and efficiency” are the components of generally accepted rate-making principles. In particular, please advise of an authoritative text where these principles are identified.
- iii. Please advise whether the author of the Study agrees that cost causality is a generally accepted rate-making principle.
- iv. Please advise whether the author of the Study agrees with the following statement from Bonbright’s *Principles of Public Utility Rates* (1988): “Interruptible customers are charged lower rates since they do not have any demand or capacity costs.” (at p. 403).
- v. Please advise whether the author of the Study agrees with the following statement from Kahn’s *The Economics of Regulation* (1998) (Vol. 1): “In the presence of excess capacity, utility companies ought to make every effort to design rates, down to SRMC [i.e., short run marginal cost], to put it to use.” (at p. 106).

**Interrogatory 23.0-HQ-5. Reference: Export Transmission Tariff Study (“Study”), Exhibit H1-5-2, Appendix B, p. 48 of 102.**

- i. CRA describes Vertical Fairness as “ensuring that consumers who impose different costs and derive different benefits are treated in a way that reflects those costs and benefits”. Does the IESO agree with CRA’s description of Vertical Fairness? If not, please explain.

**Interrogatory 23.0-HQ-6. Reference: Export Transmission Tariff Study (“Study”), Exhibit H1-5-2, Appendix B.**

- i. Please confirm that CRA has not made a quantitative comparative assessment of the various criteria considered in the Study (consistency with neighbouring markets, simplicity, fairness and efficiency), that is all criteria were given the same weight.

**Interrogatory 23.0-HQ-7. Reference: Export Transmission Tariff Study (“Study”), Exhibit H1-5-2, Appendix B, pp. 8-14 of 102.**

The evidence states that “Where Ontario has excess supply capacity and costs that are competitive with neighbouring markets as in 2013, impacts of changes in the ETS tariff tend to be large” (p.8 of 102). To understand the assumptions used about excess capacity, it is necessary to understand assumptions about both supply and demand. The supply assumptions for 2013, 2015 and 2017 are said to be based on those contained in the Long Term Energy Plan and used by the OPA. (see p.13 of 102). The demand assumptions for 2013, 2015 and 2017 were provided by the IESO (see p. 14 of 102).

- i. Please advise of the differences, if any, of the supply assumptions of the LTEP/OPA and those used in the Study.
- ii. The LTEP set a target of 10,700 MW of non-hydro renewable energy generation capacity for 2018. The Government’s Two-Year FIT Review Report dated March 19, 2012 recommended that the 10,700 MW target be accelerated to 2015.
  - a. Please advise which non-hydro renewable energy target is used in the Study.
  - b. If the Study uses the 2018 target instead of the 2015 target, please advise why.
  - c. Please redo the Study using the 2015 target. If it is not practical to redo the Study, please provide an estimate of the impact of using the 2015 target instead of the 2018 target.
- iii. Please provide the demand assumptions provided by the IESO.
- iv. Please provide, for 2013, 2015 and 2017 the total nuclear production assumptions, with a breakdown between the Bruce, Darlington and Pickering units, along with the basis for those assumptions.
- v. The IESO has provided demand forecasts to the North American Electric Reliability Corporation “NERC”) for the periods 2013-2017. The link to this information is at: [http://www.nerc.com/files/2011LTRA\\_Final.pdf](http://www.nerc.com/files/2011LTRA_Final.pdf).

- a. Please advise whether the NERC demand forecasts (or energy usage derived from or consistent with the demand forecasts) were used in the Study.
- b. If the Study does not use the NERC demand forecasts (or energy usage derived from or consistent with the demand forecasts), please advise why.
- c. Please redo the Study using the NERC demand forecasts (or energy usage derived from or consistent with the demand forecasts). If it is not practical to redo the Study, please provide an estimate of the impact of using the NERC demand forecasts (or energy usage derived from or consistent with the demand forecasts).

**Interrogatory 23.0-HQ-8. Reference: Export Transmission Tariff Study (“Study”), Exhibit H1-5-2, Appendix B, p. 28 of 102.**

The evidence here and elsewhere identifies the specific drivers for changes in model results for 2015 and 2017 as driven by carbon pricing (in 2015) and nuclear production (in 2017).

- i. Please confirm that these factors are the largest drivers in the change in modeling results in 2015 and 2017.
- ii. If there are different or additional factors that account for changes in model results in 2015 and 2017, please specify what they are.
- iii. Please provide an estimate of the surplus changes that are attributable to nuclear production and other factors identified in the responses to (i) and (ii)

**Interrogatory 23.0-HQ-9. Reference: Export Transmission Tariff Study (“Study”), Exhibit H1-5-2, Appendix B.**

- i. It is HQEM's understanding that the IESO is proposing to eliminate negative prices at external nodes by limiting the settlement value of exports to a net \$0/MWh (see IESO's Market Rule amendment proposal MR-00393 at <http://www.ieso.ca/imoweb/pubs/mr2012/MR-00393-Q00.pdf>). If this proposed change is implemented by the IESO, would it have any impact on the analysis conducted by CRA on the various ETS alternatives? Please explain.

**Interrogatory 23.0-HQ-10. Reference: Export Transmission Tariff Study (“Study”), Exhibit H1-5-2, Appendix B, pp. 24 and 25 of 102.**

The CRA study states that the definition of on-peak used in the analysis is 5x12, that is, 12 hours a day, 5 days a week.

- i. Please provide the hours comprised in the CRA definition of 5x12 (for example, hour ending 8 to hour ending 19 ; or hour ending 7 to hour ending 18, etc.).

**Interrogatory 23.0-HQ-11 Reference: Export Transmission Tariff Study (“Study”), Exhibit H1-5-2, Appendix B, pp. 34 to 44 of 102.**

The CRA study states on page 34 that “[t]he Intertie Congestion Revenue is reported separately, and is allocated to neither producers nor consumers. It is, however, assumed to accrue to Ontario, and is therefore included in the calculation of the change in total surplus in Ontario.”

- i. The IESO is requested to:
  - a. confirm that in the current IESO market design, Intertie Congestion Revenue can be both direct congestion revenues accruing to the IESO (i.e., absent transmission rights sold to market participants) and revenues from the sale of transmission rights by the IESO to market participants.
  - b. confirm that in the current IESO market design (see Market Rules, chapter 8, section 4.18 (*TR Clearing Account*) and chapter 9, section 4.7 (*TR Clearing Account Disbursements*)), Intertie Congestion Revenue, when redistributed to market participants, is redistributed on the basis of MWh withdrawn from the network.
  - c. provide the actual MWh withdrawn from the network in 2010 and 2011 by Ontario loads and by exporters respectively.
- ii. Given the IESO’s answers to 23.0-HQ-11 i-a through i-c above, CRA is requested to:
  - a. advise whether Intertie Congestion Revenue should be more appropriately re-classified as a Consumer Surplus component, as opposed to a stand-alone item of the total surplus.
  - b. notwithstanding CRA’s answer to the interrogatory 23.0-HQ-11-ii-a above, provide updated tables 7 to 10 with Intertie Congestion Revenue re-classified as a Consumer Surplus component, under the WCI and the no-WCI assumptions.

**Interrogatory 23.0-HQ-12 Reference: Export Transmission Tariff Study (“Study”), Exhibit H1-5-2, Appendix B, p. 33 of 102.**

On page 33, the notion of “Producer Surplus” is presented as “the change in revenue received by generators less production costs”, count taken of the Global Adjustment. CRA is requested to:

- i. confirm its understanding that a significant sub-set of the generation capacity in Ontario does not receive compensating Global Adjustment revenues in case of lower prices, and is therefore exposed to real time prices.
- ii. confirm its view whether a negative change in producer surplus would fall disproportionately, if not only, on the sub-set of generators which are exposed to low real time prices.

**Interrogatory 23.0-HQ-13 Reference: Export Transmission Tariff Study (“Study”), Exhibit H1-5-2, Appendix B, p. 40 of 102, table 8.**

- i. CRA is requested to explain the jump in increased consumer surplus from 2013 to 2015 and its fall from 2015 to 2017. Please explain the corresponding variations in producer surplus between 2013 and 2015 and between 2015 and 2017.

**Interrogatory 23.0-HQ-14 Reference: Export Transmission Tariff Study (“Study”), Exhibit H1-5-2, Appendix B, p. 17 of 102.**

In its Study, CRA states that "For our analysis, it was assumed that Ontario would join the WCI by 2015. CRA is requested to :

- i. confirm that, in CRA Study, the assumption that Ontario would "join the WCI" is actually equivalent to Ontario would "adopt carbon pricing".
- ii. confirm that the Government of Ontario has not, to this date, officially announced the implementation of the WCI cap-and-trade regime nor adopted the necessary legislation or regulations to that effect.
- iii. given the absence of legislation or regulation from the Province of Ontario officially implementing carbon pricing in Ontario (by formally implementing the WCI cap-and-trade regime or by adopting any other carbon pricing mechanisms), explain the basis for the assumption that Ontario would adopt carbon pricing by 2015.
- iv. confirm whether CRA’s model takes into account the minimum cost adder of \$2.31/MWh (which would vary depending on the market price of a CO2 ton) that will be charged by the Government of Québec to any purchase of energy from Ontario for import

into Québec as per the *Regulation respecting a cap-and-trade system for greenhouse gas emission allowances* decreed by the Government of Québec in December 2011.<sup>1</sup>

**Interrogatory 23.0-HQ-15 Reference: Export Transmission Tariff Study (“Study”), Exhibit H1-5-2, Appendix B, p. 20 of 102.**

In its SE-91 initiative (Renewables Integration), the IESO published a document explaining its propositions regarding floor prices for flexible nuclear resources (ref.: [http://www.ieso.ca/imoweb/pubs/consult/se91/se91-20120808-FloorPricesUpdate\\_r1.pdf](http://www.ieso.ca/imoweb/pubs/consult/se91/se91-20120808-FloorPricesUpdate_r1.pdf)). On slide 12 of this document, the IESO lists "Technical Limitations" on flexible nuclear resources.

- i. CRA is requested to explain if the technical limitations listed in the above-mentioned document are taken into account in the CRA Study. In particular, CRA is referred to the concept of "average number of units manoeuvred" in Table 1 (p. 20 of 102) of its Study. If the technical limitations listed above are not fully modelled, please explain why, and what the directional impacts of those limitations would be in all ETS Tariff scenarios.

**Interrogatory 23.0-HQ-16. Reference: Export Transmission Tariff Study (“Study”), Exhibit H1-5-2, Appendix B.**

- i. What is the IESO’s recommendation with respect to which ETS tariff scenario should be approved by the OEB in this Proceeding ? Please explain the basis for your recommendation.

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<sup>1</sup> See: <http://www.mddep.gouv.qc.ca/changements/carbone/Systeme-plafonnement-droits-GES-en.htm>. Also refer to HQEM’s comments in SE-94: [http://ieso.com/imoweb/pubs/consult/se94/se94-20120119-HQ\\_Energy\\_Marketing\\_Inc.pdf](http://ieso.com/imoweb/pubs/consult/se94/se94-20120119-HQ_Energy_Marketing_Inc.pdf)