

05 July 2013  
Ontario Energy Board  
2300 Yonge St., 27<sup>th</sup> Floor  
Toronto, ON  
M4P 1E4

Attn: Ms Kirsten Walli  
Board Secretary

By electronic filing and e-mail

Dear Ms Walli:

**Re: EB-2012-0451 GEC Interrogatories to IESO**

Attached please find GEC's interrogatories to IESO in this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'David Poch', with a stylized flourish at the end.

David Poch

Cc: IESO

## **GEC Interrogatories to IESO**

### **Issue A.1: Are the proposed facilities needed?**

Reference IESO Letter, June 28, 2013

- 1) Please identify the witnesses who will sponsor the evidence, and explain their relationship to the documents in the Appendices to the letter (e.g., author, familiar with the development of the document, no relationship)
- 2) Please provide the equivalent of Table 1 for “Capability at Winter Peak.”
- 3) Please list the gas-fired plants that make up the “approximately 2300 MW...situated in the greater Toronto area.” (p. 3)
- 4) Please explain whether the “Toronto electricity zone” is the same as the “greater Toronto area,” as these terms are used in the letter. (p. 3)
- 5) Please provide “the Toronto electricity zone’s peak demand for the” winter of 2012/13. (p. 3)
  - a) Please provide the time and date of the Toronto electricity zone’s peak electric load in 2012/13.
- 6) Please provide the time date and load of the ten highest-load hours in the Toronto zone, for each winter 2005/06 to 2012/13.
- 7)
  - a) Please provide the forecast winter peak for the Toronto electricity zone for each year for which the IESO has a forecast.
  - b) Please explain how energy-efficiency and demand response are included in those forecasts.
- 8) Please provide the “installed capacity of generators” in “the Toronto electricity zone.”
- 9) Please provide a list of the generators in the Toronto electricity zone and the winter capability of each.
- 10) Please provide the IESO’s best estimate of the amount of demand response available in the Toronto electricity zone at the winter peak.

- 11) Please provide the effect of “the upcoming anticipated nuclear refurbishment projects” on winter capability in the Toronto electricity zone, for each year for which IESO has an estimate or forecast.
- 12) Please provide the transmission import capacity of the Toronto electricity zone.
- 13) a) Please describe “the shift in where natural gas supplies for Ontario are sourced.” (p. 4)
  - b) Please describe any situation of which the IESO is aware in which changes in the sourcing of natural gas supply has reduced the availability of a gas-fired generator in Ontario.
  - c) Please explain whether the IESO believes that future changes in contracting for natural gas supply would reduce the availability of gas-fired generators in Ontario. If so, please describe the specific problems anticipated.
- 14) Please provide a list of the “natural gas-fired generators in Ontario ...supplied...directly from ...the Dawn-Parkway system.” (p. 4)
- 15) a) Please provide a list of the “natural gas-fired generators in Ontario...supplied ... downstream of the Dawn-Parkway system.” (p. 4)
  - b) Please define the locations “downstream of the Dawn-Parkway system.”
  - c) Please identify the generators “downstream of the Dawn-Parkway system” that can also be served off the TCPL mainline.
- 16) Please provide any evidence that the “natural gas-fired generators in Ontario...supplied either directly from or downstream of the Dawn-Parkway system” do not currently have secure gas supply.
- 17) Please provide a list of all natural gas-fired generators in Ontario supplied either directly from or downstream of the Parkway Compressor Station, about which the IESO expresses concern on p. 5.
- 18) “After the shutdown of Lakeview generating station in 2005, Toronto relied on supplies generated outside the city to meet demand. During this time, the IESO identified that there was an increasingly high risk of transmission

facilities supplying downtown Toronto becoming overloaded during heavy demand periods...” (p. 4)

- a) Please explain whether “downtown Toronto” in this quote is the same as the Toronto transmission zone. If not, please provide the following data for “downtown Toronto:”
    - i) Transmission lines serving downtown Toronto, in 2005 and currently.
    - ii) The winter peak transfer limits into downtown Toronto in 2005 and currently.
    - iii) Generation in downtown Toronto, with summer and winter capability.
    - iv) Actual summer and winter peak loads, 2005/06 to 2012/13.
    - v) The date and time of winter peak, 2005/06 to 2012/13.
    - vi) Forecast summer and winter peak loads, for whatever period the IESO or Toronto Hydro has developed such forecasts.
    - vii) Load on the peak demand hours on the GTA gas system, 2012/13.
  - b) Please provide any analyses since 2005 that have identified a “high risk of transmission facilities supplying downtown Toronto becoming overloaded” in the winter.
- 19) “The IESO identified... that a combination of new generation capacity, demand-side initiatives and transmission were needed to alleviate this concern.” (p. 4)
- a) Please provide a list of all the generation assets added since 2005 in the area “supplying downtown Toronto.”
  - b) Please provide a list of all the transmission assets added since 2005 in the area “supplying downtown Toronto.”
  - c) Please describe each demand-side initiative implemented to “alleviate this concern,” including the nature of the initiative (e.g., class, market segment, demand response or energy-efficiency), the winter MW

reduction for each initiative, the period over which the initiative was implemented, and IESO's role in promoting or financing the initiative.

- 20) "PEC...has played a vital role to secure the supply to downtown Toronto. Based on its location, it is not only needed to meet demand during peak demand days but also to allow maintenance outages of various local transmission elements to proceed.
- a) Please list each winter peak demand day on which PEC was needed to meet peak demand, and provide
    - i) The load for downtown Toronto.
    - ii) The generation, demand resources and transmission capacity available to meet peak.
  - b) Please list each maintenance outage of local transmission elements that could not have proceeded without PEC, and provide
    - i) The dates of each outage.
    - ii) The MW of import capacity lost.
    - iii) The load for downtown Toronto anticipated in the outage period.
    - iv) The generation, demand resources and transmission capacity available in the outage period.

#### Reference IESO Appendix 1: 2013 Special Reliability Assessment

- 21) p. 35: Please provide Ontario's existing capacity of the categories of generators listed in Table 3:
- a) Non-Dual-Fuel Gas Turbines
  - b) Non-Dual-Fuel Combined Cycle
  - c) Gas-Fired Dual-Fuel
- 22) pp. 35–36: Does IESO believe that it is reasonable to plan for winter electric demand being 10% higher than forecast in:
- a) 2015
  - b) 2017

c) 2022

- 23) If IESO has access to the Resource Adequacy Scenario Analysis & Tool spreadsheet (footnote 53), please provide a copy, as the link in the document does not appear to work.
- 24) P. 35: Does IESO believe that it is reasonable to assume that 50% of Ontario gas-fired dual-fuel capacity would be unavailable, or that such capacity would be derated 50%, at the winter peak? If so, please explain why.
- 25) Considering the emphasis in the document on the problems created by non-dual-fuel gas generation (e.g., Chapter 4), has IESO proposed or taken any actions to encourage or require gas-fired plants to have backup fuel capability?
- a) If so, please describe those actions.
- b) If not, please explain why the IESO is not concerned about the lack of backup fuel at some gas-fired plants or has not taken action.
- 26) Figures 36 and 37: Please provide the annual energy loss and number of outages due to lack of fuel by year for Ontario, and identify the fuel and generator for each event.

## Appendix 2: Natural Gas Electricity Interface Review

- 27) Figure 5: Please provide IESO's estimate of peak day gas demand for "New Gas Fired Generation" in Ontario in
- a) Summer 2010 through 2012
- b) Winter 2010/11 through 2012/13

## Appendix 3: 18-Month Outlook from June 2013 to November 2014

- 28) Page 16: "Hydro One is working to change the configuration of the 230 kV switchyard at Manby TS by the end of the second quarter in 2014. This transmission enhancement solution will help manage the long-term load supply in the southwestern GTA."
- a) Please provide any available estimates of the degree to which this change will increase Toronto import capacity.

- 29) Page 16: “For the short term, day-to-day operating procedures are available to manage the forecasted transmission loading during periods of high demand.”
- a) Please describe these operating procedures.
  - b) Please provide IESO’s estimate of the amount of additional GTA load that can be carried due to these operating procedures at summer peak.
  - c) Please provide IESO’s estimate of the amount of additional GTA load that can be carried due to these operating procedures at winter peak.
  - d) Please describe the seasonal periods during which these operating procedures are required.
- 30) Page 16: “Clarington TS is scheduled to be in service as soon as spring 2015. This new station will increase the 500 to 230 kV autotransformer capacity in the eastern part of the GTA.”
- a) Please provide any available estimates of the degree to which this TS will increase Toronto import capacity or reduce load on the Cherrywood TS.

#### Appendix 4: 18-Month Outlook From January 2006 to June 2007

- 31) Page iv: Please provide the basis for the claim that “Increased demand response and conservation efforts will reduce but not eliminate the need for new supply.”
- 32) Please provide the IESO’s current estimate of the amount of winter demand reduction available in the GTA and downtown Toronto.

#### Appendix 5: The Ontario Reliability Outlook, February 2006

- 33) P. 2: a) Please provide the specific dates on which “The transmission system serving central Toronto was at or near capacity during peak periods in the summer of 2005.”
- b) Please define the transmission system serving central Toronto.
  - c) Please provide the capacity of the transmission system serving central Toronto in 2005 and in winter 2012/13.

- 34) P. 4: a) Please explain whether the “central area of Toronto” is the same as “Downtown Toronto” as that term is used in the IESO letter of June 28, 2013.
- b) If not, please explain the differences.
- 35) P. 4: a) Please provide the “forecasts [that] indicate that 500 MW of total capacity should be planned for summer, 2010.” For the area of those forecasts:
- b) Please provide the actual loads for summer 2010, 2011 and 2012.
- a) c) Please provide the actual loads for winter 2010/11, 2011/12 and 2012/13.
- 36) P. 4: a) Please explain whether the “third transmission supply [that] could bring about 1,000 MW of power to Toronto and should be in service early in the next decade” was built.
- b) If so, please identify the facilities constituting this supply.
- a) c) If not, please explain why.
- 37) P. 4: The report expresses concern about “continued reliable and diverse supply for the city under hot summer weather conditions.”
- a) Please provide any analyses indicating that there was a supply problem under cold winter conditions in 2005.
- b) Please identify and quantify any supply problem under cold winter conditions in 2012/13.
- 38) P. 6: Please explain whether the “western GTA” is part of the GTA or the “Toronto electricity zone,” as those terms are used in the June 28 IESO letter.

#### Appendix 6: IESO Requirements for Downtown Supply

- 39) Please provide the increased import capability into the GTA and downtown Toronto due to the completion of the John-to-Esplanade link.
- 40) Does PEC have the “dual fuel capability (gas plus distillate)” that this document specifies for combined cycle gas? If not, please explain why.