

ONTARIO ENERGY BOARD

IN THE MATTER OF the *Ontario Energy Board Act, 1998, S.O. 1998, c.15, Schedule. B;*

AND IN THE MATTER OF an Application by Hydro One Networks Inc. for an Order or Orders granting leave to construct and upgrade certain transmission facilities in the Niagara Peninsula.

SUBMISSION OF THE INDEPENDENT ELECTRICITY SYSTEM OPERATOR

1. The Independent Electricity System Operator (the "IESO") appreciates the opportunity to make this final submission in respect of Hydro One Network Inc.'s application for leave to construct and upgrade certain transmission facilities in the Niagara Peninsula. In this submission, the IESO will address the following points:

- (i) IESO endorsement of Hydro One's proposal to construct and upgrade certain transmission facilities in the Niagara Peninsula;
- (ii) potential impacts of the proposed third supply to downtown Toronto on the QFW reinforcements; and
- (iii) consideration of the GE MAPS study results and the assumptions made in assessing the impacts on future electricity prices Ontario.

IESO endorsement of Hydro One's proposal to construct and upgrade certain transmission facilities in the Niagara Peninsula.

2. As noted in our Notice of Intervention filed on December 13, 2004, the IESO carried out an assessment of the proposed enhancements to the Queenston Flow West (QFW) interface to determine the effect of the increased power transfer capability on other transmission interfaces and on the reliability of the IESO-controlled grid. The assessment concluded that the proposed enhancements would result in significant overall reliability improvements in the Niagara and Southwest

zones, particularly under severe weather conditions (e.g., during hot and windless summer months).

The assessment also identified other positive benefits that will accrue to transmission customers. In particular, the assessment confirmed that the proposed enhancements will enhance the power transfer capability of the QFW interface by approximately 800 MW. This enhanced transfer capability will enable the unconstrained operation of the existing Sir Adam Beck generation facilities, improve the utilization of the New York-Niagara interface import capability and provide room for additional generation expansion within the Niagara Zone. These improvements will have an immediate and positive impact, particularly given Ontario Power Generation Inc.'s (OPG) ongoing program to rehabilitate the existing generating units at Sir Adam Beck No. 2 through efficiency improvements¹ and OPG's announced plans to further expand the output of the Sir Adam Beck complex by approximately 1.6 TW.h annually.² Facilitating increased generating capacity from this complex will help optimize the efficient use of these facilities and will capitalize on the availability of low cost hydro resources.³ The proposed enhancements will also limit the potential for additional congestion in the area. In addition, we believe that the proposed enhancements are consistent with the function of the transmission system and public policy—to facilitate connection and maximize the utilization of low cost generation resources. These are important factors that the Board should considered in its deliberation of this matter.

Potential impacts on the proposed third supply to Downtown Toronto on the QFW Reinforcements.

3. Hydro One has proposed a third supply option for downtown Toronto involving a DC line under Lake Ontario. We observe that the future of this project is

¹ The rehabilitation program was the subject of the IESO's Connection Assessment and Approval Report, CAA ID 2002-068, dated February 19, 2004.

² The final decision to commence with the project was directed through the enactment of Bill 100.

³ The Sir Adam Beck facilities are among the prescribed generation assets established by Ontario Regulation 53/05, made February 16, 2005.

highly uncertain, and will depend on other future developments on the IESO-controlled grid in the Greater Toronto Area. Furthermore, the DC line is not an alternative to the proposed QFW reinforcements. If the DC line project proceeds, it will be reviewed and assessed based on its incremental reliability impact and contribution to the IESO-controlled grid, taking into consideration all other system elements that are in service or approved for development. For these reasons, the proposed DC line should not be considered in assessing the benefits of the proposed QFW reinforcements.

Consideration of the impacts of the proposed enhancements on the future of electricity prices Ontario.

4. There has been a considerable amount of discussion about the impacts of the proposed enhancements to the QFW interface on future electricity prices and the methodology and assumptions used to determine such impacts. In paragraph 5 of our earlier submission, we note that "...[while the IESO's] connection assessment did not attempt to quantify the consequential economic and market efficiency benefits to market participants, the [IESO] reviewed the methodology and assumptions used by Hydro One in this regard and found these to be adequate and consistent with industry practice." Assessing the impacts of new or modified connection proposals on future electricity prices in Ontario is currently outside the scope of the IESO's connection assessment process.⁴ We believe that it is reasonable to expect that quantification of any specific economic benefits arising from new or modified connection proposals will be carried out by the project proponent(s) in the context of the overall economic consideration of a proposal. The IESO did not agree to carry out this additional work.

⁴ **See.** Submission of the Independent Electricity Market Operator, RP-2003-0123, EB-2003-0162, paragraph. 3, pg. 2, February 12, 2004.

5. The IESO participated in the transmission planning working group convened by the Board to review and recommend changes to the process to facilitate more efficient planning and approval of transmission projects. Following the working group's deliberations, the group issued a draft report on February 2, 2004 to solicit public comments. Although the report has not yet been finalised and adopted—particularly in light of the numerous changes that have taken place since it was initially drafted (e.g., creation of the Ontario Power Authority)—the IESO continues to employ many of the applicable findings and recommendations in the draft report. For example, the draft report recommends that...“[the IESO] shall assess the solutions to transmission adequacy and congestion concerns proposed by market participants. This assessment shall include the effectiveness of the proposed solution in addressing the identified concern(s) and a validation of the market efficiency benefits presented by market participants in support of proposed projects.” These provisions are consistent with the IESO's review of new or modified connection proposals and the scope of the IESO's findings, recommendations and conclusions in its System Impact Assessment reports. For example, in the Conclusions of the Queenston Flow West Transmission System Reinforcement System Impact Assessment Report⁵, the IESO notes that...“[this] System Impact Assessment concluded that the proposed project will enhance the power transfer capability of the Queenston Flow West (QFW) interface to approximately 2,534 MW, which is approximately 800 MW more than the existing capability. The enhanced transfer capability with all elements in-service will allow the unconstrained operation of the existing Beck generation facilities within the Niagara zone, improve the utilization of New York-Niagara import capability, and provide limited room for generation expansion within the Niagara zone.”

6. The draft working group report recommends that...“[for] projects with market efficiency benefits, the [IESO] shall prepare a review of the transmitter's evaluation of market efficiency benefits for use by the OEB in leave to construct and rate review proceedings.” As submitted in our Notice of Intervention, the connection

⁵ **See.** Exhibit B, Tab 6, Schedule 2, paragraph 1, pg., 13.

assessment of the QFW reinforcements did not attempt to quantify the consequential economic and market efficiency benefits to market participants. However, the IESO reviewed the methodology and assumptions used by Hydro One in this regard and found them to be adequate and consistent with industry practice.⁶

7. Our review of Hydro One's methodology and assumptions focused on assessing the appropriateness of the tool and the reasonableness of the data used in carrying out the modeling work. We note that General Electric's Market Assessment and Portfolio Strategies (GE MAPS) is a proven modeling tool widely used throughout the electricity industry, including previously in Ontario to assess the impacts of new or modified transmission projects on future electricity prices. We believe that GE MAPS is a useful tool for modeling the potential impacts of new or modified connections on future prices in Ontario, provided that consistent and reasonable modeling assumptions are used. As with most software tools, the applicability or comparability of the results of any analysis performed with the tool will be driven in large part by the underlying assumptions and the data considered. The importance of data and assumptions was evident in the review of the potential impacts of the proposed QFW reinforcements on future electricity prices. In that case, the results of the modeling and analysis varied considerably due to the assumptions made and the degree to which these assumptions varied. Because methodology and assumptions are so critical to analytical outcomes, at the Technical Conference we advanced the view that the parties should agree on methodology, as well as specify and agree upon the relevant assumptions, before engaging in detailed analysis. We believe that a failure to agree on methodology and assumptions at an early stage in the process substantially increases the likelihood of disagreements over results and unnecessary delays, particularly if the analysis of the economic benefits appears to be unreasonably skewed. In lieu of carrying out a full-blown study using the revised assumptions, the parties agreed to

⁶ **See**. Economic Assessment for the proposed interconnection with Quebec (RP-2000-0068), and more recently, reinforcement of the Great Lakes Power Ltd. transmission system (RP-2003-0120).

accept a more conservative set of results, based on that which might have been expected had the analysis been repeated with the new assumptions.

8. Irrespective of any disagreement over the assumptions used to assess the QFW reinforcements' potential impacts on future electricity prices, the reinforcements will undoubtedly result in significant improvements in reliability. In particular, as noted above, they will enhance the transfer capability of the QFW interface, improve the use of the New York-Niagara import capability and facilitate the planned expansion and efficient utilization of the Sir Adam Beck generating facilities to the benefit of all electricity consumers in Ontario. We believe that consideration of the proposed reinforcements in this regard is consistent with the desired function of the integrated transmission system.

All of which is respectfully submitted,

Original signed by

Carl Burrell
Senior Analyst
Independent Electricity System Operator

Submitted this 17th day of March, 2005