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**Susan Frank**

Vice President and Chief Regulatory Officer  
Regulatory Affairs

BY COURIER

October 29, 2009

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

Dear Ms. Walli:

**EB-2008-0272 – Hydro One Networks' 2009-2010 Transmission Revenue Requirement Application – Reply Argument on Supplementary Evidence**

Attached are three copies of Hydro One Networks reply argument on the Supplementary Evidence.

Hydro One is requesting approval of two transmission reinforcement projects [D7 and D8] necessary to accommodate renewable generation that will be required under the Green Energy and Green Economy Act. If this request is approved by the OEB, Hydro One Transmission's Approved 2010 final Revenue Requirement will be adjusted to include the necessary funding for these two projects as well as any impact of the final 2010 cost of capital parameters per the EB-2008-0272 Decision, which are expected to be issued shortly by the Board.

An electronic version of Hydro One Networks reply argument has been submitted through the Board's Regulatory Electronic Submission System and the proof of successful submission is also attached. An electronic copy has been forwarded to EB-2008-0272 intervenors.

Sincerely,

ORIGINAL SIGNED BY SUSAN FRANK

Susan Frank

Attach.

c. Don Rogers; EB-2008-0272 Intervenors

**EB-2008-0272 - Hydro One Networks 2009-2010 Transmission Revenue Requirement  
Hydro One Networks Inc. Reply Submission on Supplemental Evidence**

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Hydro One is pleased to file its reply argument in relation to the supplemental evidence filed in its Transmission Rate Application EB-2008-0272. The intent of this reply is to respond to the arguments of the OEB staff and Intervenors. Hydro One received final argument submissions from the OEB staff and the following Intervenors on October 21 and 26, 2009 respectively:

- Association of Major Power Consumers of Ontario (AMPCO)
- Canadian Manufacturers & Exporters (CME)
- Consumer Council of Canada (CCC)
- Energy Probe Research Foundation (Energy Probe)
- Ontario Power Generation (OPG)
- Power Workers' Union (PWU)
- School Energy Coalition (SEC)
- Vulnerable Energy Consumers Coalition (VECC)

Background

In the Supplemental Evidence, filed September 4, 2009, Hydro One described the purpose of projects D7 and D8. Project D7 consists of adding Static Var Compensators (“SVCs”) at Porcupine TS and Kirkland Lake TS. Project D8 consists of the installation of series capacitors at Nobel SS to provide 50% compensation of the Essa TS to Hanmer TS 500 kV lines. The need for these projects, summarized at B-1-1, page 1, is to:

- Allow the Ontario Power Authority (OPA) to successfully procure approximately 500 MW of hydroelectric generation north of Porcupine TS from four specific projects that were directed by the Minister of Energy.
- Promote the use and generation of electricity from renewable energy resources in a manner consistent with the policies of the Government of Ontario by providing for the timely reinforcement of the transmission system necessary to accommodate the connection of up to about 350 MW in additional generation to be procured in Northern Ontario.
- Provide dynamic reactive power support to maintain supply reliability to electricity consumers north of New Liskeard.

On May 20, 2008, when the Ontario Power Authority (“OPA”) sent a letter to Hydro One recommending that the Company proceed with the installation of reinforcements to the transmission system between Timmins and Barrie, approximately 900 MW of generation resources were expected to come into service in the 2008 to 2013 timeframe. A number of recommended transmission reinforcements were required in order to utilize these generation resources, and to meet reliability standards. The OPA identified that it would be prudent to ensure that the transmission projects come into service in advance of when generation projects would come online. Given the increase in planned generation resources to approximately 1300 MW, the need for the reinforcement of the North-South Tie and the maintenance of system reliability is even greater today.

#### The Changing Environment

The enactment of the *Green Energy and Green Economy Act, 2009* (“GEGEA”) is resulting in a fundamental change in how transmission and distribution companies will plan, seek approval from the Ontario Energy Board (“the Board”) and deliver the infrastructure projects necessary to support renewable generation development in the Province of Ontario over the coming years.

The GEGEA has resulted in revisions to both the *Electricity Act, 1998* and the *OEB Act, 1998* to facilitate the development of renewable generation. Non-discriminatory access and priority connection access for renewable generation facilities is also expressly stated in the GEGEA. As well, Section 96 (2) of the *OEB Act, 1998* has been expanded such that the Board shall, where applicable, consider the promotion of the use of renewable energy sources when it considers whether the construction, expansion or reinforcement of an electricity transmission line or electricity distribution line, or the making of an interconnection, is in the public interest.

In fact, one of the explicit Board objectives with respect to electricity is to promote the use and generation of electricity from renewable energy sources in a manner consistent

with the policies of the Government of Ontario, including the timely expansion or reinforcement of transmission systems and distribution systems to accommodate the connection of renewable energy generation facilities. (Section 1 (i))

The evidence Hydro One has filed in this Supplementary Application is a precursor to the type of evidence, both in terms of level of project detail and associated cost-benefit analysis that the Company will be filing in future rate applications in support of GEGEA initiatives. Given the nature of the projects listed in the Minister's letter to Hydro One of September 21, 2009, the broader social and environmental aspects of the overall GEGEA should be considered in addition to the economic considerations of some transmission projects as Ontario moves to more renewable generation resources. The same is true for projects D7 and D8. Board staff and some Intervenors would like the Board to ignore current Government policy, a key driver and the basis on which the approval of projects D7 and D8 is being sought. In its place, Board staff and some Intervenors would rather use the existing rules for congestion relief or relief of bottled generation. Hydro One submits that Board staff and Intervenors are too narrowly interpreting the Minimum Filing Requirements in their assessment of the classification of the projects being discretionary or non-discretionary and the need for associated economic justification. They have also failed to acknowledge the Board's new objective.

Hydro One submits that the onus on the Applicant for GEGEA projects is to demonstrate that the preferred alternative selected for the project is the most reasonable and cost effective way to facilitate the provision of the necessary infrastructure to allow renewable energy resources to connect to the grid and be delivered to consumers. Projects like D7 and D8, although planned before passage of the GEGEA, are in support of the renewable energy mix emphasized by the GEGEA, therefore a qualitative assessment of the alternatives should provide sufficient information for the Board to make that determination. The Board recognized the changing approach to determining economic prudence in its IPSP Review Report (EB-2006-0207), when it noted at page 8 that "The

Board accepts, in each case, the alternative chosen may be cost-effective and economically prudent even if it is not the ‘least cost’ solution.”

#### Clarifying the Need for Project D7

Several intervenors appeared to be confused about the need for Project D7. To clarify, adding 500 MW of generation to the existing single circuit 500 kV line north of Timmins will result in a violation of the IESO’s reliability standards. Project D7 is not being implemented to improve reliability to customers North of New Liskeard, but rather to meet reliability requirements. The alternative to project D7 would be the construction of a second 500 kV line from Pinard TS to Sudbury. Although this more expensive solution may be required in the future to incorporate further generation development, project D7 can effectively address near-term needs while providing ongoing value in the future. The Board’s filing requirements state that a project can be deemed as non-discretionary if the need is triggered by a mandatory requirement to satisfy obligations specified by Regulatory Organizations or by the Independent Electricity System Operator (“IESO”). In this case, the violation of reliability standards set by the IESO establishes the need for Project D7 with respect to the load customers north of New Liskeard.

#### Nature of Approval Being Sought

The primary reason Hydro One is seeking the Board’s approval for these projects is to facilitate the connection and utilization of renewable generation as per the Minister’s directive to procure northern hydroelectric generation and as discussed in detail in Interrogatory Response I-1S-92 as well as meeting the IESO’s Ontario Resource and Transmission Assessment Criteria (“ORTAC”) requirements. The directed generation resources are expected to primarily address system adequacy. The transmission reinforcements will allow the capacity provided by these generation resources to be used by the system. Any congestion relief provided by the reinforcements will primarily benefit future generation additions in Northern Ontario, such as through the Feed-In Tariff (“FIT”) program. Project D7 specifically is also required to meet reliability requirements as described above. Hydro One does acknowledge these projects will

provide secondary benefits including congestion relief and reduced load losses to some customers, however these are not the primary drivers for the projects nor should they be the sole basis for the evaluation of the need for the projects.

Board Staff refers to the original evidence and interrogatory responses filed in September and December 2008 respectively to support their incorrect claim that these projects are being pursued primarily and singularly to relieve congestion or to avoid bottled generation and therefore should be subject to an economic evaluation and as such are discretionary. It is not clear to Hydro One why Board Staff and some intervenors largely ignored the September 2009 supplemental evidence and the October 2009 interrogatory responses.

In Hydro One's Interrogatory Response I-1S-92, it is explained why projects D7 and D8 are non-discretionary. These projects trigger three of the requirements for non-discretionary projects in the Filing Requirements:

- i) Need to accommodate new generation in the area by reinforcing the grid (item b);
- ii) To relieve loading on system elements (item c); and
- iii) Projects required to meet Government objectives that are prescribed in governmental directives and regulations (item e).

These projects are not driven primarily by a need to eliminate or reduce energy congestion as suggested by Board staff, especially since the planned generation resources are not yet in service. The projects are driven by the three factors noted above.

#### Connection Projects versus System Reinforcement Projects

Hydro One is unclear what the Board staff's intention is in their submission entitled "Expected New Projects: Connection versus System Reinforcement Projects." The Filing Requirements already clearly distinguish between development, connection and sustainment projects and between discretionary and non-discretionary projects. It is not clear why Board staff attempts to distinguish further between connection and system

reinforcement projects for projects consistent with the government's renewable energy policies. As a practical matter, if projects D7 and D8 are not completed, the renewable generation contracted by the OPA cannot be utilized and will not be approved by the IESO for connection to the transmission system.

As outlined by the OPA, there will be more cases in the future where system constraints must be addressed by specific transmission projects before generation connections can be accommodated. Hydro One does not agree with Board staff's and some Intervenors' distinction between connection projects being non-discretionary while related network upgrades are discretionary and no basis for this rationale can be found in the Filing Requirements. It is not practical to connect resources that can not be utilized. In fact, the Board's new objective contemplates this distinction by stating that the Board should "...promote the **use** and generation of electricity from renewable energy sources in a manner consistent with the policies of the Government of Ontario..." (emphasis added), and not merely the connection of renewable resources.

Invariably, additional transmission reinforcements, such as D7 and D8, will be required to reliably incorporate connection facilities that are needed to connect generation facilities, as well as loads. The notion that non-discretionary projects are limited to connection projects is unfounded. It implies that transmission reinforcements to enable the connection facilities are discretionary and Hydro One disagrees with this sentiment.

#### Is Economic Analysis Required

Board staff states in its submission that economic evaluations for projects D7 and D8 must be submitted as such evaluations were prepared in earlier years for the Cherrywood to Claireville (D5) and the Bruce to Milton projects.

The D5 project was work that Hydro One initiated as "Partially Discretionary" work. The project was not directed by the Ministry of Energy and Infrastructure or required by the OPA or the IESO, and it was also not primarily intended to facilitate the connection

of renewable generation. Therefore, it was appropriate in that instance to provide an economic analysis.

Evidence prepared for the Bruce to Milton project was done in the context of a Section 92 application, not a rate application. The existence of the take-or-pay aspect of the Bruce Power generation contract and the very large dollars associated with that contract make this project unique and an economic analysis was provided.

In contrast, the FIT program is predicated on a non take-or-pay basis which means that capacity constraints on the system must be removed if FIT proponents are to be able to sell their power into the grid and receive FIT payments for their generation. This reinforces the need to have transmission facilities in place in a timely manner to accommodate FIT initiatives.

Further, Board staff and some Intervenors appear to suggest that even non-discretionary projects should undergo an economic evaluation, with the implication being that the projects should pass an  $NPV > 0$  test. However, this position is inconsistent with the following excerpt from the Filing Guidelines:

*In the case of a non-discretionary project, the preferred option should establish that it is a better project than the alternatives. The Applicant need not include “doing nothing” as an alternative since this alternative would not meet the need. One way for an Applicant to demonstrate that that a preferred option is the best option is to show that it has the highest net present value as compared to the other viable alternatives. However, this net present value need not be shown to be greater than zero. In the case of an internally set project, “doing nothing” would count as a viable option. [EB-2006-0170, p. 35]*

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It is clear that the onus is on the Applicant to demonstrate that its recommended alternative is the most cost effective and technically preferred method. In some cases an economic evaluation of alternatives may be helpful to determine the “least-cost” alternative. As per the excerpt above, there is not a specific requirement to provide an NPV analysis as suggested by Board staff and some Intervenors; it is simply an option. While there may be cases where a quantified analysis of the alternatives considered would assist the Board in reaching a decision, as explained in the section below, that is not the case for projects D7 and D8 since some of the alternatives are not technically viable and the alternatives that are viable are far more expensive and would not be capable of meeting the required in-service date. Accordingly, Hydro One believes that little, if any value would be added to the Board’s review by including quantified comparisons of NPV in this case.

Is there Benefit from Performing an Economic Analysis

Hydro One has already stated in Interrogatory response I-1S-92 that performing an economic evaluation for projects D7 and D8 will not provide the Board with more useful information to approve the projects. The supplemental evidence provides a description of alternatives for each of project D7 and D8. Hydro One would like to note that neither Board Staff nor any Intervenors, proposed additional alternatives for consideration. The alternatives, as proposed by Hydro One, are summarized in the tables below:

**Project D7**

<b>Alternative</b>	<b>Cost</b>	<b>Capacity Added on Flow South Interface</b>	<b>In Service Date</b>
Do Nothing	0	0	N/A
Install Mechanically Switched Capacitor/Resistor Banks	Lower Cost than D7	Not viable (per ORTAC)	2010
Install Series Capacitor on Porcupine TS to Hanmer TS 500kV Circuit	Lower Cost than D7	None	2010
New Parallel Single Circuit 500 kV Line from Pinard TS to Hanmer TS	About \$1B	300 MW*	2015
Project D7	\$109M	160 MW*	2010

\* There would be other capacity added on the far North system

**Project D8**

<b>Alternative</b>	<b>Cost</b>	<b>Capacity Added on Flow South Interface</b>	<b>In Service Date</b>
Do Nothing	0	0	N/A
Install a New 500kV Switching Station	Approx Same Cost as D8	About 100 MW	Beyond 2010
Build a New Single Circuit 500 kV Line to the GTA	About \$1B	1500 MW	2015
Project D8	\$47M	340 MW	2010

It is clear from the above summaries that there would be no benefit in calculating the NPVs of these alternatives. Projects D7 and D8 are the most practical solution to meet the ORTAC requirements and the timelines for the development of the planned and committed renewable generation resources in Northern Ontario while at the same time maintaining reliability for load customers north of New Liskeard. In short, there are no reasonable alternatives that provide the required capability and reliability levels that would meet the required in-service date as described in the qualitative analysis of options for project D7 at B-1-3 and at B-2-3 for project D8. As such, the need to do the type of quantitative economic evaluation suggested by Board staff is not warranted. Hydro One submits that this is a case where the qualitative information provided is more useful and this is supported by the Filing Requirements in the last paragraph of Section 5.3.2.

In this, Hydro One is supported by Energy Probe which states that it believes that Hydro One has demonstrated the technical necessity and timing of the two projects and provided adequate justification. Energy Probe notes that a new 500kV transmission line has an order of magnitude difference in costs over Projects D7 and D8, and could not be constructed in time to meet the 2010 capacity requirements. Energy Probe concludes that a more comprehensive cost benefit analysis would not yield a different outcome than the qualitative analysis presented in Hydro One's evidence.

In addition, the OPA provided their own assessment of alternatives at C-1-2, page 5 of the supplementary evidence and provided three reasons in support of the two projects. First, projects D7 and D8 maximize the capability of the existing transmission system. Second, these projects require a shorter time line and have lower exposure to the risk of delay to incorporate the critical generation facilities. Third, these projects provide more flexibility than a new transmission line as they provide a smaller incremental increase in transmission capability and do not prevent the installation of a new line at a later time.

Board staff has also asked if Hydro One would provide an economic evaluation based on the assessment of the loss of load probability for load customers north of New Liskeard, (refer to I-1S-94), assuming the incorporation of the new generation resources without installation of the SVCs at Porcupine TS and Kirkland Lake TS (D7). As described above, Project D7 is not intended to improve reliability, but rather to ensure that reliability standards are met after additional generation resources are added north of Sudbury. Thus, an economic evaluation is not required to justify this non-discretionary project.

#### Timing for projects D7 and D8

VECC and other parties have questioned the need for project D7 and to a lesser extent project D8 to be in service by 2010.

In the Supplemental Evidence, the OPA states in C-1-2, page 9 “Although some of the expected in-service dates of the generation resources have changed, the OPA expects a large amount of near-term resources to come into service that will require these transmission reinforcements. Further, the OPA anticipates that the FIT program will yield significant interest in renewable generation development in Northern Ontario. Without the Reinforcement Projects, there will not be enough transmission capability available to allow new renewable resources to come into service in the near-term through this program. Therefore, the OPA still recommends that the Reinforcement Projects should be implemented by 2010.”

Without the completion of projects D7 and D8, as noted by the OPA in response to interrogatories I-4S-38, I-6S-72 and I-6S-73, part d, there would be no connection capacity available for FIT projects to proceed in Northern Ontario.

As noted earlier, in its argument, Energy Probe states that it believes that Hydro One has demonstrated the technical necessity of D7 and D8. Energy Probe accepts the IESO's analysis that the North-South tie line capacity will be exceeded with the existing and committed generation by 2010 and that the D7 and D8 projects are appropriate to achieve the necessary increased capacity.

VECC argues the amount of new generation required by 2010 is 337 MW. Project D7 will increase the Flow South interface by 160 MW and project D8 by 340 MW. Hydro One notes that in the same table, the amount of new generation required by 2011 is 436 MW. While VECC argues that only project D8 is needed in 2010 as it appears that it can just accommodate the amount of new generation, there is no discussion of meeting the generation demands in early 2011, or potential FIT projects that may want to connect in late 2010 or early 2011. Clearly projects D7 and D8 are both needed and they are not being built prior to the demand for them on the system. Large capital projects must be scheduled to be available within several months of when they are required, not within weeks or days.

Both D7 and D8 are on track to be completed on a timely basis prior to the end of 2010. As such, VECC's assertion in its final submission that these project costs should be recorded in a deferral or variance account is inappropriate and unwarranted. Further, Hydro One is concerned that if the Board Decision were to direct the Company to delay these two projects at this stage of their construction, overall costs would increase and scheduling issues for the companies contracted to complete this work may arise.

Summary

The passage of the GEGEA has introduced a new paradigm in Ontario and Hydro One will be seeking approval from the Board for many transmission projects required to accommodate the connection and delivery of renewable generation to meet the objectives of the Act. Projects D7 and D8 are but two of these projects. Hydro One notes the support of the OPA, the IESO, OPG, PWU and Energy Probe that these projects should be completed and placed in service in 2010. In particular, as FIT projects will not have take or pay contracts, it is fundamental that the necessary transmission reinforcements required to accommodate the new renewable generation are in place in advance of their completion. Otherwise there will be a real disincentive to develop new renewable generation resources in Northern Ontario, which conflicts with the Board's new objective and government policy.

Hydro One submits that the evidence provided is sufficient for the Board to make a full and proper assessment of the alternatives proposed for these projects and to approve the inclusion of these two projects in the 2010 revenue requirement that is needed to fund these projects. Hydro One requests the Board's approval of projects D7 and D8 to begin the comprehensive expansion of the grid to accommodate renewable generation that will be required under the GEGEA.