Ontario Energy Board
FILE No. 2011-0027
UNDERTAKING Exhibit TC J1.2
DATE May 17, 2011
08/99

Reference: 2011 - 2012 Transmission Rate Proceeding for Hydro One Networks

Ontario Energy Board
FILE No.
UNDERTAKING
DATE
66/80

Ontario Energy Board (Board Staff) INTERROGATORY #116 List 1

Interrogatory

Issue 9.1 Are the OMA and capital amounts in the Green Energy Plan appropriate and based on appropriate planning criteria?

Ref: (a) Exhibit D1/Tab3/Sch3/Appendix A p8
Ref: (b) Exhibit A/Tab11/Sch4, p33-34
Ref. (c) ExhD2/Tab2/Sch3/Investment Summary Document/Projects D36-D42

Table 8 of Reference (a) indicates that project D36 involves the installation of SVCs at an existing transmission station and that projects D37 – D42 involve the installation of in-line circuit breakers at six specific locations.

(a) In its Green Energy Plan at Reference (b) Hydro One indicates these projects will be determined on the basis of FIT uptake and detailed system studies. Are the locations for the SVC installations known? How were these locations selected? Please provide the technical criteria and/or the degree of FIT uptake required to establish a need for these types of projects.

(b) Please indicate the criteria that Hydro One used or will use to determine priority in the selection of specific projects of this type for inclusion in its transmission rate application.

(c) Please indicate the basis for Hydro One's assumption, as indicated in the associated Investment Summary Document at Reference (c) that these projects will be pool funded. Are these proposed capital additions to existing "Network" or to "Connection" assets? Please explain how Hydro One is interpreting Compliance Bulletin #200606 to establish cost responsibility with respect to these projects.

Response

(a) The locations of the SVC installations are not known at this time. The IESO has established a working group with representation from Hydro One and the OPA to conduct periodic reviews on the impact of high penetrations of distribution connected generation. One of the objectives of this working group will be to assess the need for dynamic reactive compensation facilities, such as SVC's in parts of the system where there is a significant level of distribution connected generation. These studies will look to identify the location, size and timing for SVC installations.

(b) Hydro One has included only one SVC installation with significant cash flows in the test years and included only two in-line breakers with in-service additions in the test years. Hydro One believes this is conservative given the number of FIT applications received during the Launch period. As described in the response to part (a) the location, size and timing of the SVC installations will be informed by the studies conducted by the IESO working group. The location and need for the in-line breakers will be determined through connection assessments of FIT projects and the ECT process for new transmission facilities.

(c) The SVC will provide dynamic reactive compensation that is needed to address system voltage performance when significant levels of distribution generation are connected. The SVC is a network facility that not only facilitates distribution connected generation but also provides broader system voltage support that can benefit other transmission customers.

The situation with in-line breakers is somewhat different. The requirement for in-line breakers results from protection complexities created by generating facilities connecting to multi-terminal transmission lines via a single line tap circuit breaker. In some of these cases the Protection Impact Assessment performed by Hydro One determined that separate zones of protection must be introduced to meet the protection industry standards, which resulted in the Connection Assessment performed by the IESO requiring the installation of in-line breakers to maintain system reliability and meet the reliability standards.

In the case of a network facility, section 6.3.5 of the Transmission System Code generally provides that "A transmitter shall not require any customer to make a capital contribution for the construction of or modification to the transmitter's network facilities that may be required to accommodate a new or modified connection." The concept of "minimum connection requirements" (Compliance Bulletin 200606) does not apply here since the additional in-line breakers identified in the Connection Assessment are driven primarily by system reliability needs. Therefore, no capital contribution is applicable in this case.

In the case of a shared line connection facility, s. 6.3.3 and 6.3.4 of the Transmission System Code permit the transmitter to construct and own such facilities, and furthermore to "require the generator customer to make a capital contribution to cover the cost of the modification." However, s. 6.3.6 provides an exemption from such capital contribution where the facility was planned by the transmitter to maintain the reliability and integrity of the transmission system. The OEB's Decision and Order, dated September 6, 2007, in Hydro One's Connection Procedures proceeding (EB-2006-0189) elaborates further on this exemption. The Decision states: "The key feature of a plan giving rise to the exception is the extent to which it addresses system reliability and integrity concerns... [and has] a long term positive effect on system

reliability and integrity." The Decision further states: "Perhaps most importantly, the plan should incorporate input from other responsible agencies such as the IESO…."

For the reasons stated above, it is Hydro One's view that, for both the network and shared connection facility cases, the Pool (as opposed to the generator) would have cost responsibility for such additional in-line breakers (which exceed the generator's minimum connection requirements) that are required by the IESO to address system reliability concerns relating to protection complexities associated with multi-tapped transmission lines.

Hydro One further notes that such in-line breaker facilities could provide additional benefits to other customers. For example, in-line breakers that sectionalize a line could materially improved reliability for all connected customers on the line by significantly reducing exposure to interruptions.