

Investment Type: Station Equipment Upgrades & Additions to Facilitate Renewables (Government Instruction)

Reference #	Investment Name	Gross Cost	In-Service Date
D36	Static Var Compensator #1 at Existing Station in South Western Ontario	\$78.7M	Late 2013
D37	In-Line Circuit Breakers #1	\$20.3M	Late 2012
D38	In-Line Circuit Breakers #2	\$20.3M	Late 2012
D39	In-Line Circuit Breakers #3	\$20.8M	Late 2013
D40	In-Line Circuit Breakers #4	\$20.8M	Late 2013
D41	In-Line Circuit Breakers #5	\$21.6M	Late 2014
D42	In-Line Circuit Breakers #6	\$21.6M	Late 2014

Please see Exhibit D1, Tab 3, Schedule 3, Appendix A, Table 8 for cash flow and other details about these projects.

Need:

To facilitate the incorporation of new renewable generation into the Hydro One system, through the addition of switching facilities and reactive support, as outlined by the Ontario Government under the Green Energy and Green Economy Act (refer to Exhibit A, Tab 11, Schedule 4).

Not proceeding with this investment will limit the ability to connect new generation.

Summary:

Under the provincial "Feed In Tariff" program, a large number of renewable energy customers have applied to connect to the Hydro One system. The Ontario Power Authority manages the Feed-In-Tariff program and is in the process of identifying locations where there is a significant potential for renewable generation (mainly wind) development within Ontario.

However, in a number of areas, transmission station capacity constraints are limiting the amount of embedded generation that can be connected to the Hydro One system; hence the requirement for station equipment upgrades. There are two primary types of station upgrade projects, installation of static var compensators and installation of in-line circuit breakers.

The installation of static var compensators will assist in providing reactive support to intermittent renewable generation connected to the distribution system and to ensure that voltages on the transmission system remain within the limits specified in the Transmission System Code.

The installation of "in-line" breakers will address the limitation of the protection system as more and more generators are connected. By splitting the line into smaller sections by installing "in-line" breakers and additional protection relays, it is possible to allow more generation to connect to the transmission system.

The need for the investments will be reconfirmed by the Ontario Power Authority on a project by project basis before detailed design and construction is initiated. It has been assumed that these projects will be pool funded, based on the interpretation of Compliance Bulletin #200606 issued by the Ontario Energy Board on September 11, 2006.

Results:

Allow the connection of renewable generation to the transmission system throughout Ontario.

Project Classification per OEB Filing Guidelines:

Project Class:	Development:
Project Need:	Non-Discretionary: The project is required to incorporate new renewable generation to satisfy government objectives and to support the OPA's recommendation

FILE No. EB 2011-0027
 EXHIBIT No. TC 7.1.3
 DATE May 17, 2011
 08/99