



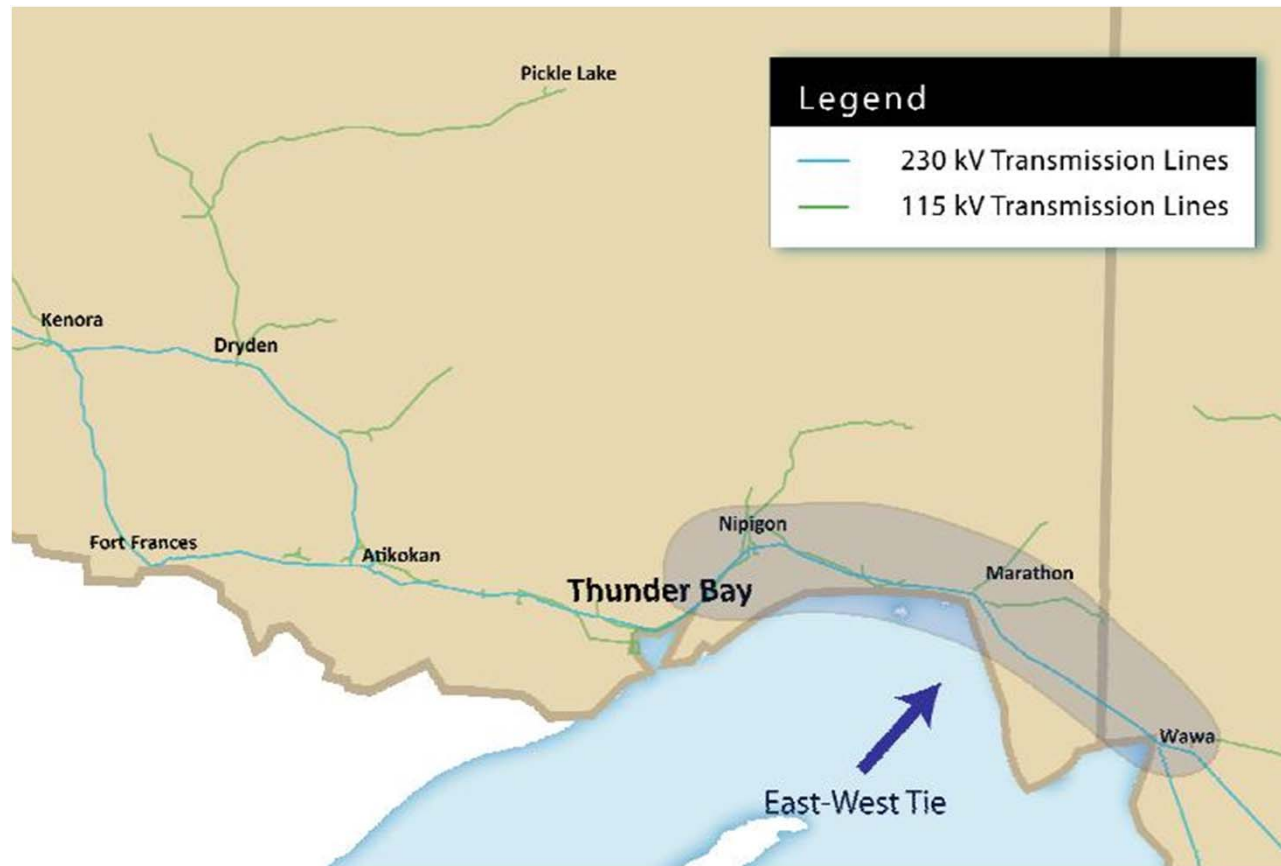
Ontario Energy Board

Commission de l'énergie de l'Ontario

**Transmission Infrastructure:
East-West Tie Line: Project Scope
(EB-2011-0140)**

January 10, 2012

Current Infrastructure in the East – West Corridor



The existing connection between Lakehead TS and Wawa TS consists of a 230kV double circuit line with each circuit having ratings of 365 MVA continuous (*at 93°C*) and 465 MVA limited-time emergency (*at 127°C*).



OEB Transmitter Designation Process

- OEB Framework for Transmission Project Development
 - Filing Requirements and Decision Criteria (G-2010-0059)
- Minister's letter suggested designation for E-W tie from the Long-Term Energy Plan
- OPA's Long Term Electricity Outlook for the Northwest and Context for the East-West Tie Expansion
- IESO's Feasibility Study
- Board's Minimum Technical Requirements
- Board's announcement of designation process for the East-West Tie Line

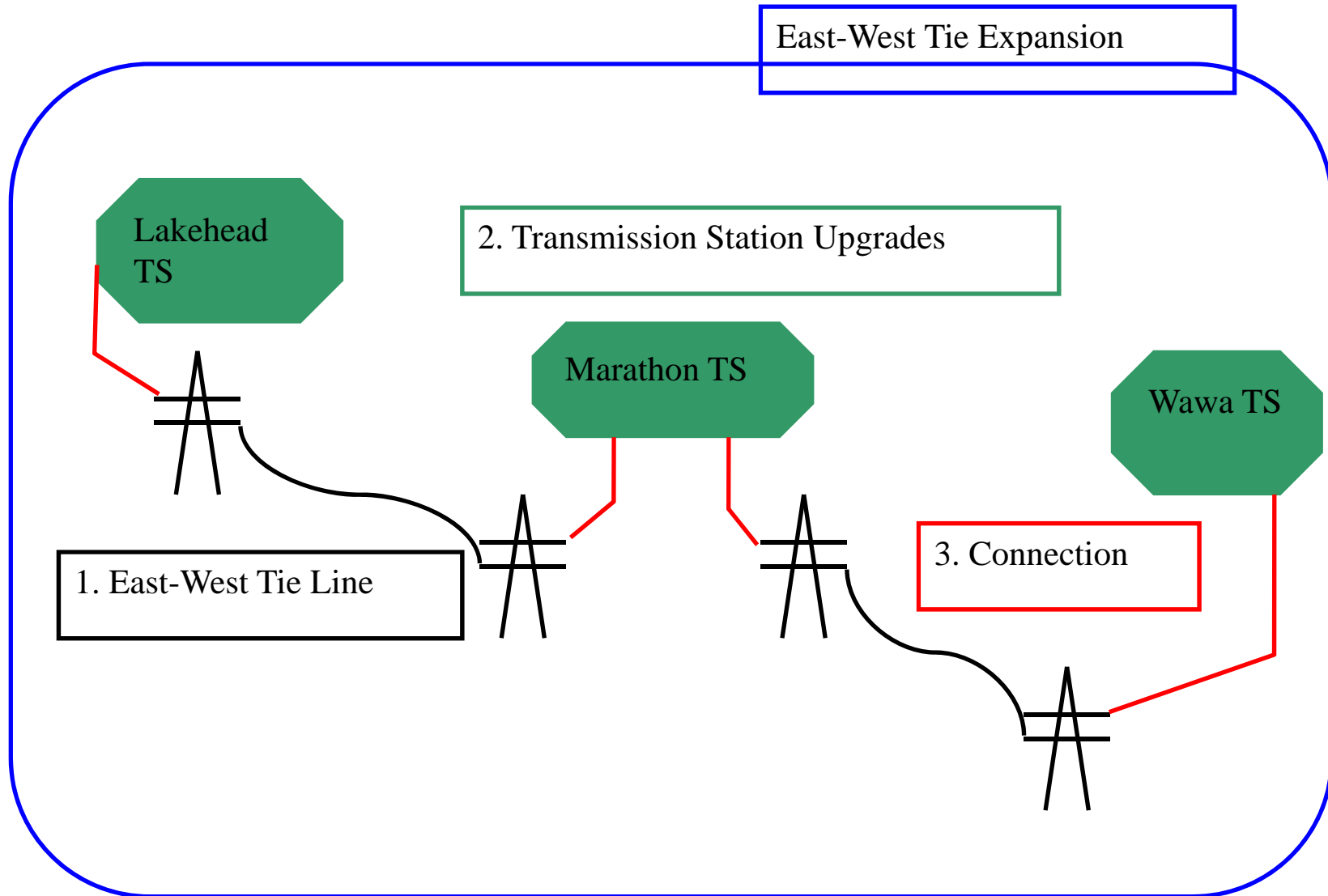


East-West Tie Line project definitions

- The OPA and IESO reports are concerning the **East-West Tie Expansion**. In order to be built and function, the East-West Tie Expansion would include 3 parts:
 1. **East-West Tie Line** – conductors and poles from point to point. It is this portion of the expansion that is the subject of designation.
 2. **Transformer Station Upgrades** to support reactive power requirements of the new line, completed by Hydro One within their existing stations.
 3. **Connection** to the existing system *including line disconnect switches*.



East-West Tie Project definitions



East-West Tie Line requirements

- A new line that, in conjunction with the existing line, will provide total eastbound and westbound capabilities in the East-West corridor on the order of 650 MW, while respecting all NERC, NEPCC and IESO reliability standards.
- Lifetime of at least 50 years.
- Target in-service date: 2017.
- The East-West Tie Line is to be 2 segments:
 - Wawa TS to Marathon TS; and
 - Marathon TS to Lakehead TS.
- The demarcation points of each segment are the first transmission line structures outside the fence of the Wawa TS, Marathon TS and Lakehead TS, but within 250 metres of that fence.
- *The East-West Tie Line segments will dead-end on the demarcation point structures with a mid-span opener for non-compensated lines.*
- *If the proposal involves series compensated AC line or DC lines, the East-West Tie Line will include the protection system, associated communications, and line isolation breaker(s).*
- The project definition for the purposes of designation assumes that the East-West Tie Line between the demarcation points will be owned and operated by the designated transmitter.



After Designation

After being selected, the designated transmitter will have to co-ordinate with:

- OPA: to refine the need for the line as part of the development of the line.
- IESO: to determine reactive power requirements of the new line if proposal different than reference option. Hydro One will develop costs for reference and other options based on information from the IESO.
- Hydro One: to determine responsibility and costing for connection to the existing system (should be a consistent cost regardless of the proposal).



The Reference Option

- The Reference Option is one possible proposal for the East-West Tie Line.
 - It is taken from the OPA and IESO reports.
 - It is not the default position of the Board but is to be used for comparative purposes during the designation process.
 - The Reference Option specifies that the East-West Tie Line will be a new double-circuit 230 kV overhead transmission line with each circuit having ratings of 465 MVA continuous (at 93°C) and 600 MVA limited-time emergency (at 127°C).
 - The East-West Tie Line will be switched at Marathon TS.
 - Specific conductor size as per the IESO study.
 - Minimum Technical Requirements and Appendix A apply.



Other Technical Solutions

- Require an IESO feasibility study (or study done to IESO requirements).
 - May have station upgrade implications. Station requirements will be sent by the IESO to Hydro One for approximate costing.
- Evidence that solution is equivalent or superior to the Reference Option.
- Other cost implications should be explained.

