

Feedback Form

Northeast Ontario Electricity Planning – April 26, 2022

Feedback Provided by:

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Following the Northeast Ontario Electricity Planning engagement webinar held on April 26, 2022, the Independent Electricity System Operator (IESO) is seeking feedback on key considerations around scope, needs and potential solutions as outlined during the presentation. A copy of the presentation as well as the recorded webinar can be accessed from the [engagement webpage](#).

Please submit feedback to engagement@ieso.ca by **May 17, 2022.**

Topic	Feedback
What other information should be considered in the study scope, examination of needs and potential options in Northeast Ontario?	Click or tap here to enter text.

Topic	Feedback
What feedback do you have regarding any of the options proposed?	Click or tap here to enter text.
What other information should be considered in the continued development of these solutions leading up to the recommendations?	Click or tap here to enter text.

General Comments/Feedback

Click or tap here to enter text.

Proposed new transmission corridor between Porcupine TS (Timmins) to Wawa TS

Although I really like the proposal to establish a new transmission corridor between Porcupine TS & Wawa TS to connect the existing north-south 500kV corridor directly to the reinforced East-West Tie, I question the value of installing a new 230kV *double-circuit* line. I would ask that you consider installing *two* single-circuit lines to complement the *two* double-circuit lines that now form the enhanced East-West Tie. Building two single-circuit lines on the new Porcupine TS to Wawa TS corridor would allow for the possible 'staging' of its development; with the installation of the second line delayed until there is a need either for additional transfer capacity to supply further increases in the load in the Sault Ste Marie and/or North-western Ontario areas, or when it can be justified to meet a requirement for increased security of supply to the north-west.

Operationally, since the transmission system has to be capable of withstanding the loss of any double-circuit line, installing a new double-circuit line rather than just a single-circuit one would provide only marginal benefit. While the two circuits of a new double-circuit line would provide a higher thermal capacity and a lower effective impedance, similar characteristics could be achieved by equipping the new single-circuit line with twin 1192.5kcmil conductors and by installing 60% series compensation on it.

Upgrading the Hanmer - Mississagi Line

I assume that the upgrading of the existing Hanmer to Mississagi line to 500kV operation is required to provide back-up transmission capacity in the event of a contingency involving the proposed Porcupine to Wawa 230kV line, regardless of whether single- or double-circuit construction is used. This upgrading will require extensive outages over a protracted period to replace all of the insulators and to install new quad-conductor bundles for 500kV operation. It will also required new 500/230kV transformation facilities to be installed at Mississagi TS.

Could the increase in transmission capacity required for this operational duty be achieved by adding a second (or possibly a third) conductor to the bundle while continuing to operate the line at 230kV? Series compensation would also need to be added but this would be far less expensive than installing the required transformation facilities at Mississagi TS. And since the insulators would not need to be changed and as the existing conductor could remain [possibly acting as a carrier for the installation of the additional conductor(s)], the outages would be far less onerous.

And should a second high-capacity single-circuit 230kV line be built between Porcupine TS and Wawa TS, then it is unlikely that the higher transfer capacity that 500kV operation of the Hanmer to Mississagi line would provide, would be needed.

Installation of a new 230kV line between Mississagi TS and Wawa TS

The two existing 230kV lines between Mississagi TS and Third Line TS share common structures for only approximately 11 spans towards the Sault Ste

Marie end of the right-of-way. Moving one of these circuits on to separate structures for those 11 spans would eliminate the double-circuit contingency condition. If each of the separated circuits were then to be equipped with twin conductors, their individual capacity would be approximately doubled. If the twinning were to be done using the same size of conductor, then that shouldn't materially change the sag and since the structures are lattice steel, perhaps only limited strengthening would be required to address the increased weight of the second conductor. With two single-circuit lines, rated at twice their existing capacity, I would hope that a third 230kV circuit between Mississagi TS and Third Line SS would not be necessary, particularly if there is also a second high-capacity 230kV single-circuit line between Porcupine TS and Wawa TS that would support increased transfers from Wawa TS to Third Line SS under contingency conditions.

If a second 230kV line were to be built between Porcupine TS and Wawa TS to provide increased transfer capability to both the Sault Ste Marie and the North-western Ontario areas, then the supply to Sault Ste Marie from Wawa TS could be further enhanced by equipping the existing higher-rated 230kV line between Wawa TS and Third Line SS with series capacitors.