NEXTBRIDGE INTERROGATORY 6

NextBridge-6

Reference: The IESO's June 29, 2018 Report at 1, lines 16-28.

INTERROGATORY

a) Does the IESO need to reject the entire 150 MWs of load every time the existing East-West Tie line is out of service? If not, explain in detail your response.

b) Explain in detail whether the rejection of the 150 MWs is related to or independent of the need to incur the capacity and energy replacement options and costs.

c) Does the rejection of 150 MWs of load occur any time the line is out of service, including planned and forced outages? If no, explain your response in detail.

d) Explain in detail whether the rejection of the 150 MWs of load is dependent on whether the load is near peak levels or is it at all times of the year at all load levels?

e) Confirm that the phrase "provided load can be restored within 8 hours" means that the existing East-West Tie line has been restored to service. If not confirmed, explain in detail how load has been restored without the existing East-West Tie line being brought back into service, including whether there are instances in which the East West Tie must be restored in order to bring back load.

f) Provide all documents, analysis, and studies that support that the existing East-West Tie line can in all types of outages, including a tower collapse, be restored within 8 hours.

   i. What actions would the IESO take if the existing East-West Tie line was out for an extended time (i.e., a week)?

   ii. Would sustained load curtailment be a potential outcome of extended outage of the existing East-West Tie line?

g) Confirm that the IESO would rather not be in the position of having to rely on the rejection of 150 MWs of load or any amount of load to maintain system reliability. If not confirmed, explain your response in detail.

h) How long has the SPS been used as an "interim measure" for the loss of the existing East-West Tie line?

i) In the past, has any load been rejected from the loss of the existing East-West Tie line?

j) What type of load is contemplated to be included in the SPS and rejected for the loss of the existing East-West tie?

k) In the past, what has been the outages and typical availability of the existing East-West line tie?

l) Confirm that the IESO would rather not be in the position of relying on an SPS. If not confirmed, explain your response in detail at 1, lines 26-28.

RESPONSE

a) No, the IESO would not need to reject 150 MW of load every time the existing East-West Tie line is out of service. Whether load rejection is armed (i.e. selected for rejection) for a given contingency, along with the amount that is armed, will vary based on the real-time operating conditions in the Northwest. The arming of load rejection is dependent on demand and generation levels, weather conditions, outage conditions, and import/export levels.

b) Load rejection would be used as an interim measure to reduce the amount of incremental capacity need in the Northwest before transmission reinforcements come into service. The capacity costs presented in the IESO's Addendum to the 2017 Updated Needs Assessment reflect only the incremental need above the 150 MWs of relief that may be addressed by load rejection.

c) No, please refer to the response to NextBridge Interrogatory 6a above. In addition, for planned outages, the outage would typically be scheduled for a time where conditions are favourable (e.g. low demand, high availability of generation, coordination with other scheduled outages, etc.).

d) Please see the response to NextBridge Interrogatory 6a) above.

e) Not confirmed; load can also be restored within 8 hours by bringing supply resources, such as Atikokan generating station, online. When planning the electricity system in the northwest, the IESO would only rely on load rejection as an interim measure if there are supply resources that are available in the Northwest which can be brought online within 8 hours. The IESO would not rely on load rejection as an interim measure if the only option to restore the load was to restore the East-West Tie line.

f) The IESO has not conducted such analysis or studies, and has no documents, supporting the fact that the existing East-West Tie line can, in all types of outages, be restored in 8 hours.

   i. If the existing East-West Tie line was out for an extended time, the IESO would take any action that is available to supply the load in the Northwest. These actions could include dispatching all local generation, cancelling or recalling planned outages, deploying voltage reductions and purchasing emergency energy.

   ii. If interim measures are deployed, a sustained load curtailment due to an extended outage of the East-West Tie line would be unlikely.

g) The IESO plans the system according to applicable planning standards and the IESO, as described in the IESO's Addendum to the 2017 Updated Needs Assessment, utilizes load rejection where permissible.

h) The original Northwest SPS came into service approximately 40 years ago and originally included functionality to arm load rejection for the loss of the East-West Tie. This functionality is now part of the Northwest SPS 2 which came into service in early 2017.

i) The Northwest SPS 2 has not been armed to reject load for the loss of the existing East-West Tie since it came into service. Before Northwest SPS 2 came into service, operating limits were, most recently, being calculated assuming the SPS was not being utilized. As such, the original Northwest SPS 1 had not been armed for the loss of the East-West Tie for quite some time (no records of it currently but it may have been armed historically when load levels in the Northwest were higher).

j) The Northwest SPS 2 currently has the functionality to arm load in the Thunder Bay area for the loss of the existing East-West Tie circuits.

k) Please refer to Hydro One's response to NextBridge Interrogatory 58(d), which addresses all lightning outages on the 230 kV system between Wawa and Marathon and Marathon and Lakehead stations. Please also refer to Hydro One's reponse to OEB Staff Interrogotories 4(b) and (c)(ii), which addresses all historical outages on the the 230 kV circuits between Wawa and Marathon.

l) The IESO uses Special Protection Schemes (SPSs) as a tool to meet reliability needs in a number of regions across the province. These SPSs can include load rejection, generation rejection and the ability to cross-trip transmission elements post contigency. However, as stated in the ORTAC (section 7.3), the reliance upon an SPS must be reserved only for exceptional circumstances, such as to provide protection for infrequent contingencies, temporary conditions such as project delays, unusal combinations of system demand and outages, or to preserve system integrity in the event of severe outages or extreme contingencies.

Page Intentionally Blank

1