

Asset Replacement Information Process

The following revised high-level process is proposed to meet the IESO’s objective of better incorporating end-of-life asset needs into the regional and bulk planning processes. This document is intended to inform the RPPAG of the outcomes of their “ESL sub-group” discussion, providing a basis for further discussion with members of the RPPAG as it relates to the regional planning process (members of the ESL sub-group are listed in Appendix A).

Process Overview:

The purpose of this proposed process is to obtain improved asset replacement information to inform both the regional and bulk planning processes. This process would generate two inputs to these planning processes, a 10-year outlook on what assets the transmitters/LDCs are expecting to replace, and information on asset demographics.

Further details are provided below on how these inputs would be compiled and how they would be used in the regional and bulk planning processes. The ESL sub-group recognizes the RPPAG’s focus is on the inputs to the regional planning process. Information on the bulk planning process inputs is shared for completeness.

Data Collection:

10-Year Outlook

As part of the regional planning process, transmission asset owners will provide their 10-year outlook on the major high voltage equipment they are planning/expecting to replace. The equipment included is shown below in Table 1. This information will be provided in the needs assessment phase of the regional planning process, which generally occurs at least every 5 years for each region.¹ At their discretion, transmission asset owners may include need information for additional equipment types where they feel it is relevant to the regional planning process (e.g., as part of an integrated station replacement).

Table 1 | Assets for regional planning 10-year outlook

#	High-Voltage Equipment Required
1.	230/115 kV autotransformers
2.	230 kV and 115 kV load serving step-down transformers
3.	230 kV and 115 kV breakers
4.	230 kV and 115 kV transmission lines requiring refurbishment ²

¹ If there is an emerging end-of-life need between cycles that would benefit from comprehensive planning, the transmission asset owner should notify the technical working group.

² Recommended that a potential requirement for a section 92 for any alternative to like-for-like would be an appropriate materiality threshold for which segments to include.

#	High-Voltage Equipment Required
5.	230 kV and 115 kV underground cables requiring replacement ³

Further to this, on a yearly basis, Hydro One would provide their province-wide 10-year outlook to the IESO to inform the bulk planning process.

The outlook should identify the major bulk system facilities where they are anticipated to need replacing in the next 10 years. The equipment included is shown in Table 2.

Table 2 | Assets for bulk planning 10-year outlook

#	High-Voltage Equipment Required
1.	Phase shifters and autotransformers
2.	230 kV load serving step-down transformers
3.	500 kV and 230 kV breakers ⁴
4.	500 kV and 230 kV transmission lines requiring refurbishment ⁵
5.	230 kV underground cables requiring replacement ⁶

Asset Demographics

Separately, Hydro One would provide the IESO information on asset demographics at the station level and for conductors/cable.

Further input from Hydro One is needed to formalize how this information will be produced and how often it would need to be updated. The information on asset demographics is intended to inform the study team/technical working group only. The full list will be provided to the IESO and would be confidential due to the nature of the information provided.

Input to Regional and Bulk Planning:

Consistent with the existing planning approach, consideration of end-of-life needs, including determination of whether identified needs will be included in the scope of the planning activity and the framework for assessing options, would occur within established planning processes.

Bulk Planning:

Treatment of 10-year outlook information – This information will be used as an input to the Issues Identification stage of the bulk planning process. The IESO will work with Hydro One to identify potential opportunity areas where Hydro One’s asset replacement needs, and other system

³ See footnote 2.

⁴ Recommend 6 breakers or more than 50% of the station breakers, the lesser of the two, as a materiality threshold.

⁵ See footnote 2.

⁶ See footnote 2.

needs converge. Through the Issues Identification process, this list would be further refined, to determine which opportunities should be included within the scope of upcoming bulk system plans based on the potential timing of the needs. This process would occur yearly.

Asset Demographics – IESO and Hydro One will determine how this information will be used as one of many inputs to inform bulk planning activities, and as a general input to options evaluation. Consideration will also be given to how this information may inform regional planning.

Regional Planning:

Treatment of 10-year outlook information – The regional planning study team/technical working group will review this information as an input to the regional planning process and determine the planning approach for each regional item identified.

Appendix A: RPPAG ESL Sub-Group Members

IESO

Hydro One

Toronto Hydro

Alectra

AMO