

# Appendix 1

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## Description of the Regional Infrastructure Planning Process

This document provides further descriptions of the Regional Infrastructure Planning process described in Chapter 2 of the *Planning Process Working Group Report to the Board (“Report to the Board”)*, as well as descriptions of the Scoping Process and Regional Planning Approach portions of the Integrated Regional Resource Planning (IRRP) process.

### Objective:

The Ontario Energy Board (the “Board”) has asked industry and other stakeholders to develop a structured Regional Infrastructure Planning process that considers regional needs and identifies “wires” solutions to address those needs. The outcomes of the Regional Infrastructure Planning process are expected to ensure:

- ✓ Rate applications submitted to the Board are informed by a Regional Infrastructure Plan where applicable
- ✓ Leave to Construct applications are informed by a Regional Infrastructure Plan where applicable
- ✓ Cost effective investments are proposed at the appropriate time
- ✓ Plans to meet future needs are implemented in a timely manner

### The role and responsibility of the transmitter in the Regional Infrastructure

#### Planning process is to:

- ✓ Manage the overall Regional Infrastructure Planning process
- ✓ Conduct the necessary studies to confirm regional needs, identify alternatives and recommend solutions that form the Regional Infrastructure Plan
- ✓ Regularly review information, such as the annual load forecast, and issues that affect regional and customer supply reliability
- ✓ Manage the cyclic review and development of Regional Infrastructure Plans for the regions responsible
- ✓ Monitor progress of the Regional Infrastructure Plans and provide status updates to the Board as appropriate

## Role of Participants (OPA, Distributors & IESO)

- ✓ Provide information and planning study feedback in a timely manner
- ✓ Participate in regional planning activities including stakeholder engagement
- ✓ Other responsibilities as outlined in this appendix

## Process Overview:

As described in Chapter 2 of the *Report to the Board*, the Regional Infrastructure Planning process focuses on “wires” planning, mainly regional transmission and some distribution wires, whereas the IRRP process considers the broader regional needs in the context of provincial need, and the identification, evaluation and integration of available solutions (i.e. conservation, generation, and transmission and distribution options). The transmitter assumes the lead role for the Regional Infrastructure Planning process and the OPA assumes the lead role for the IRRP process. Together these processes comprise regional planning (see diagram on page 11 of the *Report to the Board*).

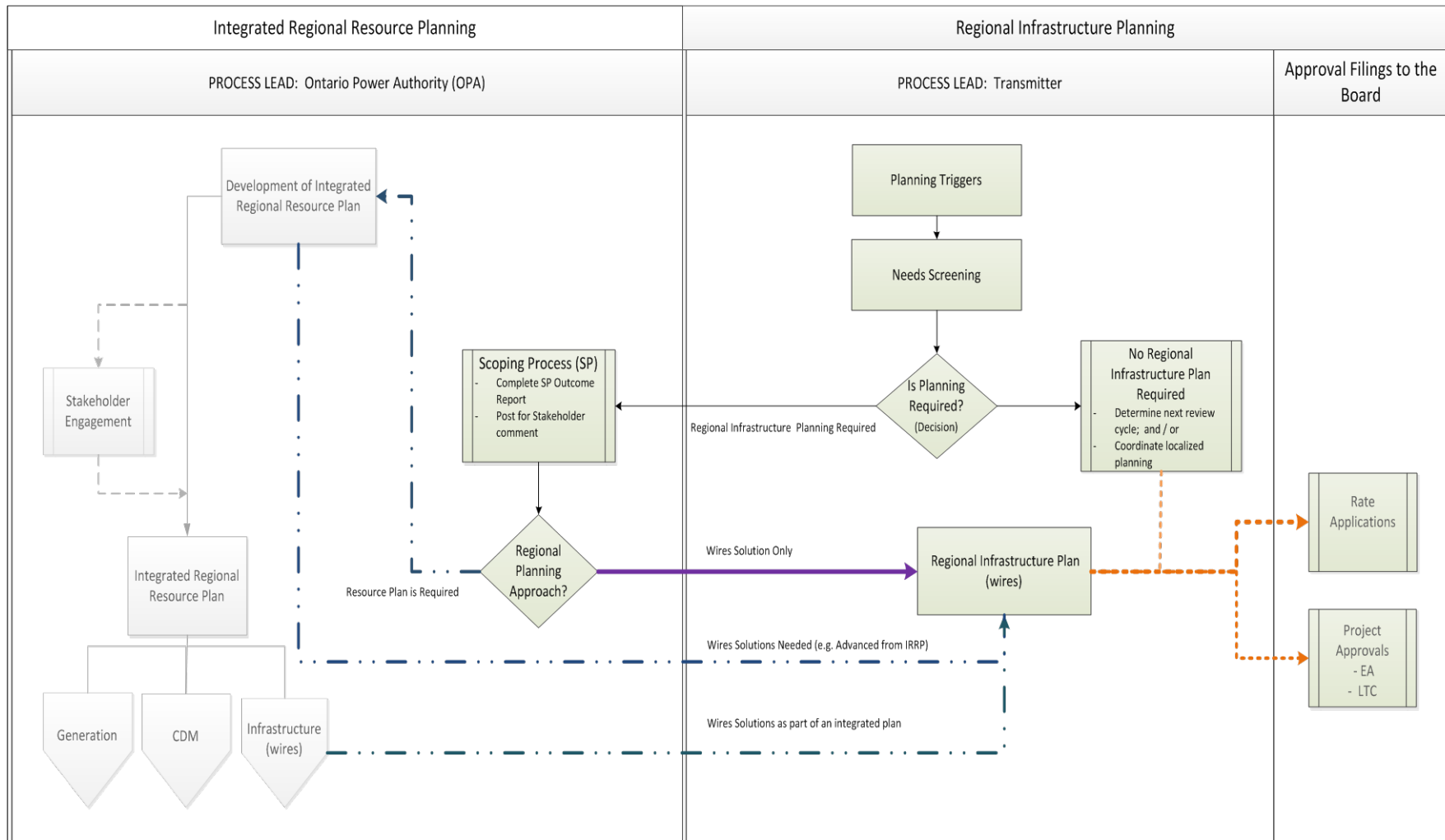
Given the two processes, close coordination between the transmitter and the OPA will be required to ensure effective and efficient exchange of information and study results. Figure 1, duplicated below for reference, outlines the key stages for each process and their corresponding interface points when conducting planning for each region. Figure 1 also depicts that the outcome of the Regional Infrastructure Plan is to provide, where applicable, support for rate submissions and Leave to Construct (“LTC”) applications.

The stages of both the Regional Infrastructure Planning and the IRRP processes are described in the following sections:

1. Planning Triggers
2. Needs Screening / Planning Decision
3. No Regional Infrastructure Plan Required
4. Scoping Process / Regional Planning Approach Decision
5. Regional Infrastructure Plan (wires)

Figure 1 - Planning Flowchart

# REGIONAL PLANNING PROCESS



# PLANNING PROCESS

## 1. Planning Triggers

While Regional Infrastructure Planning is expected to be conducted at intervals, there may be triggers that mark the start of the formal assessment of regional needs and issues. Triggers could take the form of the minimum review cycle, notionally 5 years or less to align with the typical distribution investment planning horizon. Triggers could also take the form of unexpected events beyond what was forecasted in the last planning cycle, which would require an assessment to determine if regional coordination or planning will be required.

Some examples of unexpected events could include, but are not limited to:

- a) Connection request of a large industrial customer at either the transmission or distribution level
- b) Government initiatives/directives or legislative changes
- c) Significant growth deviations from previous load forecasts
- d) Regional system reliability or delivery performance issues identified by the IESO or customers
- e) Resource or supply infrastructure retirements that affect regional reliability or supply
- f) New generation announcements that impact the region
- g) Generation or conservation resources do not materialize as expected
- h) Opportunities for joint development with other linear infrastructure planning agencies (e.g. MTO, Metrolinx)
- i) Significant changes to codes and standards (e.g. NERC reliability standards)

Many of the above events or triggers will form part of the continuous flow of information that a transmitter receives from its connected customers or customers seeking connections, and from interactions with the OPA, the IESO and other planning agencies. While the transmitter can often identify a trigger to initiate regional planning activities, other parties involved in the Regional Infrastructure Planning process, such as distributors, the OPA and the IESO can also raise potential triggers for the transmitter's consideration and review.

Once triggers have been confirmed, the transmitter will then proceed to the Needs Screening stage of the Regional Infrastructure Planning process.

## 2. Needs Screening / Planning Decision

Following the identification of triggers to initiate Regional Infrastructure Planning, the transmitter, in collaboration with distributors, the OPA and the IESO will initiate a Needs Screening assessment for the region.

In order to conduct the Needs Screening, the transmitter will require certain information from relevant parties. The transmitter will identify the information that is required from those that may need to participate in the regional study, including distributors and the OPA. The transmitter will also contact the IESO regarding potential operational or reliability issues in the region, and to discuss the extent of the IESO's participation at this stage.

The information required by the transmitter includes, but may not be limited to, the following:

- 1) Gross and net load forecast from distributors and longer-term forecasts from the OPA  
Distributor load forecasts are to be provided on the following basis:
  - i) In megawatts ("MW") with power factor assumptions provided;
  - ii) At the supply transformer station or bus level;
- 2) Load forecasts from other existing, or potentially new, transmission-connected customers
- 3) Changes to ratings of distributor owned equipment
- 4) Relevant generation and CDM program information from the OPA that may impact the region
- 5) Regional system reliability and performance issues identified by distributors or the IESO
- 6) Significant regional and customer supply transmission facilities identified as approaching end-of-life
- 7) Significant regulatory, government or municipal initiatives/directives (if any)

For the purposes of the Needs Screening, preliminary load forecasts are required to identify significant changes in growth rates seen at the delivery points and generally at the regional level. More detailed load forecasts will only be required when it is determined that regional planning and coordination is necessary, whether through a Regional Infrastructure Plan or an IRRP.

Upon receipt and review of the required data from distributors and the OPA, the transmitter will confirm that adequate information has been submitted to initiate the Needs Screening. Once the appropriate data has been collected, the transmitter will perform an analysis of the new information in conjunction with a review of the previous Regional Infrastructure Plan (where applicable). The analysis will be conducted at the level necessary to identify those needs that will require further coordination at the regional level and those which can be met more directly by distributors or other customers and their respective transmitter. For example, in cases where adequate regional and local supply capacity exists to accommodate increased load at an existing or new station, where another distributor or customer would not be impacted, then the

planning for that need would be more efficiently done between the transmitter and the specific distributor. There may also be sub-regional areas within a region where the Needs Screening can identify that regional coordination may not be required.

At the conclusion of the Needs Screening, the transmitter will produce a Needs Screening Summary Report that will identify the participants and summarize the data gathered, study assumptions and study findings. The study findings will identify those needs which will require further regional coordination and planning and those that do not. For those needs which will require regional planning, the transmitter will identify those participants in the Needs Screening that will likely need to participate in the regional planning effort. Each participant will sign off on the final Needs Screening Summary Report.

In situations where identified needs require coordination at the regional or sub-regional levels, the OPA then initiates the Scoping Process. The Scoping Process will identify the degree to which the needs require integration with regional resource planning. Subsequent stages of the Regional Infrastructure Plan or IRRP will further refine the needs in order to develop their respective mixes of “wires” and / or resource options, and recommendations.

### **3. No Regional Infrastructure Plan Required**

This stage of the Regional Infrastructure Planning process represents the outcome of the Needs Screening which determined that some or all of the needs identified do not require further regional coordination. As explained in Section 2 above, there may be some needs which will be more efficiently addressed between the transmitter and the specific distributor or transmission-connected customer. These situations are not expected to have a significant impact on other customers or on upstream regional transmission facilities.

In addition to the example provided in Section 2, many regional transmission or customer supply facilities involving investments for sustainment purposes may not require planning and coordination at the regional level. There may also be regions or sub-regions where no regional investments are foreseeable until possibly the next planning cycle. For example, in periods of significant resource capacity and/or flat or declining demand, there may be regions or sub-regions that do not require significant regional investments as the existing or already planned facilities will address the regional needs.

### **4. Scoping Process / Regional Planning Approach Decision**

Once it is determined that planning coordination is required for a particular region or sub-region (see above description, “2. Needs Screening / Planning Decision”), the next step is to determine the scope of the planning required.

In this stage, the OPA, in collaboration with the transmitter and impacted distributors, reviews the information collected as part of the Needs Screening phase (e.g. load forecasts), and may require additional information from the transmitter or distributor. Using this and additional information on potential non-wires alternatives, the OPA makes a decision on the most appropriate Regional Planning Approach. The approach is either a Regional Infrastructure Plan, which is led by the transmitter, or an IRRP, which is led by the OPA. If more than one sub-region was identified in the Needs Screening phase, it is possible that a different approach could be taken for different sub-regions.

Because the Regional Infrastructure Plan process focuses solely on wires solutions, a decision at this stage to develop a Regional Infrastructure Plan limits the assessment of alternatives to wires solutions. Therefore, whenever there is potential for non-wires alternatives to contribute to an integrated solution, an IRRP process should be initiated. If it is determined that wires solutions are the only feasible options, the rationale for not further examining non-wires alternatives should be provided. Examples of such situations may include: improvements to system performance or reliability; end-of-life replacement where no additional needs are forecast; or additional transformer station capacity needed in the near-term based on net demand forecasts and no other needs are forecast, etc.

The deliverable of this stage is a Scoping Process Outcome Report. This report includes the results of the Needs Screening process, a recommended study approach and a preliminary Terms of Reference for all sub-regions identified in the Needs Screening phase. The draft Scoping Process Outcome Report, which includes the preliminary Terms of Reference, will be posted on the OPA website (and linked through the OEB website) for stakeholder comment. The OPA, in collaboration with the transmitter and impacted distributors, will consider stakeholder feedback in finalizing the Scoping Process Outcome Report and Terms of Reference. Upon completion of the final Scoping Process Outcome Report, which includes the final Terms of Reference, any IRRP processes identified will be initiated by the OPA (see Appendix 2 for description of the IRRP process), and any Regional Infrastructure Plan processes identified will be initiated by the transmitter (see description, “5. Regional Infrastructure Plan (wires)” below).

## **5. Regional Infrastructure Plan (wires)**

Regional Infrastructure Planning begins when it is identified that a wires approach represents the best overall means to address the needs of a region or its sub-regions, and that coordination of the planning is needed at a regional level. This determination can occur at three points in the Regional Infrastructure Plan and IRRP processes:

- a) Following the Scoping Process / Regional Planning Approach Decision where it is assessed that the needs of the region, or one or more sub-regions, would not be likely be addressed by resources and therefore a resource plan need not be produced.
- b) Once the IRRP process has been initiated and the subsequent analysis has advanced to a sufficient stage for the OPA to advise that a wires approach represents the most feasible option.
- c) Upon completion of the IRRP process, where the OPA has concluded that for some or all the needs of the region or sub-region a wires approach is required.

Once it has been determined that a wires approach is needed, the transmitter, in collaboration with distributors and the OPA, may conduct further planning and analysis to confirm the needs and to identify the regional transmission and potential distribution options that will satisfy each of the needs in the region or its sub-regions. The transmitter will confirm which distributors and other agencies need to participate in the planning study(s). The transmitter may request from the participants further detailed information regarding load forecasts, generation changes (new and retirements), and CDM program changes that may impact the reliability needs of the region. The transmitter may request other information such as participant's equipment ratings and other municipal planning information that may be germane to the analysis and the proposed planning horizon. If some or all of this information was made available in the IRRP process, the transmitter will work with the OPA for the exchange of this data.

The deliverable of this stage is a finalized Regional Infrastructure Plan that can be referenced by rate submissions or LTC applicants. The Regional Infrastructure Plan will outline the scope of study, describe key assumptions, confirm needs at the regional or sub-regional level, evaluate alternatives to address those needs, and explain the rationale for the wires solutions recommended. The Regional Infrastructure Plan will include within it an implementation plan that outlines the various roles, responsibilities, monitoring arrangements and project development timelines for each of the parties involved. The final Regional Infrastructure Plan will be posted on the transmitter's website (and linked through the OEB website).

A Regional Infrastructure Plan can involve several wires solutions that in combination address all or part of the region's needs. A Regional Infrastructure Plan might evolve over a period of time with different elements of the overall plan being identified at various times. Distributors and transmitters may be able to rely on the elements identified prior to completion of the overall regional plan for the purposes of rate submissions or LTC applications. This reflects the evolving and dynamic nature of planning.

A region may have more than one Regional Infrastructure Plan depending on the planning horizon. It may be possible that a longer-term plan for a region may need to be developed separately to the near- and/or medium-term plan. The longer-term plan may look at providing major regional transmission in areas



where there is currently limited or no transmission to service an area where substantial future development with new communities is expected. This longer-term planning is typically more strategic and opportunistic in nature. It may involve collaboration with other planning agencies that provide for other types of linear infrastructure such as roads, water and sewage. While distributors need to participate at a certain level in longer-term planning, they may not need to rely on it with respect to the five year distribution investment plan and associated rate submissions. Therefore, it may be more appropriate to separate the longer-term considerations from the typical near- and medium-term regional plan. The PPWG recognizes that this flexibility is needed in the Regional Infrastructure Planning process. A summary of the deliverables of each regional planning stage can be found in Appendix 5, “Supporting Documents for Application Submissions”.

## Conceptual Timeline for Regional Planning

Figure 2 below provides an illustration of the typical timeline envisioned for regional planning.

