

## REGIONAL PLANNING PROCESS

### 1.0 INTRODUCTION

On October 18, 2012, the Ontario Energy Board (the “Board”) issued its *Report of the Board – A Renewed Regulatory Framework for Electricity Distributors: A Performance Based Approach* (RRFE Board Report). The RRFE Board Report concluded a consultation process aimed at promoting the cost-effective development of electricity infrastructure through coordinated planning on a regional basis between licensed distributors and transmitters.

One of the Board’s conclusions in the RRFE was that effective Regional Infrastructure Planning would be best achieved by allowing relevant stakeholders a further opportunity to build on their practical experience and on the input received through the RRFE consultation process. The Board therefore convened a stakeholder working group, the Planning Process Working Group (PPWG) to prepare a report to the Board that sets out the details of appropriate Regional Infrastructure Planning processes, that defines the outputs of the planning process and identifies any changes to the Board’s regulatory instruments that may be needed to support the process. The working group consisted of transmitters, distributors, and a number of industry associations and organizations.

The PPWG’s report (PPWG Report) was endorsed by the Board on May 17, 2013.

On August 26, 2013, the Board also amended the Transmission System Code (TSC) and Distribution System Code (DSC) to implement a regional planning process in Ontario, as detailed in the PPWG Report.

The PPWG Report divides the province into 21 regions, each of which is placed into one of three groups in order to prioritize and manage the regional planning process. As stated

1 in the PPWG Report, it is anticipated that regional plans for all 21 regions would be  
2 completed in five year cycles as a minimum. Hydro One is the lead transmitter for 19 of  
3 the province's 21 regions.

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## 5 **2.0 OVERVIEW OF PLANNING IN ONTARIO**

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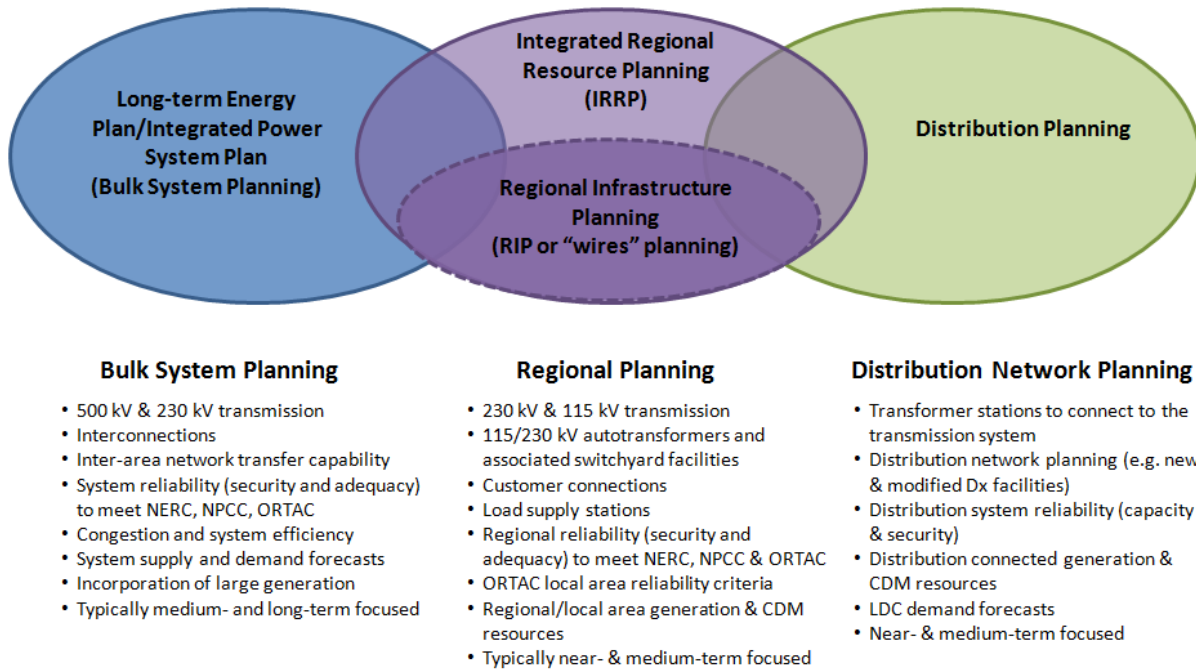
7 Planning for the electricity system in Ontario is done at essentially three levels:

- 8 1. Bulk system planning
- 9 2. Regional system planning
- 10 3. Distribution system planning

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12 These levels, as outlined in Figure 1, differ in the scope of impact on both the electricity  
13 system and the number of customers. Planning at the bulk system level typically looks at  
14 issues that impact the system on a provincial level, while planning at the regional and  
15 distribution levels looks at issues on a more regional or localized level.

**Figure 1: Three Levels of Planning in Ontario**



As depicted in Figure 1, regional planning can overlap with bulk system planning at interface points such as at the 230/500 kV auto-transformer stations, or where regional resource options affect the bulk system. Regional planning can also overlap with distribution planning which typically occurs at transformer load stations that deliver power to distributors and large directly-connected customers.

Regional planning is not a new concept in Ontario or for Hydro One for that matter. However, in the October 18, 2012 Report of the Board on a Renewed Regulatory Framework for Electricity Distributors, the Board concluded that a more structured approach is required to ensure the development of the provinces' electricity infrastructure in a cost-effective manner.

1 Moving forward, based on the PPWG report, there are four main steps in the planning  
 2 processes that together will comprise regional planning:

- 3 1. Needs Assessment/Screening
- 4 2. Scoping Assessment
- 5 3. Integrated Regional Resource Planning process (“IRRP”)
- 6 4. Regional Infrastructure Planning process (“RIP”)

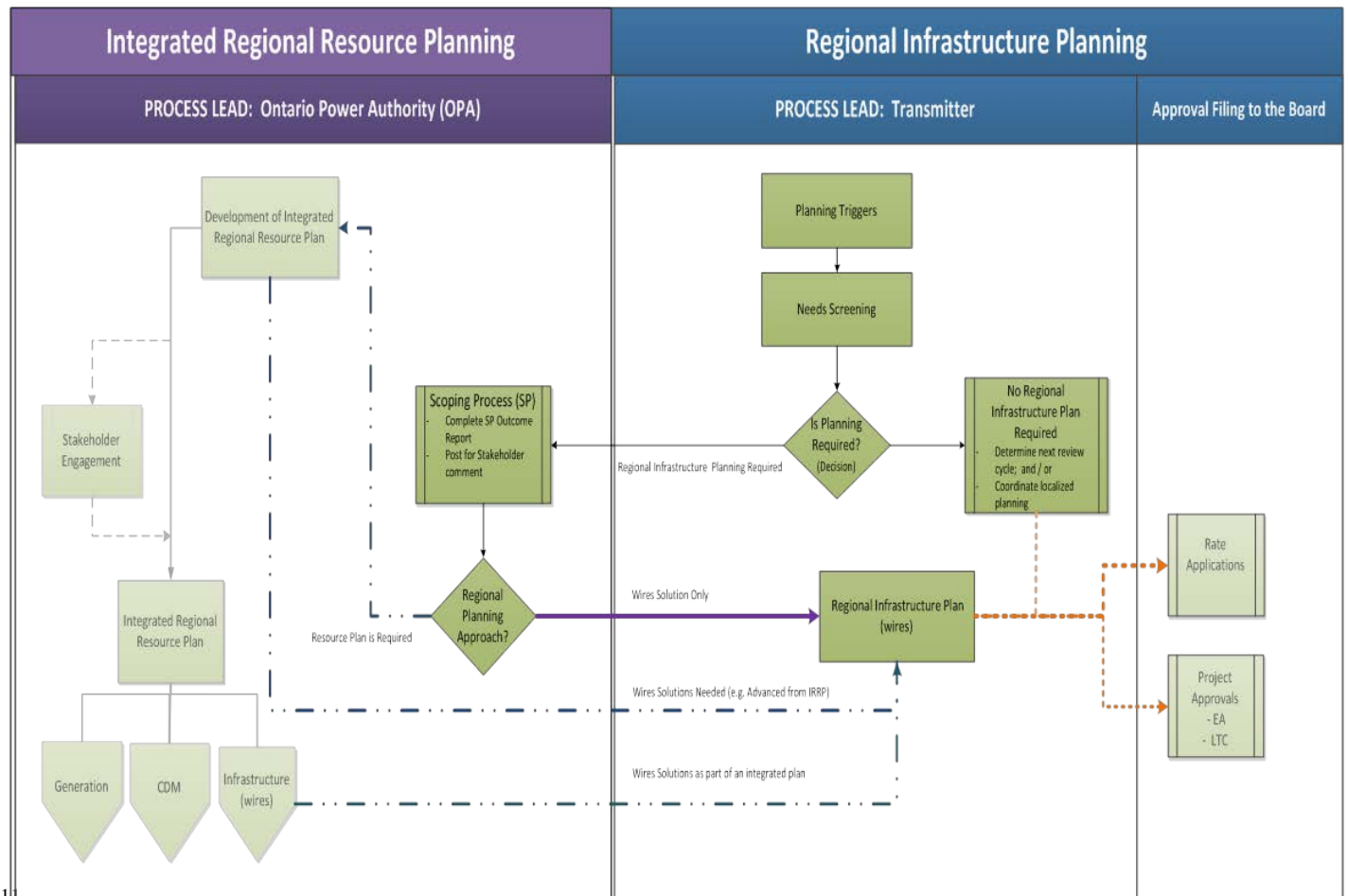
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8 These steps are illustrated below in Figure 2.

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**Figure 2: Regional Planning Process**



1 The Needs Screening and RIP are led by the transmitter in the region. Needs Screening is  
2 a high level assessment to determine if comprehensive and coordinated planning is  
3 required for the region or any of its subregions.

4  
5 The Scoping Process, led by the OPA, establishes the scope of a planning study and  
6 determines if an IRRP or RIP or both are required to address the needs in the region or  
7 subregion. The IRRP process involves identification, evaluation and integration of  
8 available solutions (i.e. conservation and demand management, generation, and  
9 transmission and distribution options) at the regional or subregional level. The RIP  
10 process focuses on “wires” planning, mainly regional transmission and relevant  
11 distribution wires. The IRRP and RIP process are closely coordinated with each other.

### 12 13 **3.0 THE REGIONAL INFRASTRUCTURE PLANNING (RIP) PROCESS**

14  
15 The Regional Planning process diagram shown in Figure 2 above illustrates the  
16 accountabilities for and the coordination between the RIP and IRRP processes. The  
17 Regional Infrastructure Planning process begins with a planning trigger. Potential triggers  
18 include regularly scheduled Needs Screening by the transmitter, a scheduled review  
19 specified in an existing Regional Infrastructure Plan, a Government directive, a  
20 significant change to codes and standards or an emergent need brought forward by the  
21 transmitter, distributors, customers, the OPA or the IESO that cannot wait until the next  
22 scheduled review.

23  
24 The next stage involves a Needs Screening process which is led by the transmitter to  
25 determine if there are regional needs that require Regional Planning. At the end of the  
26 Needs Screening process, a decision is required as to whether Regional Planning is  
27 necessary to address any of the needs. If Regional Planning is not required, any  
28 necessary infrastructure investments for localized plans can be undertaken directly by the

1 transmitter and distributor(s) or other transmission connected customer(s). In situations  
2 where identified needs require coordination at the regional or subregional levels, the  
3 transmitter determines the geographic scope and which distributor(s) should be involved.  
4 The determination of which distributors need to be involved is based on the information  
5 and load forecasts required from distributors and the issues (e.g., equipment end-of-life,  
6 reliability, etc.) brought forward in a predetermined region. At the conclusion of the  
7 Needs Screening, the transmitter produces a Needs Screening Summary Report that  
8 summarizes the data gathered, study assumptions, study findings, and recommendations.  
9 For needs that require coordination and integration of resources (i.e. CDM and  
10 generation) with wires solutions, the OPA initiates the Scoping Process.

11  
12 During the Scoping Process, the OPA, in collaboration with the transmitter and impacted  
13 distributors, reviews the information collected as part of the Needs Screening phase,  
14 along with additional information on potential non-wires alternatives, and makes a  
15 decision on the most appropriate Regional Planning approach. The approach is either an  
16 IRRP led by the OPA, a RIP led by the transmitter, or both. In support of this process, the  
17 OPA will produce a Scoping Process Outcome Report, which will include the results of  
18 the Needs Screening process, a preliminary terms of reference identifying the various  
19 subregions that require study, and a list of the distributors to be involved. The IRRP  
20 process follows the Scoping Process and involves identification, evaluation and  
21 integration of available solutions (i.e. conservation and demand management, generation,  
22 and transmission and distribution options), along with broader engagement of  
23 stakeholders at the regional or subregional level.

24  
25 Regional Infrastructure Planning (RIP) led by the transmitter begins after the completion  
26 of IRRP when it is established that a wires approach is required to address the needs of a  
27 region or subregion, and that coordination of the planning is needed at a regional level.  
28 At the conclusion of the RIP process, the transmitter will produce a finalized Regional

1 Infrastructure Plan that will outline the scope of study, describe key assumptions, confirm  
2 needs at the regional or subregional level, evaluate alternatives to address those needs,  
3 explain the rationale for the wires solutions recommended, and propose an  
4 implementation plan. There may be cases where a wires solution is necessary to be  
5 implemented by the transmitter and/or LDC(s) to address a near-term need, as part of the  
6 development of an IRRP. In such cases, infrastructure solutions ultimately become part  
7 of the Regional Infrastructure Plan.

8  
9 **4.0 IMPLEMENTATION AND STATUS OF REGIONAL PLANNING**  
10 **PROCESS**

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12 As previously noted, the province has been divided into 21 electrical regions for the  
13 purposes of conducting assessments and developing regional plans. The 21 Regions have  
14 been assigned to one of three groups in order to prioritize and manage the regional  
15 planning process. Hydro One is the lead transmitter for 19 of the province's 21 planning  
16 regions, which will be assessed on a cyclical basis of five years as a minimum. As  
17 required by the Board's amendments to the TSC, Hydro One communicated with all  
18 Local Distribution Companies (LDCs) in these 19 regions, within 10 days of August 26<sup>th</sup>,  
19 2013. The communication requested distributors' input about potential need for  
20 additional transmission capacity to support the needs of their distribution systems,  
21 including those of embedded distributors, and requested any other feedback pertinent to  
22 placement and prioritization of the regions to which they belong. Based on LDCs  
23 feedback and responses, the GTA East region was reprioritized from Group 2 to Group 1.  
24 The 19 regions for which Hydro One is the lead transmitter are listed below.

**Group 1 Regions**

- Burlington to Nanticoke
- Greater Ottawa
- GTA North
- GTA West
- KWCG
- Metro Toronto
- Northwest Ontario
- Windsor-Essex
- GTA East\*

**Group 2 Regions**

- London area
- Peterborough to Kingston
- South Georgian Bay/Muskoka
- Sudbury/Algoma

**Group 3 Regions**

- Chatham/Lambton/Sarnia
- Greater Bruce/Huron
- Niagara
- North/East of Sudbury
- Renfrew
- St. Lawrence

1 \* Note: GTA East has been reassigned to Group 1 from Group 2

2

3 The regional planning process for regions within Group 1 is currently underway; the  
4 status of regional planning activities for each region is described below in this exhibit.  
5 The regional planning process has not yet been initiated for the regions in Group 2 and  
6 Group 3. All of the regions will be assessed on a cyclical basis of five years as a  
7 minimum.

8

9 **Transition to the new Regional Planning process**

10 Planning studies, led by the OPA, for several regions and subregions were already in  
11 progress at the time of implementation of the new Regional Planning processes. These  
12 regional or subregional studies are continuing and are expected to culminate in an IRRP.  
13 For these regions or subregions, Needs Screening reports or Scoping Assessments were  
14 inherent as part of the study team planning process and are deemed complete. The  
15 planning studies for these regions or sub-regions may identify the need for a near-term  
16 wires solution in advance of the completion of an IRRP. In such cases, the OPA may  
17 provide Hydro One with a “handoff” letter, prior to the completion of an IRRP, to start a  
18 detailed assessment to develop wires options and recommend a preferred solution that

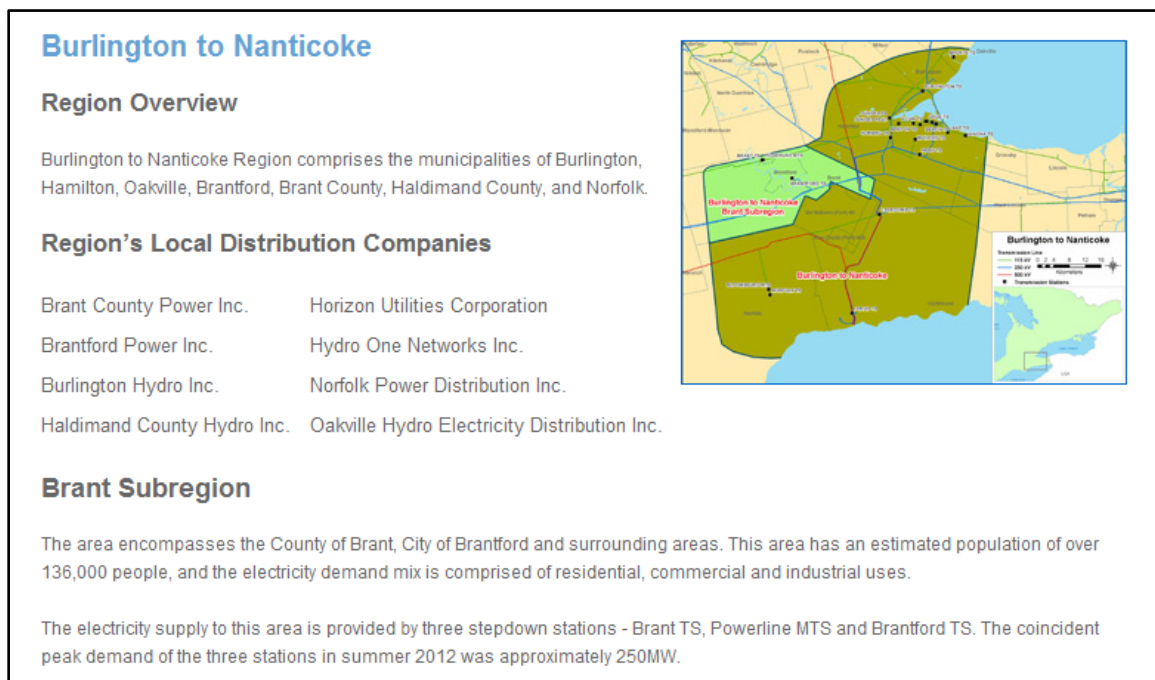


1 meets a certain need for a particular region or subregion. Generally speaking, a handoff  
2 letter is provided to address a near-term need that can only be met by a transmission or  
3 distribution solution. These infrastructure solutions identified and/or implemented will  
4 ultimately become part of the RIP after an IRRP is complete.

### 6 **Communication of the new Regional Planning process and Results**

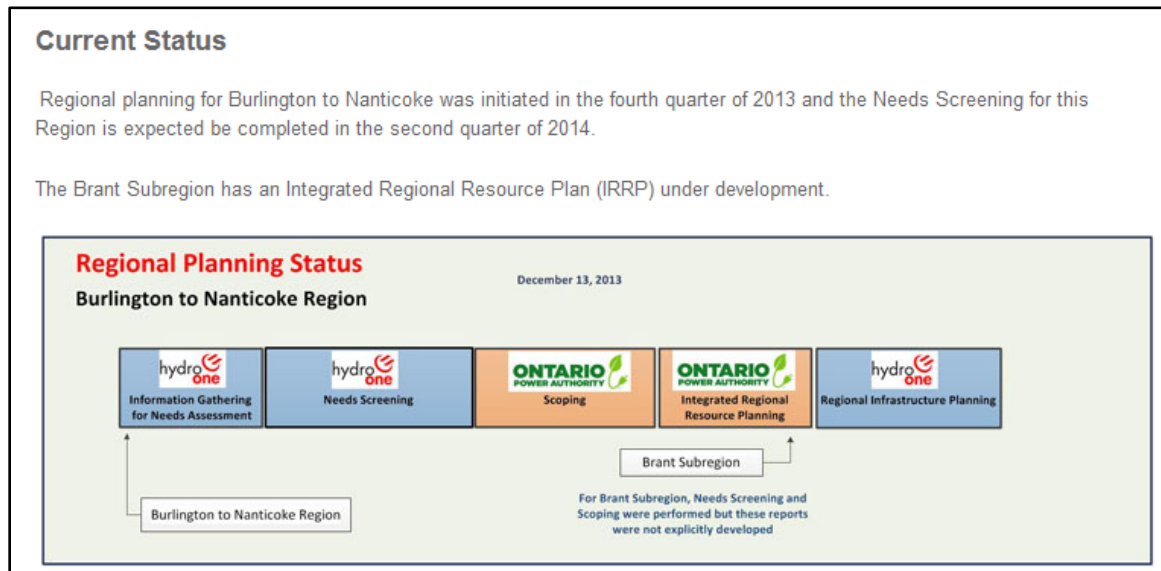
7 To facilitate the Regional Planning process, Hydro One and the OPA developed and  
8 launched Regional Planning websites. The two websites are interlinked and provide the  
9 geographical location of the regions, a brief description of their main characteristics and  
10 the current status of activities with regards to the Regional Planning process. Results such  
11 as final reports from the various steps of the Regional Planning process will be posted on  
12 the websites, as required by the TSC. A sample of the information provided on the Hydro  
13 One website for the Burlington to Nanticoke Region is provided in Figures 3 and 4.

14  
15 **Figure 3: Planning Region Description**



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**Figure 4: Regional Planning Status**



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#### 4.1 Needs screening

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6 Needs Screening is the first step in the Regional Planning process. In November 2013,  
7 Hydro One began organizing conference calls for the regions in Group 1, followed by  
8 meetings in January 2014 in order to outline the new regional planning process and  
9 discuss Needs Screening with relevant regional LDCs, the OPA and the IESO. As of  
10 April 2014, Needs Screening required for all of the regions or subregions in Group 1 has  
11 been initiated.

12

13 In the transition to the new regional planning process, the regions or subregions for which  
14 planning activities were already underway, the Needs Screening and Scoping Assessment  
15 are deemed complete, with the exception of the Northwest Region. These studies are in  
16 different stages of IRRP and further details are discussed in Section 4.2.

1 **4.2 Status of regional planning activities**

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3 The status of regional planning activities for the Group 1 regions for which Hydro One is  
4 the lead transmitter is as follows:

5  
6 **Regions in Group 1**

7  
8 **i) Burlington to Nanticoke**

9 Hydro One has requested and received, from distributors in the region, the OPA and  
10 the IESO, the data required to complete the Needs Screening for the Burlington to  
11 Nanticoke region. The Needs Screening for this region began in late March 2014 and  
12 will be complete by late May, 2014.

13  
14 **Brant Subregion (Burlington to Nanticoke)**

15 The OPA is developing an IRRP for the Brant subregion and Hydro One is  
16 participating on these efforts. In light of new information that has been brought to  
17 light recently by relevant LDCs, LDCs must update their load forecasts. As a result,  
18 the timeline for the subregion's IRRP is being reviewed by the OPA. It is expected  
19 that the IRRP will be complete by the end of 2014. In addition, the OPA has issued a  
20 handoff letter to Hydro One requesting Hydro One, in consultation with relevant  
21 LDCs, to begin development of a wires solution to address near-term needs in the  
22 Brant area. This letter is included as Attachment 1 to this Exhibit.

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24 **ii) Greater Ottawa**

25 The Greater Ottawa region consists of two subregions: the Outer Ottawa subregion  
26 and the Ottawa subregion.

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**Outer Ottawa Subregion**

Hydro One has requested information required for Needs Screening from LDCs in the Outer Ottawa subregion, the OPA and the IESO. Hydro One expects the finalized data to be available in early May, 2014. Accordingly, Hydro One expects the Needs Screening for this subregion to be complete in July 2014.

**Ottawa Subregion**

The OPA is developing an IRRP for this subregion - it is expected that the IRRP will be complete by Q1 2015. A near-term need for a new transformer station has been identified. Hydro One has started planning construction of the new station, Orleans TS, in the Ottawa subregion.

**iii) GTA North**

The GTA North region consists of two subregions: the York subregion and the Western subregion.

**Western Subregion**

Hydro One has requested the data required for Needs Screening from LDCs in the Western subregion, the OPA and the IESO. Hydro One expects the finalized data to be available in mid April, 2014, and the Needs Screening to be complete in June, 2014.

**York Subregion**

The OPA is developing an IRRP for the York subregion – it is expected that the IRRP will be complete by Q1 2015. Currently, IRRP assessments have identified two near-term wires solutions, and the OPA has issued a handoff letter to Hydro One requesting that the two proposed solutions be studied in more detail. This letter is

1 included as Attachment 2 to this Exhibit. Hydro One is carrying out assessments and  
2 will be developing wires solutions to address near-term needs in the York subregion.

3

4 **iv) GTA West**

5 The GTA West region consists of two subregions: the Northwestern subregion and  
6 the Southern subregion.

7

8 **Southern Subregion**

9 Hydro One has requested the data required for Needs Screening from LDCs in the  
10 Southern subregion, the OPA and the IESO. Finalized data is available as of early  
11 April, and Hydro One expects the Needs Screening to be complete in June, 2014.

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13 **Northwestern Subregion**

14 The OPA is developing an IRRP for the Northwestern subregion - it is expected that  
15 the IRRP will be complete by Q2 2015.

16

17 **v) GTA East**

18 Hydro One has requested the data required for Needs Screening from LDCs in the  
19 GTA East region, the OPA and the IESO. Hydro One expects finalized data to be  
20 available in late May 2014, and the Needs Screening to be complete in July 2014.

21

22 **vi) Kitchener-Waterloo-Cambridge-Guelph (“KWCG”)**

23 The OPA is developing an IRRP for the KWCG region – it is expected that the IRRP  
24 will be complete by Q4 2014. The OPA has issued a handoff letter to Hydro One,  
25 requesting that Hydro One undertake further assessment to develop transmission  
26 options and alternatives to address near and medium term needs in the region. This  
27 letter is included as Attachment 3 to this Exhibit. Two wires plans have been  
28 identified to address the near and medium term needs in this region: (1) the Guelph

1 Area Transmission Reinforcement (GATR) project, and (2) the second Preston auto-  
2 transformer project. The GATR Leave to Construct application filed by Hydro One  
3 has been approved by the OEB. These assessments and any resulting investments in  
4 infrastructure solutions will ultimately become part of the RIP after an IRRP is  
5 complete. The GATR and Preston investments are included in this application in  
6 Exhibit D1, Tab 3, Schedule 3.

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8 **vii) Metro Toronto**

9 The Metro Toronto region consists of two subregions: the Northern subregion and  
10 Central-Downtown subregion.

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12 **Northern Subregion**

13 Hydro One has requested the data required for Needs Screening from LDCs in the  
14 Northern subregion, the OPA and the IESO. Hydro One expects finalized data to be  
15 available in mid April 2014, and the Needs Screening to be complete in June, 2014.

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17 **Central-Downtown Subregion**

18 The OPA is developing an IRRP for this subregion - it is expected that the IRRP will  
19 be complete by Q4 2014. The OPA has issued a handoff letter to Hydro One,  
20 requesting that Hydro One look at transmission options to address near-term needs of  
21 the subregion. This letter is included as Attachment 4 to this Exhibit. These  
22 assessments and any resulting investments in infrastructure solutions will ultimately  
23 become part of the RIP after the IRRP is complete.

24

25 **viii) Northwest Ontario**

26 The Northwest is a large region with diverse needs. The OPA is already leading  
27 planning activities in six sub-areas of the region and collecting information and load  
28 forecasts from relevant industrial proponents in these sub-areas.

1 Hydro One Transmission discussed the Regional Planning process and a formal  
2 Needs Screening for the Northwest Ontario Region with representatives from Kenora  
3 Hydro Electric Corp., Fort Frances Power Corp., Atikokan Hydro Inc., Sioux  
4 Lookout Hydro Inc., Thunder Bay Hydro Corp., Chapleau Public Utilities Corp.,  
5 Hydro One Distribution, the OPA and the IESO. The participants recognized that  
6 significant planning work is already underway to address several needs in the region.  
7 As a result, it was agreed that Hydro One collect LDCs' specific information and  
8 updated load forecasts and move the process forward to the OPA-led Scoping  
9 process. The data will be provided to the OPA to augment studies in the Scoping  
10 Process phase of Regional Planning. The OPA will consider this information as part  
11 of their assessments in developing a Northwest IRRP.

12  
13 **ix) Windsor Essex**

14 The OPA and Hydro One have been monitoring developments in the Windsor-Essex  
15 region since 2011. The OPA is developing an IRRP for the region – it is expected that  
16 the IRRP will be complete by Q4 2014. Currently, the study has identified a new  
17 transformer station in Leamington, Leamington TS, to address near and medium-term  
18 needs of the area. To facilitate this project, Hydro One submitted a Leave to  
19 Construct application to the Board in January 2014, for construction of 13 km of new  
20 230 kV double circuit line to supply the proposed Leamington TS and this investment  
21 is included in this application in Exhibit D1, Tab 3, Schedule 3.

22  
23 **Regions in Group 2 and Group 3**

24  
25 The Regional Planning process has not been initiated for the regions in groups 2 and 3.  
26 As was the case for the regions in group 1, Hydro One will engage the relevant  
27 stakeholders in each region prior to launching any regional planning activities. Regional

1 planning activities for regions in Group 2 and Group 3 are expected to begin in the fourth  
2 quarter of 2014 and fourth quarter of 2015 respectively.

3

#### 4 **4.3 Planning Status Letters**

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6 As required by the TSC, Hydro One has been providing Planning Status Letters to LDCs  
7 upon request, confirming the status of regional planning and detailing any planned  
8 investments in the relevant regions. The following LDCs have been issued Planning  
9 Status Letters by Hydro One as of April, 2014:

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- Cambridge and North Dumfries Hydro Inc.
- Chapleau Public Utilities Corporation
- EnWin Utilities Inc.
- Fort Frances Power Corporation
- Haldimand County Hydro Inc.
- Hearst Power Distribution Company Limited
- Horizon Utilities Corporation Inc.
- Hydro One Brampton Networks Inc.
- Hydro One Networks Inc. (Distribution)
- Niagara-On-The-Lake Hydro Inc.
- North Bay Hydro Distribution Ltd.
- Oakville Hydro Electricity Distribution Inc.
- Oshawa PUC Networks Inc.
- Veridian Connections Inc.
- Woodstock Hydro Services Inc.