Regional Infrastructure Planning

Process Planning Working Group
Presentation to LDCs
November, 2013
Presentation Outline

● Context for Regional Infrastructure Planning

● Description of Regional Planning process

● Key features of Regional Infrastructure Planning (RIP) Process

● Transition and Implementation

● Regional planning websites (OPA/Hydro One)
Context for Regional Infrastructure Planning


- Board’s RRFE Report (Oct. 18, 2012) set out 3 main policies
  - 3 Rate Setting Methods for LDCs
  - Planning
    - Distribution Network Planning
    - Regional Infrastructure Planning
  - Defining & Measuring Performance

- 5 Working Groups established
  - Distribution Investment Planning, Performance & Benchmarking, Smart Grid, Regional Infrastructure Planning, Asset Redefinition

- May 2013: Process Planning Working Group (PPWG) Report endorsed by the OEB

- Today’s focus - Regional Infrastructure Planning
Objectives of the RIP Process

- A more structured and transparent approach to Regional Infrastructure Planning
- Assessment and planning to support timely identification and implementation of solutions
- Coordinated regional planning to ensure cost effective and efficient wires expansion
- Coordinate with the IRRP process to account for integrated (i.e. non-wires) solutions
- Support LDC rate applications
- Support transmitter rate and LTC (s.92) applications
Background and Highlights of Planning

- Power system planning involves the assessment of electrical needs (near, mid & long term) and the development of resources (generation & CDM) and wires (to connect and deliver power from resources to loads) to meet those needs.

- OPA has been the mid [5 - 10 years] & long term [10 - 20 years] system planner at the bulk and regional level, including planning for resources and wires.

- Transmitter conducts wires planning in coordination with:
  - OPA on Inter-area Network and Local Area facilities; and
  - more directly with customers on connection facilities.

- LDCs conduct wires (and resource) planning at distribution level and coordinate with Transmitter and OPA for mainly transmission supply facilities.
What is Regional Infrastructure Planning?

- Regional Infrastructure Planning:
  - Focuses on planning of wires (mainly Tx and some Dx)
  - Where needs are driven by regional considerations, coordinates planning of wire facilities at the bulk transmission and distribution levels
  - Coordinates, where required, transmission supply facilities to LDCs and other customers

- Regional Infrastructure Planning does NOT plan:
  - Bulk transmission facilities except where such facilities are driven by regional needs or provide an alternative solution
  - Distribution facilities except where such facilities are driven by regional needs
  - Resources (i.e. Generation and CDM) at bulk, regional and distribution level
Bulk System Planning
- 500 kV & 230 kV transmission
- Interconnections
- Inter-area network transfer capability
- System reliability (security and adequacy) to meet NERC, NPCC, ORTAC
- Congestion and system efficiency
- System supply and demand forecasts
- Incorporation of large generation
- Typically medium- and long-term focused

Regional Planning
- 230 kV & 115 kV transmission
- 115/230 kV autotransformers and associated switchyard facilities
- Customer connections
- Load supply stations
- Regional reliability (security and adequacy) to meet NERC, NPCC & ORTAC
- ORTAC local area reliability criteria
- Regional/local area generation & CDM resources
- Typically near- & medium-term focused

Distribution Network Planning
- Transformer stations to connect to the transmission system
- Distribution network planning (e.g. new & modified Dx facilities)
- Distribution system reliability (capacity & security)
- Distribution connected generation & CDM resources
- LDC demand forecasts
- Near- & medium-term focused
Regional Planning Process
Regional Infrastructure Planning Features (1)

- A structured and more formal approach with regular reporting:
  - 21 electrically based regions will help study efficiency and manageability
  - Planning reports for all regions will be done in 3-5 year cycles
  - Planned solutions to meet regional supply needs
  - Support LDC and Transmitter planning activities
  - RIP annual status updates to the Board

- Increased transparency of plan scoping and development

- Recognizes need for coordination with OPA’s IRRP process
Regional Infrastructure Planning Features (2)

- With three possible outcomes, RIP provides for the appropriate level of planning coordination:
  - No regional coordination needed
  - Regional coordination of wires only
  - Regional coordination of resources (CDM & generation) and wires

- Sufficiently flexible to accommodate varying levels of planning complexity, diversity of issues, and timing of needs

- Planning at sub-regional level can be done independently where appropriate

- Seeks to streamline the planning process where possible
Transmitter Key Deliverables

Intermediate Products
- Initial steps in Regional Planning process
- Needs Screening /Assessment Report
  - Determines if regional planning needed and, if so, LDCs to be active participants

Final Products
- Planning Status Update Letters
- Periodic RIP Status updates to the OEB
- Regional Infrastructure Plan
  - Recommended ‘wires’ solutions
  - Implementation plan
  - Project timelines and monitoring
OPA Key Deliverables

Intermediate Product
- Scoping Process Outcome Report
  - Includes preliminary Terms of Reference
  - Identifies planning approach - IRRP or RIP only

Final Product
- Integrated Regional Resource Plan (IRRP)
  - Stakeholdering where appropriate
  - Hand-off letter to transmitters for “wires only” planning
  - Resource implementation plan
  - Project timelines and monitoring
RIP Transition

- Up to 4 years to complete first cycle
- 21 Regions are prioritized into 3 groups based on expected need, geographic and resource considerations
  - Group 1 - (underway – 2014)
  - Group 2 - (2014 – 2015)
  - Group 3 - (2015 – 2016)
- Regions in Group 1 have planning activities underway for some or all parts of the region
- Board endorsed Standing Committee to be established
  - Facilitated by OEB staff and comprised of LDCs, transmitters, OPA and other interest groups
  - Regular reviews of the process and regional makeup
  - Recommends changes based on ‘lessons learned’
  - Advises industry of any process/region changes
## 21 Preliminary Regions

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<thead>
<tr>
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## Implementation Status

1. PPWG Report Finalized and posted on OEB site. (May 17, 2013) **Complete**
2. Conference call with Transmitters to discuss RIP and solicit input on prioritization. **Complete**
3. Webinar with LDCs to introduce RIP process developed by PPWG and solicit feedback **Complete**
4. Letters from Transmitters to LDCs informing what regions the LDCs belong to and asking for comments on prioritization and other issues **In-progress**
5. Processing Planning Status Update Letter requests **On-going**
6. Webinar for the broader industry/Interested parties to discuss RIP **to be initiated in November**
Websites to Support Regional Planning

- Hydro One RIP activities
  http://www.hydroone.com/RegionalPlanning

- OPA IRRP activities
  http://www.powerauthority.on.ca/power-planning/regional-planning

- Hydro One and OPA sites inter-linked with each other and with the OEB website

- Provides full planning picture for a Region

- During transition not all material may not be consistent or complete (work in progress)
REGIONAL PLANNING

Regional planning is designed to ensure electricity infrastructure is adequate and reliable to meet a region’s needs.

For planning purposes, Ontario has been divided into 21 regions as shown on the map below. Regional plans for these 21 regions have been divided into three groups: active, upcoming and future. The priority of a regional plan may change after receiving feedback from Local Distribution Companies (LDCs). There are several planning studies/assessments in transition and this website provides relevant information and status reports for each. Information will be updated on an ongoing basis as plans are developed and results become available. Where applicable, Hydro One’s website links to relevant documents on the Ontario Power Authority (OPA) and Ontario Energy Board (OEB) websites. These coordinated websites will provide a complete picture regarding the regional planning status and information for each of the regions.

When Hydro One is identified as the lead transmitter, our primary roles are to conduct a Needs Assessment and to develop a Regional Infrastructure Plan. More about the process.

More details and documents may be viewed by mousing over a region and clicking on the coloured circle. Filter your view by unchecking the boxes below.
Hydro One Website – Landing Page (2)

Regions

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Burlington to Nanticoke

Region Overview

Burlington to Nanticoke Region comprises the municipalities of Burlington, Hamilton, Oakville, Brantford, Brant County, Haldimand County, and Norfolk.

Region’s Local Distribution Companies

Brant County Power Inc.       Horizon Utilities Corporation
Brantford Power Inc.          Hydro One Networks Inc.
Burlington Hydro Inc.          Norfolk Power Distribution Inc.
Haldimand County Hydro Inc.   Oakville Hydro Electricity Distribution Inc.

Current Status

Hydro One expects that Regional planning for Burlington to Nanticoke will commence in the fourth quarter of 2013. The Brant Area is a sub-region within the Burlington to Nanticoke region. This sub-region currently has an Integrated Regional Resource Plan (IRRP) under development.
Sub Region: Brant

The area encompasses the County of Brant, City of Brantford and surrounding areas. This area has an estimated population of over 136,000 people, and the electricity demand mix is comprised of residential, commercial and industrial uses.

The electricity supply to this area is provided by three stepdown stations - Brant TS, Powerline MTS and Brantford TS. The coincident peak demand of the three stations in summer 2012 was approximately 250MW.

Relevant Documents

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OPA Website Screenshots
OPA Regional Planning Website – Main Page (1)

Power System Planning

Regional Planning

The OPA conducts regional planning through its Integrated Regional Resource Planning (IRRP) process, where local stakeholders collaborate in the development of integrated solutions for maintaining a reliable supply of electricity to Ontario communities. The map below shows Ontario’s 21 electricity regions.

The objective of the IRRP process is to develop long-term electricity plans that thoughtfully integrate all relevant resource options, such as conservation and demand management, distributed generation, large-scale generation, transmission and distribution.

Read more on the regional planning process »

Map instructions: Mouse over a circle to see a summary for that region. Click a circle for more details on that region.

Legend

Filter your view by checking the boxes below.

- active
- upcoming
- future

Resources

- Send us your feedback »
- Subscribe to updates on planning in your region »
- Regional Planning at Hydro One »
- Regional Planning at the OEB »
Ontario’s 21 Electricity Regions

Regions

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Burlington to Nanticoke

The map below represents the boundaries for the Burlington to Nanticoke region, which is located in Southern Ontario.

Within the Burlington to Nanticoke region, an Integrated Regional Resource Plan is currently being developed for the Brant area specifically.

Learn more about the Brant IRRP »

General information on the full Burlington to Nanticoke region will be posted on this page.
Member Organizations – Planning Process Working Group

- Association of Major Power Consumers of Ontario (AMPCO)
- Association of Municipalities of Ontario (AMO)
- Association of Power Producers of Ontario (APPrO)
- Consumers Council of Canada (CCC)
- Great Lakes Power Transmission Inc.
- Guelph Hydro Electric Systems Inc.
- Hydro One Networks Inc. (Distribution)
- Hydro One Networks Inc. (Transmission)
- Innisfil Hydro Distribution Systems Ltd.
- Milton Hydro Distribution Inc.
- Ontario Power Authority (OPA)
- PowerStream Inc.
- Thunder Bay Hydro Electricity Distribution Inc.
Questions and Feedback?