

2009 NYSEG and RG&E Local Transmission Owner Planning Process and Results

In Compliance with FERC Order Number 890

The New York ISO, in compliance with FERC Order Number 890, issued the document “Attachment Y: New York ISO Comprehensive System Planning Process” which describes “the process that the NYISO, the Transmission Owners, and Market Participants and other interested parties shall follow for planning to meet the reliability needs of the New York State Bulk Power Transmission Facilities (‘BPTFs’). The objectives of the process are to: (1) evaluate the reliability needs of the BPTFs pursuant to Reliability Criteria; (2) identify, through the development of appropriate scenarios, factors and issues that might adversely impact the reliability of the BPTFs; (3) provide a process whereby solutions to identified needs are proposed, evaluated on a comparable basis, and implemented in a timely manner to ensure the reliability of the system; (4) provide an opportunity for the development of market-based solutions while ensuring the reliability of the BPTFs; and (5) coordinate the NYISO’s reliability assessments with neighboring Control Areas.”

Further, subsection A.1.2 of Attachment Y states that “the Transmission Owners will continue to plan for their transmission systems, including the BPTFs and other NYS Transmission System facilities. The planning process of each Transmission Owner is referred to ... as the Local Transmission Owner Planning Process (‘LTPP’), and the plans resulting from the LTPP are referred to ... as Local Transmission Plans (‘LTPs’), whether under consideration or finalized. Each Transmission Owner will be responsible for administering its LTPP and for making provisions for stakeholder input into its LTPP ... The finalized portions of the LTPs periodically prepared by the Transmission Owners will be used as inputs to the Reliability Planning Process.”

Subsection B.4.1 of Attachment Y states that “each Transmission Owner will post on its website the planning criteria and assumptions used in its current LTPP as well as a list of any applicable software and/or analytical tools used in the LTPP. Any planning criteria or assumptions for a Transmission Owner’s BPTFs will meet or exceed any applicable NERC, NPCC or NYSRC criteria. The LTPP shall include a description of the needs addressed by the LTPP as well as the assumptions, applicable planning criteria and methodology utilized. A link to each Transmission Owner’s website will be posted on the NYISO website.”

Subsection B.4.2 of Attachment Y states that “each Transmission Owner, in accordance with a schedule set forth in the NYISO’s Comprehensive Reliability Planning Process Manual, will post its current LTP on its website for review by Customers and Market Participants and comment by interested parties sufficiently in advance of the time for submission to the NYISO for input to its

RNA so as to allow adequate time for stakeholder review and comment. Each LTP will include: identification of the planning horizon covered by the LTP, data and models used, issues addressed, potential solutions under consideration, and a description of the transmission facilities covered by the plan.”

This posting addresses the requirements as stated in Section B.4 of Attachment Y.

Transmission Facilities Covered by the Plan

The transmission system consists of Bulk Power, Local transmission (non-Bulk Power), and within the City of Rochester, 11 kV Network facilities.

Bulk Power facilities are defined as those facilities whose performance affects the reliability of supply to other utilities and customers beyond the local area. The Bulk Power System consists primarily of generating plants usually greater than 300 MW and transmission facilities operating at 230 kV, and above. Smaller generating plants and lower voltage transmission may also be considered part of the Bulk Power System if the loss of such facilities may result in a measurable negative impact on the reliability outside of the local area. The Bulk Power System is designed and operated to specifications contained in the New York State Reliability Council (NYSRC) Reliability Rules for Planning and Operating the New York State Power System, dated January 9, 2009, the Northeast Power Coordinating Council (NPCC) Basic Criteria for Design and Operation of Interconnected Power Systems, dated May 6, 2004, and the North American Electric Reliability Council (NERC) Planning Standards, dated October 2008.

Local transmission facilities are defined as those transmission line and substation facilities that are primarily used to supply local area load or large industrial customers. The Local transmission system generally consists of facilities that operate between 115 kV and 34.5 kV. However, some 34.5 kV is dedicated to serving customers. Facilities like these are referred to as ‘Grounded Distribution’ and are not considered part of the transmission system.

RG&E supplies a portion of the City of Rochester from Network facilities that are operated at distribution-level voltages (11 kV). However, since these Network facilities are operated in parallel with the 115 and 34.5 kV transmission systems, they are considered an extension of the transmission system.

Planning Criteria

For all voltage levels of the Bulk Power System and of the Local Transmission System, the applicable NYSEG and RG&E planning criteria used

for the local transmission owner planning process are described in the System Planning Department document, *NYSEG and RG&E Transmission Planning Criteria*¹ dated July 2009.

For the Bulk Power System, i.e., 230 kV and higher, the reliability criteria used in the Local Transmission Owner Plan (LTP) follow the electric power system planning and operating policies, standards, criteria, guidelines, procedures, and rules promulgated by the North American Electric Reliability Council (“NERC”), Northeast Power Coordinating Council (“NPCC”), and the New York State Reliability Council (“NYSRC”), as they may be amended from time to time. These include the reliability criteria described in Table 1, entitled “Transmission System Standards – Normal and Emergency Conditions,” from the NERC documents for normal system conditions,² single-element contingency,³ multiple-element contingency,⁴ and extreme contingencies.⁵ These also include the NPCC Transmission Design Criteria⁶ and the NYSRC Reliability Rules⁷ with respect to the NYSRC-defined Design Criteria Contingencies and Extreme Contingencies.

The Local Transmission Plans for NYSEG and RG&E have been completed. In formulating the LTPs, the NYSEG and RG&E transmission planning thermal criteria, voltage criteria, and flicker voltage criteria were used.

Assumptions and Methodology Currently Used

LTP is performed for a specific division. For a specific division, its own coincident peak load value is used. However, this division peak load value is non-coincident with other division peak load values. Thus, the sum total of the non-coincident peak load values for all NYSEG divisions exceeds the corresponding sum total of the coincident peak load values for all NYSEG divisions, as in the NYISO base case model. The load growth rate for a specific NYSEG division within its service area is calculated using a regression line analysis. The calculated load growth rate is then used to determine associated peak load levels for the specific division in any specific future year. RG&E was done using an RG&E set of coincident peak loads and load growth. When a problem is identified and a solution is sought for a specific division at any point in time, the division load growth rate is used to calculate the forecasted division peak loads and to determine the timing of the reinforcement.

Applicable Software and/or Analytical Tools Used in the Local Transmission Owner Plan (LTP)

The PSSE Power Flow Software (Version 29.2) was used for the currently concluded LTP.

Planning Horizon Covered by the LTP

The study period is the ten-year period from 2009 to 2018.

Data and Models Used

The most recently available ATRA load-flow model at the time the planning studies were conducted, i.e., the Class 2007 Case from the NYISO, was used. The list of interconnection projects included in the Class 2007 ATRA Case, taken from Table E-1 of the NYISO report “CY07FacilitiesStudyReportPart2-SUFs-Final.pdf”, is shown in Appendix A.

The NYISO, with input from the Transmission Owners (as reflected in the NYISO Gold Book, the 2008 Load and Capacity Data), on changes to their transmission system and on their load forecast, develops a summer model for the entire New York system. This provides the model for areas outside the NYSEG and RG&E systems. Aggregate load levels for the NYISO Control Area Load Zones A, B, C, D, F, and G were also adjusted in the load-flow model to correspond to the aggregate load levels provided in the NYISO Gold Book, for every year within the ten-year study period.

The non-coincident summer and winter peak load values and associated growth rates used in the LTP, for specific NYSEG divisions and RG&E districts, are listed in the following table:

Division / District	Summer '09 Peak Load	Summer Growth Rate	Winter '09-'10 Peak Load	Winter Growth Rate
Auburn (NYSEG)	167.5 MW	2.1%	152.8 MW	1.0%
Binghamton (NYSEG)	397 MW	2.4%	346.3 MW	1.0%
Brewster (NYSEG)	356.2 MW	2.3%	338.8 MW	2.0%
Elmira (NYSEG)	274.3 MW	1.0%	226.9 MW	0.6%
Geneva (NYSEG)	205.6 MW	0.40%	210.9 MW	1.0%
Gowanda (NYSEG)	20.7 MW	1.0%	18.7 MW	1.0%
Hornell (NYSEG)	111 MW	2.7%	99 MW	0.9%
Ithaca (NYSEG)	193.4 MW	1.5%	176.5 MW	1.0%
Lancaster (NYSEG)	516.6 MW	1.2%	435.6 MW	1.0%
Liberty (NYSEG)	155.8 MW	1.7%	126.8 MW	1.4%
Lockport (NYSEG)	69.9 MW	0.60%	59.1 MW	1.0%
Mechanicville (NYSEG)	140.7 MW	2.5%	139.7 MW	1.7%
Oneonta (NYSEG)	217.3 MW	1.5%	258.2 MW	1.2%
Plattsburgh (NYSEG)	121.2 MW	2.3%	133.1 MW	1.6%
Canandaigua (RG&E)	149 MW	2.0%	122 MW	0%
Genesee Valley (RG&E)	48 MW	2.0%	60 MW	0%
Lakeshore (RG&E)	90 MW	2.0%	81 MW	0%
Rochester (RG&E)	1491 MW	2.0%	961 MW	0%

Issues Addressed and Potential Solutions Being Considered

New York State Electric & Gas

Auburn Division

Binghamton Division

Brewster Division

Elmira Division

Geneva Division

Gowanda Division

Hornell Division

Ithaca Division

Lancaster Division

Liberty Division

Lockport Division

Mechanicville Division

Oneonta Division

Plattsburgh Division

Rochester Gas and Electric

Canandaigua Finger Lakes Area District

Genesee Valley District

Lakeshore Area District

Rochester Central District

September 30, 2009 - 2009 NYSEG and RG&E Local Transmission Owner Planning Process and Results Posted to the NYISO Web Site.

October 14, 2009 – Planning Process and Results Presented to the Joint Meeting of the TPAS and ESPWG at the NYISO.

November 13, 2009 – Written Comments Due From Interested Parties to:

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1. New York State Electric & Gas, Corp. and Rochester Gas and Electric, Corp., System Planning Department, *NYSEG and RG&E Transmission Planning Criteria*, July 2009, Binghamton, NY.

2. North American Electric Reliability Corp., "System Performance Under Normal Conditions," *Reliability Standards*, TPL-001-0.1, 4-5, 29 October 2008, http://www.nerc.com/files/TPL-001-0_1.pdf

3. North American Electric Reliability Corp., "System Performance Following Loss of a Single BES Element," *Reliability Standards*, TPL-002-0, 4-5, 30 July 2008, <http://www.nerc.com/files/TPL-002-0a.pdf>

4. North American Electric Reliability Corp., "System Performance Following Loss of Two or More BES Elements," *Reliability Standards*, TPL-003-0, 4-5, 30 July 2008, <http://www.nerc.com/files/TPL-003-0a.pdf>

5. North American Electric Reliability Corp., "System Performance Following Extreme BES Events," *Reliability Standards*, TPL-004-0, 4-5, 2 February 2005, <http://www.nerc.com/files/TPL-004-0.pdf>

6. Northeast Power Coordinating Council, "Transmission Design Criteria," *Basic Criteria for Design and Operation of Interconnected Power Systems*, 5-7, 6 May 2004, <http://www.npcc.org/documents/regStandards/Criteria.aspx>

7. New York State Reliability Council, "Transmission Capability - Planning," *NYSRC Reliability Rules for Planning and Operating the New York State Power System*, Version 23, 9 January 2009, <http://www.nysrc.org/pdf/Documents/RRManualVer23Final1-9-09.pdf>