



**NEW YORK  
INDEPENDENT SYSTEM OPERATOR**

**ANNUAL  
TRANSMISSION PLANNING  
AND  
EVALUATION REPORT**

***(FERC FORM NO. 715)***

April 2011

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*New York Independent System Operator  
10 Krey Boulevard, Rensselaer, New York 12144*

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## *About the New York Independent System Operator*

The New York Independent System Operator, Inc. (NYISO), headquartered in Rensselaer, New York, is an independent, nonprofit corporation established to ensure the continued reliable operation of the New York State (NYS) bulk electric system, and to facilitate the wholesale electricity markets throughout the State. NYISO began operation on November 18, 1999, and formally assumed responsibility for operation of the bulk electric system from the New York Power Pool (NYPP) on December 1, 1999. NYISO is regulated by the Federal Energy Regulatory Commission (FERC).

NYISO provides for reliable and efficient operation of the NYS bulk electric system by coordinating operation of the state's bulk power transmission facilities, and by committing and dispatching generation resources throughout the state on a single-system basis, in accordance with prescribed reliability rules. NYISO coordinates transmission service and facilitates the state's wholesale electricity markets through the *NYISO Open Access Transmission Tariff (OATT)*, the *NYISO Market Administration and Control Area Services Tariff*, and various agreements. NYISO also performs studies in support of planning of the NYS electric system, and to evaluate the impact of proposed interconnections of new generation, transmission, and load facilities to the transmission system.

The NYS electric system is part of a continental power system. NYISO is a registered entity of the North American Electric Reliability Corporation (NERC), an organization whose mission is to ensure the reliability of the North American bulk power system. NYISO is also a member of the Northeast Power Coordinating Council (NPCC), which is one of eight regional entities of the NERC covering the region comprised of New York, New England, Ontario, Quebec, and the Maritimes (New Brunswick, Nova Scotia, and Prince Edward Island). Together, NERC and the regional entities establish reliability standards for the interconnected electric systems, and monitor the compliance of the industry participants, and organizations such as the NYISO, to those standards. In addition, NYISO is also subject to the reliability rules of the New York State Reliability Council (NYSRC), an organization established to address the special reliability needs of NYS.

NYISO conducts transmission operation and planning activities in coordination with the six transmission owners and two transmission operators in NYS, which are:

- ◆ Central Hudson Gas & Electric Corporation
- ◆ Consolidated Edison Company of New York, Inc.
- ◆ Long Island Power Authority
- ◆ New York Power Authority
- ◆ New York State Electric & Gas Corporation
- ◆ Niagara Mohawk, A National Grid Company
- ◆ Orange and Rockland Utilities, Inc.
- ◆ Rochester Gas and Electric Corporation

*New York Independent System Operator 2011*

***ANNUAL TRANSMISSION PLANNING AND EVALUATION REPORT***

***(FERC Form No. 715)***

***CONTENTS***

<b>FOREWORD</b>	.	.	.	.	1
<b>Part 1</b> Identification and Certification	.	.	.	.	2
<b>Part 2</b> Power Flow Base Cases	.	.	.	.	12
<b>Part 3</b> Transmitting Utility Maps and Diagrams	.	.	.	.	15
<b>Part 4</b> Transmission Planning Reliability Criteria	.	.	.	.	16
<b>Part 5</b> Transmission Planning Assessment Practices	.	.	.	.	19
<b>Part 6</b> Evaluation of Transmission System Performance	.	.	.	.	22
<b>Appendix A</b> Form for Requesting NYISO FERC 715 Information					



*New York Independent System Operator 2011*

**ANNUAL TRANSMISSION PLANNING AND EVALUATION REPORT**

**(FERC Form No. 715 Report)**

**FOREWORD**

This is the NYISO Annual Transmission Planning and Evaluation Report (FERC Form No. 715 or FERC 715) for 2011. NYISO is submitting a paperless filing again this year. This report was prepared in accordance with the FERC Form No. 715 instructions and in accordance with the requirements for a paperless filing.

In 2000, NYISO assumed responsibility for filing the annual FERC 715 report on behalf of the transmitting utilities of NYS, a responsibility previously performed by the NYPP. Among other things, NYISO conducts transmission planning activities in coordination with the six transmission owners and two transmission operators in NYS, each of which are “transmitting utilities” as defined by the Federal Energy Regulatory Commission (FERC). These transmission owners and operators are identified in Part 1 of this report.

This report consists of six parts, corresponding to the six parts specified in the FERC 715 instructions. Where appropriate, only references are provided for documents that were provided in a previous FERC 715 report and have not changed, in accordance with the FERC 715 instructions. For Part 3, all the most recent maps and diagrams are provided in PDF files, in accordance with the requirements for a paperless filing.

Parts 2, 3, and 6 have been labeled as Critical Energy Infrastructure Information (CEII), as has been NYISO’s practice. NYISO understands that this entire filing will be considered CEII material by FERC and handled accordingly.

Portions of this report will be available from the NYISO public web site ([www.nyiso.com](http://www.nyiso.com)). Access to other portions of the report NYISO considers to be restricted information, i.e., maps, diagrams, and power flow base cases, will be restricted to parties that obtain or have the proper authorization. A form for requesting restricted information contained in this report is provided in Appendix A.

The information contained in this report pertains to NYISO transmission planning and evaluation matters in general, and is valid as of the April 1, 2011 filing date. In the event that this information may be used for a specific purpose, it may be advisable to contact NYISO or the appropriate transmitting utility contact person(s), identified in Part 1 of this report, to ascertain whether this information is appropriate and sufficient for the intended purpose.

*New York Independent System Operator 2011*

*FERC Form No. 715 Report*

**Part 1 Identification and Certification**

ORGANIZATION NAMES AND ADDRESSES

New York Independent System Operator  
10 Krey Boulevard  
Rensselaer, NY 12144

Central Hudson Gas & Electric Corporation  
284 South Avenue  
Poughkeepsie, NY 12601-4879

New York State Electric & Gas  
Corporation  
18 Link Drive  
Binghamton, NY 13904

Consolidated Edison Company of New York, Inc.  
4 Irving Place  
New York, NY 10003

Niagara Mohawk, A National Grid  
Company  
300 Erie Boulevard West  
Syracuse, NY 13202

Long Island Power Authority  
333 Earle Ovington Boulevard  
Suite 403  
Uniondale, NY 11553

Orange and Rockland Utilities, Inc.  
390 Route 59  
Spring Valley, NY 10977

New York Power Authority  
123 Main Street  
White Plains, NY 10601

Rochester Gas and Electric Corporation  
89 East Avenue  
Rochester, NY 14649

*New York Independent System Operator 2011*  
*FERC Form No. 715 Report*

**Part 1 Identification and Certification**

CONTACT PERSONS

<u>Organization</u>	<u>Contact Name/Title</u>	<u>Telephone/ Fax Nos.</u>
New York Independent System Operator	Steven L. Corey Manager, Interconnection Projects	518-356-6134 518-356-7524
Central Hudson Gas & Electric Corporation	Richard Wright Senior Engineer Electric Transmission Planning	845-486-5463 845-486-5697
Consolidated Edison Company of New York, Inc.	Francesco Elmi Technical Specialist Transmission Planning	212-460-3991 212-529-1130
Long Island Power Authority	Janos T. Hajagos Supervisor, Area Planning National Grid USA Service Co. Acting as agent for Long Island Power Authority	516-545-4831 516-545-4207
New York Power Authority	Arnold Schuff Manager, Transmission Planning	914-681-6395 914-681-6932
New York State Electric & Gas Corporation and Rochester Gas and Electric Corporation	Robert J. King Lead Engineer, System Planning	607-762-4234 607-762-8645
Niagara Mohawk	Carol A. Sedewitz Director of Transmission Planning National Grid USA Service Co. Acting as agent for Niagara Mohawk	781-907-2500 781-907-5706
Orange and Rockland Utilities, Inc.	Roleto Mangonon Transmission Planning Engineer	845-577-3326 845-577-3720

*New York Independent System Operator 2011*  
*FERC Form No. 715 Report*

**Part 1 Identification and Certification**

CERTIFICATION

I certify that, to the best of my knowledge, the information and data submitted in this form by NYISO staff, on behalf of the transmitting utilities identified in Part 1, is complete and accurate, and in compliance with the “Instructions for Completing Form 715 Annual Transmission Planning and Evaluation Report.”

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Steven L. Corey  
Manager, Interconnection Projects  
New York Independent System Operator

The certifications of the authorized officials of each of the transmitting utilities that provided information to NYISO for this filing are included in this part of the report.



*New York Independent System Operator 2011*  
*FERC Form No. 715 Report*

**Part 1 Identification and Certification**

CERTIFICATION

I certify that, to the best of my knowledge, the information and data provided by Central Hudson Gas & Electric Corporation (transmitting utility) to NYISO (designated agent) for this filing is accurate and in compliance with the “Instructions for Completing Form 715 Annual Transmission Planning and Evaluation Report.” I authorize NYISO staff to submit this information and data on our behalf.

---

Richard Wright  
Senior Engineer, Electric Transmission Planning  
Central Hudson Gas & Electric Corporation

*New York Independent System Operator 2011*  
*FERC Form No. 715 Report*

**Part 1 Identification and Certification**

CERTIFICATION

I certify that, to the best of my knowledge, the information and data provided by Consolidated Edison Company of New York, Inc. (transmitting utility) to NYISO (designated agent) for this filing is accurate and in compliance with the “Instructions for Completing Form 715 Annual Transmission Planning and Evaluation Report.” I authorize NYISO staff to submit this information and data on our behalf.

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Francesco Elmi  
Technical Specialist, Transmission Planning  
Consolidated Edison Company of New York, Inc.

*New York Independent System Operator 2011*  
*FERC Form No. 715 Report*

**Part 1 Identification and Certification**

CERTIFICATION

I certify that, to the best of my knowledge, the information and data provided by the Long Island Power Authority (transmitting utility) to NYISO (designated agent) for this filing is accurate and in compliance with the “Instructions for Completing Form 715 Annual Transmission Planning and Evaluation Report.” I authorize NYISO staff to submit this information and data on our behalf.

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Janos T. Hajagos  
Supervisor, Area Planning  
National Grid USA Service Co.  
Acting as agent for the Long Island Power Authority

*New York Independent System Operator 2011*  
*FERC Form No. 715 Report*

**Part 1 Identification and Certification**

CERTIFICATION

I certify that, to the best of my knowledge, the information and data provided by New York Power Authority (transmitting utility) to NYISO (designated agent) for this filing is accurate and in compliance with the “Instructions for Completing Form 715 Annual Transmission Planning and Evaluation Report.” I authorize NYISO staff to submit this information and data on our behalf.

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Arnold Schuff  
Manager, Transmission Planning  
New York Power Authority

*New York Independent System Operator 2011*  
*FERC Form No. 715 Report*

**Part 1 Identification and Certification**

CERTIFICATION

I certify that, to the best of my knowledge, the information and data provided by New York State Electric & Gas Corporation and Rochester Gas and Electric Corporation (transmitting utilities) to NYISO (designated agent) for this filing is accurate and in compliance with the “Instructions for Completing Form 715 Annual Transmission Planning and Evaluation Report.” I authorize NYISO staff to submit this information and data on our behalf.

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Robert J. King  
Lead Engineer, System Planning  
New York State Electric & Gas Corporation  
and  
Rochester Gas and Electric Corporation

*New York Independent System Operator 2011*  
*FERC Form No. 715 Report*

**Part 1 Identification and Certification**

CERTIFICATION

I certify that, to the best of my knowledge, the information and data provided by Niagara Mohawk (transmitting utility) to NYISO (designated agent) for this filing is accurate and in compliance with the “Instructions for Completing Form 715 Annual Transmission Planning and Evaluation Report.” I authorize NYISO staff to submit this information and data on our behalf.

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Carol A. Sedewitz  
Director Transmission Planning  
National Grid USA Service Co.  
Acting as agent for Niagara Mohawk

*New York Independent System Operator 2011*  
*FERC Form No. 715 Report*

**Part 1 Identification and Certification**

CERTIFICATION

I certify that, to the best of my knowledge, the information and data provided by Orange and Rockland Utilities, Inc. (transmitting utility) to NYISO (designated agent) for this filing is accurate and in compliance with the “Instructions for Completing Form 715 Annual Transmission Planning and Evaluation Report.” I authorize NYISO staff to submit this information and data on our behalf.

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John Coffey  
Chief Engineer, Transmission and Substation Engineering  
Orange and Rockland Utilities, Inc.

*New York Independent System Operator 2011*

*FERC Form No. 715 Report*

**Part 2 Power Flow Base Cases**

**Contains Critical Energy Infrastructure Information – Do Not Release**

The following power flow base cases are included in this part of the report:

- Case #1: Winter 2010/2011 Peak Load
- Case #2: Summer 2011 Peak Load
- Case #3: Spring 2016 Light Load
- Case #4: Summer 2016 Peak Load
- Case#4a: Summer 2016 Peak Load based on a 90/10 statewide forecast
- Case #5: Winter 2016/2017 Peak Load
- Case #6: Summer 2021 Peak Load
- Case#6a: Summer 2021 Peak Load based on a 90/10 statewide forecast

NYISO and the New York Transmission Owners/Operators (NYTOs) named in Part 1 participate in the NPCC regional base case development process. NYISO maintains a centralized database of power flow data for the NYS electric power system for use in both planning and operating studies. Through an annual process, the NYTOs provide data to NYISO to update the NYS power flow base cases, and NYISO in turn updates its centralized database and provides data to NPCC to update its regional base cases. NPCC compiles the regional base cases and makes them available to its members and to NERC.

The above base cases were initially based on the 2010 NPCC base cases. However, the NYS and outside area representations in these cases have been reviewed and updated based on information provided to NYISO up through around March 21, 2011.

The first case is the base case that was used for the NYISO Winter 2010/2011 Operating Study. The second case is the base case being used for the NYISO Summer 2011 Operating Study. In general, these cases represent the existing transmission system and system conditions as were expected to occur at the time of the respective seasonal peak load. These cases would be appropriate for use as a starting point for near-term transmission studies.

The last six cases represent the planned transmission system and forecasted system conditions in future years, in this case, 2016 and 2021. In general, the NYS representations in these cases include only those future new or modified generation and transmission facilities that: (1) have met the qualifications to be included in a NYISO Interconnection Facilities Study (IFS); or (2) have been proposed by Transmission Owners. Other proposed new or modified generation and transmission facilities that may be under study are not represented. These cases would be appropriate for use as a starting point for longer-term transmission planning studies. NYISO expects to use these base cases as a starting point for conducting various planning studies and transmission reliability assessments in 2011.



*New York Independent System Operator 2011*

*FERC Form No. 715 Report*

**Part 2 Power Flow Base Cases**

**Contains Critical Energy Infrastructure Information – Do Not Release**

Each of these power flow cases contain a detailed representation of the NYS electric power system for the given time period, with appropriate reductions of the representations of the electric systems outside NYS. These cases are valid for the study of the NYS system only. Furthermore, these power flow cases and their associated data are intended for power flow analysis only, and are not intended for use in stability, short-circuit, or other types of analyses.

The NYS system load model utilized in the peak load base cases is representative of a statewide coincident peak load. This value may be lower than the sum of the individual NYTOs' peak loads since these individual peak loads generally do not occur at the same time. The NYS system load model utilized in the spring light load base case represents a load level equal to approximately 45% of the statewide coincident summer peak load level. Again this year, in addition to the traditional summer peak load cases based on a 50/50 statewide peak load forecast, as has been NYISO's standard practice, two additional summer peak load cases based on a 90/10 statewide peak load forecast (referred to as Case#4a and Case#6a above) are also included in this filing. A 50/50 forecast means that, on a probability distribution curve, there is a 50/50 chance of the actual peak load being higher or lower than the forecast value. A 90/10 forecast means that there is a 90% chance that the actual peak load will be below the forecast value, and a 10% chance of it being above the forecast. NYISO developed the 90/10 cases to perform sensitivity analyses for informational purposes, and to support neighboring systems that use 90/10 cases in their studies.

The cases are in the RAWD data format of the Siemens - Power Technologies, Inc. (PTI) Power System Simulator for Engineering (PSS/e) power flow program. All eight cases were created using PSS/e version 30.3.3.

The cases have been solved using the fixed-slope decoupled Newton iterative algorithm (FDNS) with stepping transformer taps, area interchange and phase shifters engaged, switched shunts and DC line taps unlocked, and VAR limits applied immediately. An acceleration factor of 1.0 and a tolerance of 1.0 were employed during the solution process. The zero impedance line threshold was set at 0.0001 pu. The cases were developed on a Windows operating system.

The raw data input files and the corresponding output data files for all eight base cases are provided in machine readable format on a single CD-ROM. The combined size of the input/output data files are approximately 23 MB per case.

In addition to the above power flow base cases, a "data dictionary" is also provided in this filing. The data dictionary contains a listing of bus names and numbers from the Summer 2016 Peak Load case, with corresponding full names for each bus. This data dictionary applies to all eight base cases.

*New York Independent System Operator 2011*

*FERC Form No. 715 Report*

**Part 2 Power Flow Base Cases**

**Contains Critical Energy Infrastructure Information – Do Not Release**

The data dictionary also contains the Energy Information Administration (EIA) plant codes for generating plants represented in the cases, as appropriate.

Access to the power flow base cases and data dictionary included in this filing will be restricted to parties that obtain or have the proper authorization to receive them (see Appendix A).

*New York Independent System Operator 2011*

*FERC Form No. 715 Report*

**Part 3 Transmitting Utility Maps and Diagrams**

**Contains Critical Energy Infrastructure Information – Do Not Release**

The maps and diagrams provided with this report are as follows:

	Latest Version (Date Originally Filed)
• 2011 NYISO Electric System Map	2011
• NYISO One-Line Diagram of the NYS Bulk Power System	2011
• One-Line Diagrams of Each of the NYTOs' Systems:	
- Central Hudson Gas & Electric Corporation .....	2008
- Consolidated Edison Company of New York .....	2011
- Long Island Power Authority .....	2011
- New York Power Authority .....	2011
- New York State Electric & Gas Corporation .....	2011
- Niagara Mohawk, A National Grid Company .....	2009
- Orange & Rockland Utilities, Inc. ....	2011
- Rochester Gas & Electric Corporation .....	2008

The 2010 NYISO Electric System Map depicts high voltage transmission facilities (115 kV and above) and major generation facilities within NYS.

The NYISO one-line diagram (4 pages) depicts the existing NYS bulk power system, which consists principally of relatively large generating units and the high voltage transmission system. Generally these are generating units of 300 MW or larger and transmission facilities of 230 kV and above, although smaller generating units and lower voltage transmission on which faults or disturbances can have a significant effect on the continuity of service of the NYS system, or can have a significant effect on areas outside of the NYS system, also are considered part of the bulk power system. An updated one-line diagram is provided with this report.

The NYTO one-line diagrams depict the respective existing transmission and generation facilities of the NYTOs' systems. In some cases, the NYTO one-line diagrams show more detail of the lower voltage transmission system than is shown in the NYISO diagram. The most recent versions of the NYTO diagrams are provided with this report.

Access to the maps and diagrams included in this filing will be restricted to parties that obtain or have the proper authorization (see Appendix A).

## *New York Independent System Operator 2011*

### *FERC Form No. 715 Report*

#### **Part 4 Transmission Planning Reliability Criteria**

This part includes a listing of any new or revised transmission planning reliability criteria (“criteria”) documents provided with this filing and previously filed criteria documents that are still in effect.

NYISO and the NYTOs are subject to the reliability standards established by NERC. Four of the NERC Reliability Standards that are most applicable to transmission planning are listed as document #s 1-4 below. The NERC Reliability Standards are available from the NERC web site (<http://www.nerc.com>).

NYISO and the NYTOs also are subject to the NPCC Criteria and the NYSRC Reliability Rules. In addition, the NYTOs each have supplemental transmission planning reliability criteria as well. The applicable NPCC, NYSRC, and NYTOs criteria documents are listed as document #s 5-20 below.

The new, revised, or previously filed criteria documents that pertain to this filing are as follows:

1. Standard TPL-001-0.1 – *System Performance Under Normal (No Contingency) Conditions (Category A)*; North American Electric Reliability Corporation, May 13, 2009 (filed 2011). **A copy of this revised document is included in this filing.**
2. Standard TPL-002-0b – *System Performance Following Loss of a Single Bulk Electric System Element (Category B)*; North American Electric Reliability Corporation, November 5, 2009 (filed 2010).
3. Standard TPL-003-0a – *System Performance Following Loss of Two or More Bulk Electric System Elements (Category C)*; North American Electric Reliability Corporation, April 23, 2010 (filed 2011). **A copy of this revised document is included in this filing.**
4. Standard TPL-004-0 – *System Performance Following Extreme Events Resulting in the Loss of Two or More Bulk Electric System Elements (Category D)*; North American Electric Reliability Corporation, April 1, 2005 (filed 2007).
5. NPCC Regional Reliability Reference Directory #1 *Design and Operation of the Bulk Power System (Directory #1)*; Northeast Power Coordinating Council, December 1, 2009 (filed 2010). The NPCC Directories are available from the NPCC web site ([www.npcc.org/documents/regStandards/Directories](http://www.npcc.org/documents/regStandards/Directories)).
6. *NYSRC Reliability Rules for Planning and Operating the New York State Power System (Version 28)*; New York State Reliability Council, November 12, 2010 (filed 2011). **A copy of this revised document is included in this filing.** The NYSRC Reliability Rules are available from the NYSRC web site

*New York Independent System Operator 2011*

*FERC Form No. 715 Report*

**Part 4 Transmission Planning Reliability Criteria**

([www.nysrc.org/NYSRCReliabilityRulesComplianceMonitoring](http://www.nysrc.org/NYSRCReliabilityRulesComplianceMonitoring)).

7. *Central Hudson Gas & Electric Corporation Transmission Planning Guidelines*; Central Hudson Gas & Electric Corporation, March 16, 2009 (filed 2009).
8. *Central Hudson Gas & Electric Corporation (CHG&E) Application Process for Distributed Generators of Greater than 300 kVA Connected in Parallel with the CHG&E Electrical Delivery System*; Central Hudson Gas & Electric Corporation, April 16, 2002 (filed 2003).
9. *Central Hudson Gas & Electric Corporation (CHG&E) Interconnection Protection Requirements for Distributed Generators of Greater than 300 kVA Connected in Parallel with the CHG&E Electrical Delivery System*; Central Hudson Gas & Electric Corporation, May 5, 2002 (filed 2003).
10. TRANSMISSION PLANNING CRITERIA (EP-7100-8); Consolidated Edison Company of New York, December 8, 2009 (filed 2010).
11. Con Edison interconnection documents:
  - 11.a. Management of Standard Large Facility Interconnection Projects (EP-7510-2); Consolidated Edison Company of New York, Inc., February 2008 (filed 2010).
  - 11.b. Developer Welcome Kit; Consolidated Edison Company of New York, Inc., February 2008 (filed 2010).
  - 11.c. STANDARD ENGINEERING DESIGN GUIDELINES FOR AREA SUBSTATIONS, TRANSMISSION SUBSTATIONS AND PURS FACILITIES (CE-ES-2002); Consolidated Edison Company of New York, Inc., November 2005 (filed 2010).
12. *Transmission & Distribution Planning Criteria & Guidelines (Revision 3)*; Long Island Power Authority, September 20, 2010 (filed 2011). **A copy of this revised document is included in this filing.**
13. *Long Island Power Authority Interconnection Guide for Independent Power Producers*; (filed 2000, under Part 5).
14. *Design Criteria for Developer Connection to the New York Power Authority Transmission System, Rev. 1*; New York Power Authority, March 3, 2011 (filed 2011). **A copy of this revised document is included in this filing.**

*New York Independent System Operator 2011*

*FERC Form No. 715 Report*

**Part 4 Transmission Planning Reliability Criteria**

15. *NYSEG and RG&E Transmission Planning Criteria*; New York State Electric & Gas Corporation and Rochester Gas and Electric Corporation, July 2009 (filed 2010).
16. Requirements For Independent Power Producers Of Electricity (BULLETIN 86-01); New York State Electric & Gas Corporation and Rochester Gas and Electric Corporation, March 31, 2005 (filed 2006).
17. *Transmission Planning Guide (TGP28 – Issue 3)*; National Grid, November 22, 2010 (filed 2011). **A copy of this revised document is included in this filing.**
18. NATIONAL GRID ELECTRIC SYSTEM BULLETIN 756: REQUIREMENTS FOR PARALLEL GENERATION CONNECTED TO A NATIONAL GRID OWNED EPS; National Grid, May 2007 (filed 2008).
19. ORANGE AND ROCKLAND UTILITIES, INC. TRANSMISSION PLANNING GUIDELINES; Orange and Rockland Utilities, Inc., May 2008 (filed 2009).
20. ORU-ENGR-004 - Revision 1: *Management of Standard Large and Small Facility Interconnection Projects*, Orange & Rockland Utilities, Inc., November 30, 2009 (filed 2010).

*New York Independent System Operator 2011*

*FERC Form No. 715 Report*

**Part 5 Transmission Planning Assessment Practices**

This part includes a listing of any new or revised transmission planning assessment practices (“practices”) documents provided with this filing and previously filed practices documents that are still in effect. NYISO and the NYTOs have and use various documents (procedures, guidelines, etc.) that define or strongly relate to practices for assessment of the transmission system for planning purposes.

The new, revised, or previously filed practices documents that pertain to this filing are as follows:

1. *NPCC Guidelines for NPCC Area Transmission Reviews*. This document has been incorporated into NPCC Directory #1 as Appendix B (see Part 4, document #5).
2. *Classification of Bulk Power System Elements (Document A-10)*, Northeast Power Coordinating Council, December 1, 2009 (filed 2010). The NPCC criteria are available from the NPCC web site ([www.npcc.org/documents/regStandards/Criteria](http://www.npcc.org/documents/regStandards/Criteria)).
3. *New York ISO Comprehensive System Planning Process* (Attachment Y of the NYISO OATT), June 30, 2010 (filed 2011). **A copy of this revised document is included in this filing.** This document is available from the NYISO web site ([www.nyiso.com/public/markets\\_operations/documents/tariffs](http://www.nyiso.com/public/markets_operations/documents/tariffs)).
4. *NYISO Transmission Expansion and Interconnection Manual*; September 28, 1999 (filed 2000). NYISO adopted *Standard Large Facility Interconnection Procedures* into its OATT in August 2004, causing some portions of this manual to be out-of-date. NYISO has been working on a revision of the Transmission Expansion and Interconnection Manual, but the new manual will not be completed before the due date of this filing. The current manual is available from the NYISO web site ([www.nyiso.com/public/markets\\_operations/documents/manuals\\_guides](http://www.nyiso.com/public/markets_operations/documents/manuals_guides)).

Note that the Transmission Expansion and Interconnection Manual contains the following three transmission planning guidelines that have not changed since the 2000 FERC 715 filing and remain in effect today:

- a. NYISO Transmission Planning Guideline #1-0, Guideline for System Reliability Impact Studies, September 28, 1999;
- b. NYISO Transmission Planning Guideline #2-0, Guideline for Voltage Analysis and Determination of Voltage-Based Transfer Limits, September 28, 1999;
- c. NYISO Transmission Planning Guideline #3-0, Guideline for Stability Analysis and Determination of Stability-Based Transfer Limits, September 28, 1999.

*New York Independent System Operator 2011*  
*FERC Form No. 715 Report*

**Part 5 Transmission Planning Assessment Practices**

5. NYISO *Comprehensive Reliability Planning Process Manual*; November 20, 2007 (filed 2008). This document is available from the NYISO web site ([www.nyiso.com/public/markets\\_operations/documents/manuals\\_guides](http://www.nyiso.com/public/markets_operations/documents/manuals_guides)).
6. NYISO *System Reliability Impact Study Criteria and Procedures*; Revised May 23, 2001 (filed 2002). This document is available from the NYISO web site ([www.nyiso.com/public/markets\\_operations/services/planning/documents](http://www.nyiso.com/public/markets_operations/services/planning/documents)).
7. NYISO *Guideline for Fault Current Assessment*; January 30, 2003 (filed 2005). This document is available from the NYISO web site ([www.nyiso.com/public/markets\\_operations/services/planning/documents](http://www.nyiso.com/public/markets_operations/services/planning/documents)).
8. NYPP *Guideline on Application of High-Speed Autoreclosing*; January 8, 1999 (filed 1999). NYISO formally adopted this former NYPP document as a NYISO document on July 25, 2002.
9. NYISO *Test Procedure for Evaluating Power Factor Requirements for Wind Generation Interconnection Projects (TB 148)*; May 15, 2006 (filed 2009). This document is available from the NYISO web site ([www.nyiso.com/public/markets\\_operations/documents/technical\\_bulletins](http://www.nyiso.com/public/markets_operations/documents/technical_bulletins)).
10. NYISO Operations Manuals:  
  
Operations manuals often describe operating rules and procedures that have a bearing on transmission planning studies in that these rules and procedures should be taken into consideration and modeled to the extent possible in performing analyses intended to simulate the operation and performance of the transmission system. For example, rules and procedures in areas such as **voltage control** and **operation of phase angle regulators** have significant relevance to transmission planning studies. NYISO operations manuals that have such significant relevance are as follows:
  - a. NYISO *Transmission and Dispatching Operation Manual*; September 2008 (filed 2009).
  - b. NYISO *Emergency Operations Manual*, February 2011 (filed 2011). **A copy of this revised document is included in this filing.**

These manuals are available from the NYISO web site ([www.nyiso.com/public/markets\\_operations/documents/manuals\\_guides](http://www.nyiso.com/public/markets_operations/documents/manuals_guides)).



*New York Independent System Operator 2011*

*FERC Form No. 715 Report*

**Part 5 Transmission Planning Assessment Practices**

11. *Voltage Schedule, Control, and Operation of the Transmission System (EP-7000-6)*; Consolidated Edison Company of New York, Inc., February 2011 (filed 2011). **A copy of this revised document is included in this filing.**
12. *Thunderstorm/Storm Procedure*; Consolidated Edison Company of New York, Inc., May 5, 2010 (filed 2011). **A copy of this revised document is included in this filing.**

*New York Independent System Operator 2011*

*FERC Form No. 715 Report*

**Part 6 Evaluation of Transmission System Performance**

**Contains Critical Energy Infrastructure Information – Do Not Release**

NYISO conducts studies to evaluate transmission system performance in two general time frames: the operating time frame (nominally out to a year), and the planning time frame (future years). The reports of both types of NYISO studies have been provided in previous FERC 715 filings.

In the operating time frame, NYISO completed two seasonal operating studies since the last FERC 715 filing, the Summer 2010 Operating Study and the Winter 2010-2011 Operating Study. These studies assessed the transfer limits of the New York operating transmission interfaces for conditions expected to occur during the summer 2010 and winter 2010-2011 peak load periods, respectively. **Copies of these study reports are included in this filing** and are available from the NYISO web site ([www.nyiso.com/public/markets\\_operations/market\\_data/reports\\_info](http://www.nyiso.com/public/markets_operations/market_data/reports_info)).

In the planning time frame, NYISO performed a 2010 Comprehensive Area Transmission Review that assessed the reliability of the planned NYS bulk power transmission system in the year 2015. As part of the NPCC reliability compliance and enforcement program, each NPCC Area (in this case, New York) is required to conduct an annual assessment of the reliability of its planned bulk power transmission system with respect to the NPCC Directory #1 (see Part 4), in accordance with the *Guidelines for NPCC Area Transmission Reviews* (Directory #1, Appendix B). Under this program, each Area is required to conduct a Comprehensive Review at least once every five years. NYISO has issued a draft of the 2010 Comprehensive Area Transmission Report that is currently undergoing the NPCC review and approval process. Since the report is not final, a copy was not included in this filing, but it's expected the final report will be included in next year's filing.

Also in the planning time frame, NYISO completed its 2010 Reliability Needs Assessment and Comprehensive Reliability Plan under the NYISO Comprehensive System Planning Process (CSPP).

Documents describing the CSPP are listed in Part 5 of this report. Under this process, NYISO first evaluates and identifies the reliability needs of the NYS electric system over a ten-year period, then solicits solutions and develops a plan for addressing any identified reliability needs. NYISO considers generation, transmission, and demand-side solutions together in developing the Comprehensive Reliability Plan. **Copies of the NYISO 2010 Reliability Needs Assessment report and 2010 Comprehensive Reliability Plan report are included in this filing.** These reports are available from the NYISO web site

([www.nyiso.com/public/markets\\_operations/services/planning/planning\\_studies](http://www.nyiso.com/public/markets_operations/services/planning/planning_studies)).

## Appendix A

### *Form for Requesting NYISO FERC 715 Information*

The NYISO 2011 “Annual Transmission Planning and Evaluation Report” (FERC 715 Report) and various documents included or referenced in the report and not considered to be restricted information are available from the NYISO public web site at ([www.nyiso.com/public/markets\\_operations/services/planning/documents](http://www.nyiso.com/public/markets_operations/services/planning/documents)). However, the Part 2 power flow base cases and Part 3 map and one-line diagrams are restricted information and are not available from the web site.

This form may be used to request restricted information contained in the NYISO 2011 FERC 715 Report. To submit a request: provide all required information, check what information is being requested, check and sign the Non-Disclosure Agreement, and submit a scanned copy of your request via email to:

FERC715Request@nyiso.com

Requested information will normally be provided within 10 business days of receipt of the request. NYISO reserves the right to deny any request for restricted information.

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1. Requestor’s Information (required)

Requestor’s name:	
Requestor’s title:	
Requestor’s organization name:	
Requestor’s organization address:	
Requestor’s business telephone number:	
Requestor’s business email address:	
Description of the general activities of the requestor’s organization and the person(s) that expect to use the requested information:	

2. Intended Use of the Requested information (required)

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3. Information Requested

(To check a box electronically, double click on desired box, select *Properties*, and select “Checked.”)

- Part 2 Power Flow Base Cases  
 Part 3 Map and One-line Diagrams

4. Non-Disclosure Agreement (must be signed by requestor and an authorized officer of the organization)

- I, the undersigned, agree to limit the copy or distribution of the information received through this request, or any portions thereof, to person(s) within my organization for their own use, and to not provide copies or distribute the information, or any portions thereof, to any other parties (persons or organizations) outside my organization, including any affiliated organizations.

By (Requestor’s signature): \_\_\_\_\_

Date: \_\_\_\_\_

By (Officer’s signature): \_\_\_\_\_

Date: \_\_\_\_\_