September 30, 2005

By Hand Delivery

The Honorable Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: ***New York Independent System Operator, Inc.***
Docket Nos. ER04-449-003, ER04-449-007, and ER04-449-008
Status Report on Deliverability Analysis

Dear Ms. Salas:

On February 28, 2005, the New York Independent System Operator, Inc. ("NYISO") and the New York Transmission Owners ("NYTOs") (collectively the "Joint Filing Parties") submitted a schedule for the continuation of stakeholder discussions related to compliance with the Commission's August 6, 2004 Order Conditionally Accepting Large Generator Interconnection Procedures and Large Generator Interconnection Agreement ("August 6 Order").[1] On April 29, 2005, the NYISO submitted a work plan ("Work Plan") for its proposed deliverability analysis and stakeholder discussions. On July 1, 2005, the NYISO submitted its first Status Report. As contemplated in the Work Plan, the NYISO hereby submits its second Status Report to the Commission on the progress it is making with stakeholders.

I. Documents Submitted

This filing consists of the following documents:

1. This filing letter/Status Report;

2. The "Scope of Work" for the Assessment of a Deliverability Product in New York (Attachment I);

3. A form of *Federal Register* Notice (Attachment II); and

4. A certificate of service of this filing on the parties to this proceeding.

[1] *New York Independent System Operator, Inc. and New York Transmission Owners*, 108 FERC ¶ 61,159 (2004).

II. Copies of Correspondence

Copies of correspondence concerning this filing should be served on:

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III. Service List

The NYISO will serve the official service list compiled by the Secretary in this proceeding. As it has done with numerous other filings, the NYISO will also electronically serve a copy of this filing on the official representative of each of its customers, on each participant in its stakeholder committees, on the New York Public Service Commission, and on the electric utility regulatory agencies of New Jersey and Pennsylvania. The NYISO respectfully requests a waiver of the requirements of Rule 2010 to the extent necessary for it to use electronic service methods. The NYISO's use of such methods has been convenient for both the NYISO and for the recipients of the service, and to date it has engendered no complaints.

IV. Background

In the August 6 Order, the Commission accepted the single level of interconnection service proposed by the Joint Filing Parties but noted that "requiring a level of interconnection service that incorporates a deliverability requirement remains a goal of the Commission." The Commission noted that the NYISO had already initiated a stakeholder process to examine how and to what extent the NYISO OATT should offer a second level of interconnection service incorporating a deliverability requirement, and granted the Joint Filing Parties' request for additional time to continue the stakeholder discussions.

On February 7, 2005, the NYISO and some of the NYTOs submitted a "Compliance Filing and Request for Extension of Time" in which the NYISO reported on its preliminary deliverability analysis and requested additional time for further refinement of the models, assumptions, and methodology utilized in its initial study. A number of NYISO stakeholders

submitted interventions, comments, and protests but all parties endorsed the request for additional time. On February 28, 2005, the NYISO and all of the NYTOs submitted a "Joint Statement" in which they proposed a schedule for the continuation of stakeholder discussions. On April 29, 2005, the NYISO submitted the Work Plan. The Commission noticed these two filings on May 10, 2005. No comments were filed in response to this notice.

In an order issued on June 2, 2005, the Commission denied various requests for rehearing and noted that there were "two competing principles at work" with respect to the deliverability issue.[2] While stating that a second level of interconnection service addressing deliverability is a "crucial component of Order 2003," the Commission acknowledged that "the NYISO is a distinctive region and New York's stakeholders should have the flexibility to craft a system appropriate to its specific needs."[3] The Commission declined to prejudge the outcome of the stakeholders' efforts and noted that each independent system operator faces unique challenges requiring unique solutions. Recognizing these facts, the Commission agreed to provide the stakeholders additional time, acknowledging the timetable reflected in the NYISO's Work Plan as reasonable. The NYISO held an initial stakeholder meeting on April 18, 2005 to review the Work Plan and to identify outstanding issues related to the study scope, models, assumptions, and methodology that were employed in the NYISO's preliminary deliverability analysis.

During meetings in May and June 2005, stakeholders revised the Study Scope previously utilized for the preliminary deliverability analysis. The stakeholder discussions reaffirmed that both the zonal and intra-zonal analysis should be revised with updated assumptions to reflect the most recent base case information. The NYISO also met with the New York State Reliability Council ("NYSRC"), the entity responsible for determining the statewide installed reserve margin that is needed to meet resource adequacy criteria. Following those discussions, the NYISO and stakeholders determined that the base case assumptions for the deliverability analysis should begin with the 2005 NYSRC Installed Reserve Margin ("IRM") base case, issued in December 2004. Specific updates to the 2005 IRM base case were agreed upon to reflect the best current understanding of expected system conditions.

Other considerations, such as the appropriate reliability criteria, transmission contingencies, monitored facilities, interface transfer limits, generator outage rates, and the use of Phase Angle Regulators for mitigation were thoroughly discussed and agreed upon for use in the base case. An issue which generated a significant amount of discussion related to the methodology to be used to recognize the probabilistic nature of generator forced outage rates. Various possible methods were discussed, including that used by PJM for its deliverability studies. PJM's Manager of Transmission Planning participated in the June 22 meeting to answer questions regarding PJM's procedures. Stakeholders agreed that the NYISO would investigate

[2] *New York Independent System Operator, Inc. and New York Transmission Owners*, 111 FERC ¶ 61,347 (2005) ("June 2 Order").
[3] June 2 Order at 13.

four alternative methodologies in the initial analysis and bring the results back to the stakeholders for further consideration. In order to address the concerns of some stakeholders, the NYISO agreed to perform an analysis of two scenarios, in addition to the Base Case.

In this filing, the NYISO submits its second Status Report to the Commission in accordance with the Work Plan. The revised Study Scope is attached to this filing as Attachment I. Attachment I(A) therein sets forth the Work Plan for the Deliverability Analysis. Attachment I(B) therein contains the revised Study Assumptions that were developed through the stakeholder process described above.

V. Status Report

With stakeholder input, the NYISO has completed an updated preliminary analysis employing updated power flow base cases and scenarios utilizing the agreed-upon assumptions and methodologies. The base cases are founded upon the 2004 power flow base case series coordinated with 2005 NYSRC IRM base case, and updated for load forecast, generation unit changes, generator forced outage rates, and appropriate interface transfer limits. The assumptions underlying the base case were: (i) the use of emergency criteria consistent with the IRM Multi-Area Reliability Simulation analysis; (ii) monitoring of facilities to represent voltage limts; and (iii) the use of NPCC/NYSRC criteria for contingencies. Adjustments are continuing to be made to the base case to reflect necessary changes such as voltage and stability limits. To date, the NYISO has factored into the base case the characteristics of the Total East/Central East Interface, which is voltage-limited.

The NYISO has also formulated the 2009 planning case building upon the 2005 base case analysis, but modifying the base case to include future resource additions to match load growth plus 20 percent in each super zone. Generating units were included based upon their interconnection queue position, using “Catch-up Class” units first. Unit retirements were reflected using the Comprehensive Reliability Planning Process base case. Also, the planning case incorporates a scenario that includes a new transmission cable (M-29) as in service between Sprain Brook and Sherman Creek in New York City.

The NYISO has further analyzed the base case and the planning case to assess potential generation deliverability problems under four alternative deliverability assessment methodologies. These four methodologies are:

1. Resource accounting screen reflecting intra-zonal power flows;
2. Power flow methodology with screening step (similar to the PJM deliverability test);
3. IRM and locational capacity studies related to power flow analysis; and

4. A combined generation and load approach.[4]

At the September 8, 2005 stakeholder meeting, the NYISO submitted a description of the New York deliverability assessment methodologies and presented the preliminary results of each of the four alternative methodologies using the base case and the planning case.

VI. Next Steps

Based upon the outcome of the preliminary results for the base case and planning case using the four alternative methodologies including the extension (described above), the NYISO will work with stakeholders to determine which of these four methods, a combination of the methods, or a refinement of one of the methods best represents an approach for assessing deliverability in the New York Control Area while respecting the market structure in New York. The NYISO will work with stakeholders to obtain consensus regarding the development of a preferred assessment method. The NYISO will test the application of one, or at most two, methodologies to New York system conditions under three scenarios:

A. The base case with monitoring for stuck breakers and transmission tower contingencies;
B. The base case with preliminary transfer limits developed for the 2006 IRM analysis, and reflecting the impact of reduced transfer limits based on voltage constraints.;
C. The base case with all contingencies on the New York System at voltages of 115 kv and above.

Thereafter, the NYISO will vet drafts of a final deliverability report with stakeholders. In accordance with the Work Plan, the NYISO will file the final deliverability report with the Commission on December 1, 2005 together with its next Status Report. Meetings with stakeholders have been scheduled for October 17, November 7 and November 29, 2005. Additional meetings will be scheduled and held as necessary.

VII. Next Status Report

The NYISO will submit its next Status Report to the Commission on December 1, 2005.

[4] Methodology four incorporated an extension which was to only test transfer of surplus upstream generation equal to the generation deficit downstream.

VIII. Conclusion

WHEREFORE, the New York Independent System Operator, Inc. respectfully requests that the Commission accept this Status Report.

Respectfully submitted,

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September 30, 2005

cc: Daniel L. Larcamp, Room 8A-01
Anna Cochrane, Room 81-11
Connie N. Caldwell, Room 52-55
Michael A. Bardee, Room 101-09

ATTACHMENT I

Assessment of a Deliverability Product in New York
Scope of Work
6/22/05

Background

Given a transmission system topology, the primary objective of any deliverability analysis is to determine if the control area's capacity and demand resources in the aggregate meet or exceed the resource adequacy criteria – e.g., a loss-of-load expectation which on average is no more than once in ten years. A secondary issue is, given the geographical distribution or location of resources and their availability, whether transmission constraints increase the amount of resources needed to meet the resource adequacy criteria. For instance, resources that are sited in a location from which export capacity is limited will contribute positively to improving reliability but at a diminished level relative to resource in other locations. This can result, potentially at least, in an increase[5] in the installed reserve margin or capacity margin required to meet the reliability criteria.

As new resources are connected to the transmission system, the full load carrying capability of the resource may or may not be realized. In its Large Generator Interconnection Rulemaking (LGIR), the Federal Energy Regulatory Commission (FERC) defined two interconnection products. They were the "Energy Only" and "Network Resource" interconnection products. The primary distinction between these two products is the network resource is considered fully deliverable[6] as a capacity resource while the energy only is not. The two product interconnection model provides a basis for differentiating the value of new resources based on a predefined deliverability test and its contribution to resource adequacy. Also, the deliverability test provides a mechanism for new resources to determine the system upgrades facilities that would be required in order for the generator to fulfill its deliverability obligations**.**

Currently, New York offers a single interconnection product which is defined as the "minimum interconnection standard" – i.e., a resource can interconnect to the grid without having to procure point-to-point or network transmission service. This standard was adopted as the result of a FERC order regarding the startup of the New York wholesale electricity market in January 1999. Also, New York adopted the locational capacity requirements model to differentiate the value of new resources based on their location and their overall contribution to resource adequacy. In addition, the locational capacity model provides a basis for determining that sufficient resources are located in load zones/pockets to ensure that the aggregate of the resources are deliverable to the load in order to meet the resource adequacy criteria – i.e., ensure reliability. In its LGIR compliance filing, the NYISO, as allowed for under the independent entity variation, opted to maintain its single interconnection product in conjunction with locational capacity requirements. However, the stakeholder process did result in an agreement to study the issue of deliverability as it relates to the two product model.

In New York, the New York State Reliability Council (NYSRC) is the entity responsible for determining annually on a statewide basis the aggregate resources that are required to meet the resource adequacy criteria. The NYSRC utilizes General Electric's Multi-Area Reliability Simulation (MARS) modeling software to determine the requirements. This model accounts for the impact of inter-zonal transmission constraints (between the present eleven LBMP zones representing the New York Control Area) but assumes that all resources are fully deliverable within each of these zones. As part of the determination of the resource requirement for the 2005 – 2006 capability year, the NYSRC is reviewing how inter-zonal transmission constraints in conjunction with the quantity of resources located in load pockets impacts the statewide resource requirement. The NYSRC reviews and approves all

[5] It should be noted that changes in resource availability/performance, transmission system performance, and geographical distribution of load also impact the requirements.

[6] Deliverability ensures, only, that the aggregate of the resources can be utilized to deliver energy to the aggregate of the Control Area load to maintain reliability. The intent of deliverability is to certify a generator as a capacity resource. It is not intended to guarantee any rights to transmission service within the Control Area nor does it guarantee any rights to produce energy during any particular operational circumstances.

modeling assumptions at its August meeting each year. This deliverability assessment should be based on the NYSRC modeling assumptions where appropriate.

Purpose

The purpose of this assessment of deliverability of electric generating resources is multifold:

1. Validate whether electric generating resources are currently fully deliverable within a locational capacity zone and/or super-zone – i.e., zones A - I can be defined as a single super-zone defined as Rest-Of-State;

2. Develop an annual study process for identifying and updating transmission "bottlenecks" that, potentially at least, could impact statewide and locality resource requirements;

3. Determine if new market rules and criteria would need to be developed to account for any deliverability issues identified in the assessment;

4. Because of the potential impact on resource adequacy requirements, coordinate this assessment with the 2005 – 2006 NYSRC installed reserve margin study.

Requirements

1. Develop a basis and/or criteria for evaluating intra-zonal deliverability.

2. Summarize present NYISO methodologies and procedures regarding load and generation deliverability.

3. Identify potential transmission constraints/"bottlenecks".

4. Develop sub-zone and super-zone area definitions and their associated transfer capability, based on the transmission constraints identified in step 3.

5. Recommend methods and procedures for recognizing, representing, and accounting for transmission constraints in Installed Reserve Margin (IRM) and Locational Capacity requirements.

6. Provide a report on the analysis results and conclusions that pertain to this assessment.

Analysis

1. Develop definition(-s) of deliverability for the purpose of this study.

2. Provide documentation on present NYISO and NYSRC procedures that addresses deliverability.

3. Review completed and ongoing reliability assessments, as appropriate, (2004 IRM Study, 2005 IRM Study, 2005 Locational Capacity Study, 2005 Reliability Needs Analysis, 2002 NYSRC Deliverability Issues Study and Reactive Working Group Voltage Study) to identify potential "bottlenecks" – e.g., proposed areas for study, potentially at least, could include: the three LI sub-areas ; the Astoria pocket; Staten Island; In-City 138kv; West 49th Street; the Oswego complex etc.

4. Starting with a consistent set of base cases**,** the MARS database (i.e., the NYSRC approved base case) and load flow database, conduct sufficient load flow analyses to evaluate the normal and post contingency performance of the NYSTS and identify potential intra-zonal constraints. The analysis will be conducted under peak load conditions. For example, an area would be considered to have no internal transmission

constraints if all of the generation within that area can be coincidentally dispatched to their aggregate unforced capacity when subject to security constraints of monitored transmission facilities within that load area. Generation outside the study area would be dispatched to maintain the generation and load balance. This assessment should identify the maximum impact of dispatch on each monitored transmission facility. These analyses will be conducted for selected years over the planning horizon – e.g., 2005, 2010 and 2013.

5. "Bottled" generation will be identified by the procedure in Item 4.

6. Modify MARS transmission and zonal model to represent the identified transmission constraints, if any.

7. Conduct sufficient MARS analysis to determine the impact of any additional transmission constraints, if any, on statewide and locational requirements.

8. From 7, determine the need to develop additional procedures for generation deliverability.

9. Prepare and include an update of the inter-zonal "unforced capacity" accounting approach included in the April 21, 2004 slide presentation (slides 7 and 8). This should include a more definitive description of the calculation along with an explanation of the results and incorporate the results of the NYSRC assessment.

10. If new requirements are proposed, provide a description of the potential impact of the new requirements on the reliability needs assessment done in the Planning Process including alternative ways the deliverability requirements can be met – e.g., the adoption of two (2) generator interconnection products (Energy-Only Resource and Network Resource) as described in FERC's Order 2003.

11. Prepare a report of the results and determinations.

12. Present the study results for review and comment by the appropriate NYISO/NYSRC committees.

Attachments

A Work Plan
B Study Assumptions

ATTACHMENT I(A)

WORK PLAN FOR DELIVERABILITY ANALYSIS

April 18, 2005	**Stakeholder meeting to review Work Plan and to identify issues related to study scope, models, assumptions and methodology.**
May 1, 2005	**NYISO filing of Work Plan with Commission.**
May/June 2005	**NYISO revision of study scope, assumptions and methodologies based upon stakeholder comments. Revisions to include consideration of both Zonal Resource Adequacy Analysis as well as the Intra-zonal Load Flow Analysis. Studies to be coordinated with the NYISO's Comprehensive Reliability Planning Process as well as with the IRM analysis conducted by the New York State Reliability Council.**
July 1, 2005	**NYISO submits status report to Commission.**
July/September 2005	**NYISO to present interim study results and conduct stakeholder briefings and discussions to review interim study results. NYISO may revise analysis as needed in response to stakeholder comments.**
October 1, 2005	**NYISO submits status report to Commission.**
October/November 2005	**NYISO to finalize study and prepare draft report for circulation to stakeholders. NYISO to revise report based upon stakeholder comments.**
December 1, 2005	**NYISO submits status report to Commission which will include the final NYISO study report.**
December/January 2006	**NYISO to prepare draft compliance filing with Stakeholder input.**
February 6, 2006	**NYISO and TOs submit compliance filing to Commission in response to August 6, 2004 Order.**

ATTACHMENT I(B)
(Revised 10/1/2005)

STUDY ASSUMPTIONS

BASE CASE: 2005

- **Based upon 2005 NYSRC IRM Base Case**
- **Update for:**
  - **Load forecast**
  - **Generation unit changes**
  - **EFORd outage rates**
  - **Reflect all interface transfer limits in load flow analysis model (See Below)**

PLANNING CASE: 2009

- **Based upon planning case from 2005 analysis**
- **Modify future resource additions to match load growth plus 20% in each super zone**
- **Select units based upon interconnection queue position**
  - **Use "Catch-up Class" units first**
- **Add retirements from CRPP Base Case**
- **M-29**
  - **Model in-service if SRIS is complete when study assumptions are finalized, OR**
  - **Model M-29 in-service as a scenario**

BASE CASE ASSUMPTIONS

- **Use emergency criteria, consistent with IRM MARS analysis**

- **Monitor Lower Voltage facilities**
  - **Monitor 69kv and above on LI**
  - **Monitor 115kv and above statewide**
  - **Monitor for contingencies on the 138kv and above on LI; and 230KV and above statewide**
  - **Identified violations on lower voltage facilities are the responsibility of the local TOs to address through their respective procedures**

- **Observe NPCC/NYSRC Criteria Contingencies**
  - **Single contingency used under emergency conditions**
  - **Do not model stuck breaker or tower contingencies**
  - **Refer to NYSRC Reliability Rules: Section B-R.1.b.2**

- **Use STE ratings**
  - **Consistent with emergency criteria**
  - **Refer to NYSRC Reliability Rules: Section B-R.1.b.2**

- **Consideration of voltage/stability limits**
  - **To be reflected in transfer limit proxies in load flow analysis**

- **Voltage constraints will be translated to a MW interface transfer limit for monitoring pre-contingency flows in the analysis**
- **Voltage based transfer limits identified from other studies will be reviewed and implemented.**
- **The present limits in the MARS analysis that reflect voltage or stability limits will also be evaluated.**
- **Transfer limits used in 2005 IRM analysis will be used for all interfaces**

- **Generator Outage Rates**
  - **Utilize the same ICAP/UCAP outage rate translation used in the 2004 deliverability study**
  - **Update EFORd outage rates**

- **Use of PARs**
  - **PAR adjustments should be allowed to mitigate potential constraints**
  - **Need to analyze the impact on other interfaces to ensure that there is no double accounting of transfer capability**

- **"Shift Factor" Methodology**
  - **Recognize the probabilistic nature of forced outage rates and the impact on capacity requirements**
  - **The following alternative methodologies (presented at the June 22, 2005 IITF meeting) will be investigated:**
  - **Alternate 1: Resource Accounting Screen with intra-zonal power flow**
  - **Alternate 2: Power Flow Methodology with screening step (similar to PJM deliverability test)**
  - **Alternate 3: IRM and Locational Capacity Studies related to power flow analysis**
  - **Alternate 4: Combined Generation and Load Approach**

ADDITIONAL SCENARIOS

Scenario A:

- **Utilize the same assumptions as the Base Case, except for the following:**
  - **Monitor for stuck breaker and tower contingencies**
  - **Use LTE ratings**

Scenario B:

- **Utilize the preliminary transfer limits developed for the 2006 IRM analysis and reflect the impact of the Con Ed series reactor at Sprainbrook**

Scenario C:

- **Utilize the base case, except test for all contingencies on the electric system at voltages of 115 kv and above and separately report any appropriate emergency condition criteria violations resulting from these additional contingencies**

ATTACHMENT II

UNITED STATES OF AMERICA
FEDERAL ENERGY REGULATORY COMMISSION

New York Independent System Operator, Inc.	)	Docket Nos. ER04-449-003 ER04-449-007 and ER04-449-008

NOTICE OF FILING

(2005)

Take notice that on September 30, 2005 the New York Independent System Operator, Inc. (NYISO) submitted a Status Report concerning its implementation activities associated with its continuing stakeholder work regarding its analysis of a deliverability product for New York in response to the Commission's August 6, 2004 Order in the above-captioned proceeding. This progress report is submitted in accordance with the Work Plan submitted in the NYISO's April 29, 2005 filing in this Docket.

The NYISO states that it has served all parties on the official service list in this proceeding, The NYISO also states that it has electronically served a copy of this filing on the official representative of each of its customers, on each participant in its stakeholder committees, on the New York State Public Service Commission, and on the electric utility regulatory agencies of New Jersey and Pennsylvania.

Any person desiring to intervene or to protest this filing must file in accordance with Rules 211 and 214 of the Commission's Rules of Practice and Procedure (18 CFR 385.211, 385.214). Protests will be considered by the Commission in determining the appropriate action to be taken, but will not serve to make protestants parties to the proceeding. Any person wishing to become a party must file a notice of intervention or motion to intervene, as appropriate. Such notices, motions, or protests must be filed on or before the comment date. Anyone filing a motion to intervene or protest must serve a copy of that document on the Applicant and all the parties in this proceeding. The Commission encourages electronic submission of protests and interventions in lieu of paper using the "eFiling" link at http://www.ferc.gov. Persons unable to file electronically should submit an original and 14 copies of the protest or intervention to the Federal Energy Regulatory Commission, 888 First Street, N.E., Washington, D.C. 20426.

This filing is accessible on-line at http://www.ferc.gov, using the "eLibrary" link and is available for review in the Commission's Public Reference Room in Washington, D.C. There is an "eSubscription" link on the web site that enables subscribers to receive email notification when a document is added to a subscribed docket(s). For assistance with any FERC Online service, please email FERCOnlineSupport@ferc.gov, or call (866) 208-3676 (toll free). For TTY, call (202) 502-8659.

Comment Date:

Magalie R. Salas
Secretary

Certificate of Service

I hereby certify that I have on this day caused to be served this filing upon each party on the official service list compiled by the Secretary. I have also caused to be served electronically a copy of this filing on the official representative of each of its customers, on each participant in its stakeholder committees, on the New York State Public Service Commission, and on the electric utility regulatory agencies of New Jersey and Pennsylvania.

Dated at Albany, New York this 30th day of September 2005.

_____

Carl F. Patka
Senior Attorney
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