

**Northeast ISOs  
Seams Resolution Report  
History of Seam Issues Resolution**

2006 – Open Projects

**P9 Pending (Orig. Projected June 2003) – LAKE ERIE SYSTEM REDISPATCH PROJECT IMPLEMENTATION**

This NPCC procedure allows the redispatch of suppliers across regions to alleviate the potential curtailments of transactions due to TLR requests whenever a control area is in an energy short situation. The project requires implementation of operating procedures and billing and settlement process to account for the regional redispatch. PJM, NYISO, MISO, and IESO are working to address the outstanding issues; the group is currently analyzing the causes of high circulating flows.

**P14 Pending (Orig. Projected 2005) – NY-HQ-ISONNE HVDC INTERCONNECTIONS (ISO-NE, NYISO, PJM and HQ)**

This is a joint project lead by ISO-NE and HQ TransÉnergie to update the methodology and procedures for scheduling of the Phase II HVDC interconnection between New England and Quebec.

- Initial efforts were focused on use of the IDC as a possible tool to forecast availability of Phase II above the 1200 MW limit, however the parties have concluded that the IDC in its current form would not be suitable.
- The report, "Review of the PJM-NY-NE Procedures and Methodology for the TE-NE HVDC Line was finalized May 2005". This document is posted on the ISO-NE website at <http://www.iso-ne.com/trans/ops/limits/>.
- NYISO, PJM, and ISO-NE have prepared a data sharing agreement for future data sharing. The agreement is being circulated for signature approval and once all parties have signed the agreement then this project will be considered closed.

**P15 Q3-2005 (Orig. Date 2003 but changed as a result of SMD NOPR) - REGIONAL RESOURCE ADEQUACY MODEL (RAM) GROUP**

The Regional Resource Adequacy Model (RAM) Working Group (formerly the JCAG Working Group) was set up to develop longer-range UCAP markets in NY, PJM and ISO-NE than currently exist. The RAM Working Group developed initial recommendations in mid-2002. The work plan was reassessed in light of the SMD NOPR and the ISOs/RTOs filed joint comments addressing resource adequacy on January 10, 2003. The comments described a central market-based resource adequacy framework, which was consistent with the goals of the SMD NOPR. NERA was selected to analyze the proposed central resource adequacy market design, and presented their final report at the February 26 regional RAM meeting. A NYISO status report was filed with FERC on February 27, 2004. The broad range of concerns raised by stakeholder groups in each ISO/RTO make it unlikely that all of the ISO/RTOs would adopt the RAM proposal as it was then currently formulated. It was anticipated that this effort would lead, instead, to enhancements in the capacity markets in each region. In enhancing their existing markets, the ISO/RTOs have committed to maintain the ability to trade the same product (UCAP) between regions and to identify and remove any remaining barriers to the trading of capacity between regions. Each region has Resource Adequacy/ICAP working groups looking at this issue. The NYISO submitted a hybrid proposal to its stakeholders for consideration which incorporates a voluntary forward capacity market for procurement of a portion of its future resource requirements. On June 16, 2006, the Commission issued an order approving the proposed capacity market settlement agreement for the New England region, which provides for the eventual implementation of a forward capacity market after an interim transition period that begins on December 1, 2006. PJM introduced a proposal for a Reliability Pricing Model ("RPM") in June 2004 and has subsequently presented and revised the proposal at numerous stakeholder meetings. The proposal has been presented and discussed with its Members Committee, at

FERC and at its jurisdictional commissions. PJM has presented training programs and tutorials to members and interested parties.

**Milestones and timetable:**

- The NYISO submitted a hybrid proposal to its stakeholders for consideration incorporating a voluntary forward capacity market for procurement of a portion of its future resource requirements.

On March 1, 2004, ISO-NE filed a locational capacity market with the Commission. In an order issued June 2, 2004, the Commission established hearing procedures and specified that a locational capacity market would be implemented in New England on January 1, 2006. Following completion of evidentiary hearings, the FERC ALJ decision was issued on June 15. On September 20, 2005, FERC heard oral arguments on ISO-NE's locational capacity market design. On October 21, 2005, the Commission issued an order establishing settlement procedures on alternatives to the LICAP demand curve proposed by ISO-New England, authorizing the ISO to make a compliance filing on its Shortage Hours proposal and requiring the ISO to file updated cost estimates of its LICAP proposal. On March 6, 2006, ISO-NE and other parties filed a comprehensive settlement that would establish an auction-based Forward Procurement Market to acquire capacity three years prior the obligation period.

- PJM introduced a proposal for a Reliability Pricing Model ("RPM") in June 2004 and has subsequently presented and revised the proposal at numerous stakeholder meetings and has discussed the proposal with various PJM states PUCs. PJM has discussed the proposal with the NY PSC, with the NYISO and with MISO to ensure that the RPM proposal would not impact seams or create adverse impacts on regional markets. PJM filed its RPM proposal with FERC on August 31, 2005 and FERC held a technical conference on RPM on February 3, 2006. In an order on (Docket Numbers EL05-148-000, ER05-1410-000) April 20, the FERC endorsed the major principles of RPM. It called for the technical conference and hearings, which were held on June 7<sup>th</sup> and June 8<sup>th</sup>, to help resolve details prior to implementing RPM in place.
- A joint meeting of ISO-NE/NYISO/PJM and stakeholders is being deferred until such time as clear direction is established in all ISOs. The NY ICAPWG will continue reviewing both the PJM and ISO-NE proposals as part of their ongoing activities.

**P18 Q3-2007 (orig. Projected 2004) – NYISO AND ISO-NE – INTRA-HOUR TRANSACTION SCHEDULING (ITS) (INCLUDING PARTICIPANT DRIVEN AS WELL AS VIRTUAL REGIONAL DISPATCH (VRD) SOLUTIONS)**

ITS is intended to provide a means to respond to excessive and persistent price differentials between the markets at times when sufficient capacity remains available on the transmission interface to provide substantive reduction in the differential. Due to market rules associated with transaction scheduling that require over one hour of advance notice to schedule a transaction and the associated risks to market participants, price differences are not well arbitrated in real-time by Market Participants (MPs).

**Milestones and timetable:**

- NYISO and ISO-NE have documented a technical definition of a virtual regional dispatch process and have received potentially viable alternative methodologies from their stakeholders. The ISOs will proceed with further stakeholder meetings to finalize the technical definition and to work towards a joint stakeholder acceptance of the proposal.
- The first set of pilot tests were conducted on April 20-21, 2005. Any additional tests will be scheduled based upon results evaluation of the April tests.
- NYISO and ISO-NE issued a report on the first pilot test on October 24, 2005. A joint meeting of NY and NE stakeholders to review the pilot test report and further develop market participant based proposals for improving the efficiency of the NYISO/ISO-NE interface was held on November 14, 2005. Based on discussions at that meeting, ITS will be considered along with other market issues as part of the NYISO

rules assessment initiative currently underway. Also, an ITS progress report will be posted upon completion of NYISO internal review.

- Review of Initial Implementation and Exploration of ITS Expansion: Subject to successful implementation of ITS between NYISO and ISO-NE, plans for expansion to IESO could be explored. This review and decision will be considered by the ISOs with stakeholders by July 31, 2007.

**P19 Q4-2006 (orig. Projected 2004) – ISO-NE PARTIAL UNIT ICAP SALES**

ISO-NE's SMD 1.0 does not support the sale of UCAP to external control areas from portions of units. The Commission has directed that this functionality be added. ISO-NE has implemented changes that offer basic partial delisting functionality.

**Milestones and timetable:**

- ISO-NE presented a basic proposal for discussion with the Markets Committee ("MC") at the October 13, 2004 and December 2, 2004 MC meetings.
- A final proposal was presented to the MC for a vote in the December 15, 2004 meeting and passed with 70.48% voting in favor. The NEPOOL Participants Committee ("PC") voted at its January 7, 2005 meeting to support ISO-NE's proposal.
- Filed with FERC on January 31, 2005
- Manual changes approved by MC on March 8, 2005
- FERC issued order conditionally accepting tariff filing on March 31, 2005. Two compliance filings were required: a 30-day and a 60-day.
- Manuals were approved by MC on April 13, 2005, complying with FERC's order.
- ISO-NE and NEPOOL made the 30-day compliance filing on May 2, 2005, which was accepted by FERC on June 22, 2005.
- On May 2, 2005, ISO-NE also filed a request for rehearing of the Commission's March 31, 2005 directive to modify the partial de-listing provisions such that the requirement for partially de-listed units to offer their full capability into the Day-Ahead Energy Market (the "Offer All" requirement) will expire upon the implementation of a Locational ICAP market in New England. On September 15, 2005, the Commission issued an order granting the ISO's request for rehearing and rescinding the directive that the day-ahead Offer All requirements expire coincident with the implementation of a Locational ICAP mechanism.
- Partial unit ICAP sales were implemented on June 1, 2005.
- On November 17, 2005, the Commission directed ISO-NE and NEPOOL to continue to work on aspects of the rules relating to partial de-listing, without establishing specific deadlines. Specifically, the Commission directed ISO-NE and NEPOOL to continue to work to (1) remove the restriction that a unit be limited to a single listed and de-listed segment; and (2) eliminate restrictions associated with the treatment of partially de-listed resources in the Forward Reserve Market.
- On May 30, 2006, FERC issued an order directing ISO-NE, "within 90 days of the date of this order, to make a filing with the Commission providing a specific date on which ISO-NE will file to implement multiple segment delisting." The ISO is currently in the process of determining a target date for implementing multiple segment delisting.

**P21 Q4-2006 (orig. Projected 2004) – NORTHEAST GENERATOR ATTRIBUTES TRACKING (GAT) SYSTEM**

Green power suppliers need transparent and efficient tracking of the attributes of green power traded across the ISOs that assures that no double counting occurs.

- NY is working with market participants to determine the suitability of adapting the New England Generator Information System (GIS) to New York markets. The NYISO has been actively participating in the NY Dept. of Public Service hearings on a Renewable Portfolio Standard, where attributes trading is identified as a necessary and desirable condition. On September 24, 2004, the New York State Public Service Commission (PSC) issued its Order on the Renewable Portfolio Standard that outlines a centralized procurement process for renewables. A workshop on the need for a GATS system, sponsored by the PSC and New York State Energy Research and Development Authority (NYSERDA), was held on July 14, 2005. On September 21, 2005, the PSC issued a State Administrative Procedure Act (SAPA) notice stating that it is considering authorizing PSC Staff and NYSERDA, in consultation with the NYISO, to begin the design of a certificate-based tracking and trading system. In the RPS Program January 26, 2006

Order in Case 03-E-0188, the New York Public Service Commission expressed its inclination to modify the current Environmental Disclosure Program to include an attributes accounting system similar to systems used in other states.

- The IESO is awaiting direction from government before proceeding further on this initiative.
- PJM Environmental Information Services Inc (PJM-EIS), a wholly owned subsidiary of PJM Technologies, has completed the development of a Generation Attribute Tracking System (GATS). The system was placed in service in September 2005. Initial users are the LSEs in NJ and MD as well as generation owners with renewable attributes in the PJM region. PA and DC have both issued regulations that selected the GATS as the registry system for implementation of their RPS requirements. Regulations for implementation of the DE portfolio standard also select the GATS and are pending final approval later this year. As of May 31, 2006, PJM's GATS had 112 registered subscribers, and had 232 registered generators that qualified in a state RPS. These generators were spread across 12 different states, with several registered generators being located in New York State.
- In July 2002, the New England Power Pool (NEPOOL) launched the NEPOOL Generation Information System (GIS). This system tracks the generation attributes, emissions, and outputs of all generators in New England. The system also facilitates the trading of renewable energy certificates (REC) for states with renewable energy portfolio standards (RPS). Currently approximately 580 generators are registered, including 8 generators located in New York.
- The NEPOOL GIS was the first tracking system in the nation to support multi-state RPS programs. The PJM-EIS GATS was designed on the basis of the NEPOOL GIS. Although there are some functional differences, the two systems are compatible in architecture, core functionality and look-and-feel.

#### **P24 June 2007 - CROSS-BORDER CONTROLLABLE LINE SCHEDULING (NY-NE)**

NYISO software will be designed or modified to model Controllable Lines across control areas through an external proxy bus, providing market participants with the ability to bid to or from the new proxy bus in the Day-Ahead Market and schedule transactions in real-time. NYISO and ISO-NE operators will have the ability to monitor a Controllable Line and curtail transactions on the line.

##### **Milestones and timetable:**

- Full market deployment of the Cross-Sound Scheduled Line occurred on June 7, 2005
- NYISO has established an internal project team to develop an integrated approach to implementation of future scheduled lines. NYISO is planning to implement software to permit scheduling at the Dennison proxy bus with HQ in Q4-2006.
- Implementation Date for 1385 Line: NYISO and ISO-NE have discussed the implementation of scheduling of transactions on the 1385 (Northport to Norwalk Harbor) cable with LIPA and NUSCO and the addition of appropriate pricing nodes. ISO-NE has provided its market participants with a memo describing the operational issues of scheduling across the 1385 line and proposed solutions. ISO-NE will implement scheduling on the 1385 line no later than June 2007.
- LIPA and NYISO personnel met on October 31, 2005 and held further discussions in November. A meeting was held on December 19, 2005 involving LIPA, ISO-NE, and NYISO to discuss the timeframe and steps required to initiate scheduling over the 1385 line. On December 23, 2005, LIPA proposed a timetable for NY discussion of operational issues and possible tariff changes. NYISO has established biweekly internal meetings to identify any implementation issues and draft tariff language for stakeholder review as necessary. The NYISO plans to test and deploy the necessary modeling changes to implement a separate proxy bus in a software release planned for October 2006, with the functionality disabled as to Market Participants until ISO-NE is ready.
- ISO-NE faces several critical challenges with regard to its infrastructure. The capacity and ancillary services markets that are needed to maintain system reliability have taken precedence over several other important issues. When the currently effective Interregional Coordination Agreement between

ISO-NE and NYISO was executed in January 2005, ISO-NE expected that the capacity market litigation and implementation of the Ancillary Services Market project would be completed in 2005. However, due to the additional time necessary to pursue capacity market settlement discussions and stakeholder requests to spend additional time to work through the complexities of the ASM project market design, both of these major projects have been substantially delayed.

In addition to the delay in resolving market design issues related to the capacity market and the ASM project, two significant unplanned events occurred during 2005:

1. Hurricanes Katrina and Rita disrupted natural gas supplies in late 2005 and created significant uncertainties regarding the availability and pricing of natural gas for an extended period of time. In response, ISO-NE was required to deploy considerable resources to minimize the risk that severe winter weather might disrupt power generation and threaten public safety in New England.
  2. During 2005, New England experienced significant increases in reliability costs and the exercise of local market power in the NEMA/Boston area, which required the ISO to devote significant resources to exploring short and long-term solutions to the problem.
- ISO-NE has been fully transparent regarding its work plan and has sought to keep stakeholders informed, both as a group and individually, regarding the impact of changing circumstances on the work plan. At the October 14, 2005, NEPOOL Participants Committee meeting, ISO-NE explained the impact of the need for extended consideration of capacity and reserve market design issues and the emergence of unplanned critical issues on its Wholesale Markets Plan.
  - ISO-NE acknowledges the importance of seams issues and continues to work diligently to complete the activities related to the scheduling of 1385 line. To this end, ISO-NE has worked with its stakeholders (both the Markets Committee and Tariff Committee) on finalizing the resolution of this issue.
  - As set out above, the multiple critical projects that ISO-NE and its stakeholders will be coordinating over the next two years, including implementation of the pending capacity market settlement and implementation of forward and real-time reserve market enhancements, require that the work to support contract scheduling on the 1385 line not begin until 2007. ISO-NE also advised stakeholders during the October 14, 2005 NEPOOL Participants Committee meeting that two other high priority projects (improved modeling of combined cycle generating units and implementation of the cold weather action plan for winter 2005/2006) created risk that the external node pricing issues related to the 1385 line would be delayed. ISO-NE expects to be able to implement scheduling on the 1385 line without any market rule or tariff changes and has conveyed this information to the relevant stakeholder technical committees.

**P25 Q2-2007– NORTHEAST GAS/ELECTRIC INTERDEPENDENCY COORDINATION (PJM, NYISO, ISO-NE)**

Much of the generation built in the Northeast in recent years is fired by natural gas. Periods of extreme cold weather place heavy demands on both the electric and natural gas transmission systems as energy consumption increases. Sometimes, the resulting delivery restrictions on the regional gas pipeline system, and/or lack of firm contracting, can limit the ability of gas-fired generation to produce electricity.

- ISO-NE, NYISO, and PJM have agreed, through a Memorandum of Understanding signed in June of 2005, to collaborate to ensure electric power system reliability in the event of supply constraints on the natural gas supply system. The ISOs will coordinate operations and practices and share information and technology during periods of extreme cold weather and/or abnormal natural gas supply or delivery conditions through the Northeast ISO/RTO Natural Gas and Electric Interdependency Coordination Committee (“NGEICC”).
- Following hurricanes Katrina and Rita in the fall of 2005, and as a result of the devastating impacts those hurricanes had upon the oil, natural gas and refining infrastructure in the Gulf of Mexico, the NGEICC initiated an assessment of the potential impacts on regional fuel supply/delivery, as it relates to power

generation fuels and subsequent reliability of the electrical power grids in the northeastern United States. The Committee retained the services of an industry consultant for this analysis. The consultant delivered study results for ISO-NE, NYISO, and PJM. The study predicted a delivery shortfall of approximately 1.5 Bcf/day through the winter season. That prediction turned out to be accurate, but the mild winter weather blunted any impact from the delivery shortfall.

- ISO-NE and NYISO have established mechanisms to automatically receive regional natural gas pipeline (Transportation Service Provider's ("TSP")) informational postings from their electronic bulletin boards ("EBB"). TSP informational postings contain both Critical and Non-Critical Notices as well as Planned Service Announcements, detailing maintenance activities. PJM is now monitoring various sources of information to assess the natural gas delivery situation.

## **P26 COORDINATION OF INTERREGIONAL PLANNING**

To continue to develop ways to improve the coordination of planning for the Northeast region, this project is established to identify future deliverables towards achieving progress in this endeavor. ISO-NE, NYISO, and PJM will confer on this topic and identify the deliverables to pursue along with their milestones.

### **Issues Under Discussion**

*Issues that have been brought to the attention of the ISOs but have either not yet resulted in a specific initiative or the initiative has not been approved as a project by the stakeholder process (Date the issue was added to the list is shown at end of each item). Issues may be consolidated, deleted, or moved to the project list as they are more fully considered among the ISOs and stakeholders.*

#### **14 REDUCED LEAD TIME FOR IN-DAY TRANSACTION SCHEDULING (NY)**

NYISO market participants have expressed a desire to reduce the lead time for submission of real time transactions below the 75-minute limit currently in effect. This feature will also be considered as part of the Intra-Hour Transaction Scheduling (P18) project. Intra-Hour Transaction Scheduling will be considered along with other market issues as part of the NYISO rules assessment initiative currently underway. (July 2003)

#### **16 RESERVES PARTICIPATION IN ADJACENT REGIONAL MARKETS (NY-NE-HQ)**

There is Market Participant interest in selling operating reserves from generation sources in one region to provide reserves in another region. This issue will be considered along with other longer-term market issues as part of the NYISO Market Evolution Plan, which was presented to NY stakeholders in June 2005 and is currently under discussion with NY stakeholders. ISO-NE will consider inter-control area provision of reserves following implementation and assessment of their reserve market, scheduled to be implemented in October 2006. (April 2004)

#### **17 THE IMPACT OF EXTERNAL TRANSMISSION OUTAGES ON CONGESTION RENT SHORTFALLS AND ICAP MARKETS (NY-NE)**

In the TCC auctions that it conducts, the NYISO permits bidders for TCCs to specify external proxy generator buses as the injection or withdrawal locations. Transmission outages or deratings occurring outside of the NYCA that are not anticipated at the time of a TCC auction can force the NYISO to reduce the assumed transfer capability between the NYCA and the adjacent control area. If the resulting set of TCCs are rendered infeasible, the NYISO will incur congestion rent shortfalls in the day-ahead market. There is currently no way to assign the cost impact (due to the congestion rent shortfall) of that outage to the responsible external transmission owner. TCCs in New York are fully funded, therefore the New York Transmission Owners are exposed to revenue shortfalls when transfer capability is reduced by external outages outside of their control. In addition, transmission outages or deratings that cause reductions in transfer capability between regions may have an impact on ICAP sales between regions. Due to the emphasis on evaluating SMD2 performance subsequent to deployment in February 2005, NY deferred stakeholder discussion on this issue. NYISO Senior Management will evaluate project, scheduling, and budget impacts in conjunction with all other identified initiatives and determine what further action will be taken. (Oct 2004)

#### **18 ELIMINATION OF RATE PANCAKING**

The NYISO, with the support of the New York TOs, will initiate discussions among the affected parties in the Northeast to explore the potential for rate pancaking relief between New York and PJM. A meeting between

the NY and PJM TOs was held on August 18, 2005 to initiate discussions on this issue. With the Transmissions Owners as the primary drivers of this issue, NYISO and PJM are awaiting indications of intent from PJM's TOs as to the level of priority this issue has with the PJM's TOs. Also, transaction data regarding volume and rates for PJM exports into NY is being sought.

The NYISO has also initiated discussions with IESO to eliminate export fees. (Jan 2005)

**I9 MODELING OF NETTED TRANSACTIONS AT THE NYISO-HYDRO QUEBEC INTERFACE (NY-HQ)**

Currently, real-time imports from HQ are limited to 1200 MW based upon NY first contingency criteria. Day-ahead and real-time scheduling software recognizes a 1500 MW limit at the NY-HQ proxy bus comprised of imports, exports, and wheel-throughs. One solution that has been suggested would create a second proxy bus model at the interface, which would be used to schedule only wheel-through transactions; the first proxy bus would be used to schedule imports/exports up to a net level of 1200 MW. On December 16, 2005, the NYISO met with HQUS to discuss next steps. Based on the December meeting, a high-level presentation on functional requirements and preliminary resource requirements was presented at the Jan. 20, 2006 S&PWG meeting and at the February 9, 2006 Operating Committee meeting. NYISO Senior Management will evaluate project, scheduling, and budget impacts in conjunction with all other identified initiatives and determine what further action will be taken. (Jan 2005)

**I10 ICAP SELF SCHEDULING REQUIREMENT IN ISO-NE**

Market participants have expressed concern with the self scheduling requirement in the ISO-NE ICAP Manual that requires resources sold externally to self schedule the amount of capacity they offer for sale externally in order for the associated energy to be non-recallable. The market participant concern is that this requirement may not be consistent with the ICAP principles that have been agreed upon among the Northeast ISO/RTOs and that this requirement may be an unnecessary barrier to trade. The ISO will provide a report on this to New England Participants in the third quarter of 2006.

**I11 NY-PJM PROXY BUS CLEARING PRICE CALCULATIONS**

NY and PJM calculated their respective proxy bus prices using the LMP method but with fundamentally different underlying assumptions. This can result in significant price differences between the NY and PJM proxy prices. Discussion is needed between both areas to work towards convergence of the underlying assumptions. (April 2006)

**I12 LIMITATIONS DUE TO LOSS OF LARGE SOURCE**

ISO-NE has historically limited resources above certain MW levels when tripping at higher outputs could result in reliability problems for one of the other northeastern markets. ISO-NE will review the origins of the limit and provide a report on current practices. If warranted, the ISO will propose a Project whose scope will address solutions to any issues identified.