

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

2005 – Open Projects

P7 Complete (Orig. Date Dec 2002) – COORDINATION OF CONTROLLABLE TIE LINES (PHASE-ANGLE REGULATORS) BETWEEN NY AND PJM

FERC issued an Order on the PSEG-ConEd wheeling contracts (FERC Docket EL02-23) Phase I issues 12/9/2002. Appeals of Phase I Order were denied in FERC's 12/23/03 order. The ALJ issued an Initial Decision in the Phase II litigation on June 11th, 2003. Briefs have been finalized. FERC issued its final order on August 6, 2004 which requires NYISO, PJM, Con Edison and PSEG to develop an operating protocol to coordinate the scheduling of the PARS and other measures to implement the transmission service under the subject contracts to be filed with FERC by November 6, 2004. Con Edison and PSEG have both filed for rehearing of certain aspects of the FERC Order. PJM and NYISO have met several times to draft the operating protocols.

- On October 26, the parties filed with FERC for an extension of time (until January 17, 2005) to develop a mutually acceptable operating protocol, and proposed to identify issues they were unable to resolve by December 1, 2004. The Commission granted the joint motion in its November 1 notice.
- On December 13, 2004, the parties filed for additional time (until December 21, 2004) to identify outstanding issues in the proceeding.
- On December 22, 2004, the parties filed a joint submission of outstanding issues and requested assistance of the ALJ to help narrow their differences.
- On January 6, 2005, the parties met with the ALJ to explore outstanding issues.
- On January 13, 2005, the parties filed for an extension of time (until February 18, 2005) to resolve the outstanding issues and to finalize a mutually acceptable protocol.
- On February 18, 2005, the NYISO, PJM and PSE&G submitted a joint compliance filing including a comprehensive operating protocol under which the NYISO and PJM would administer the subject contracts. The filing requested a June 1, 2005 implementation date.
- On May 18, 2005 FERC issued an Order approving the protocol as filed, with an effective date of July 2, 2005; the protocol was implemented on July 1, 2005

P8b Complete (orig. Projected 2003) – FACILITATED CHECKOUT

- NYISO, ISO-NE, IESO, HQ, NB & MISO have been participating in the specification of the Facilitated Transaction Checkout (FTC) communication protocol. Pilot implementation with ISO-NE has been successful and demonstrated ISO-NE and NYISO capability to exchange transaction data in real-time. NYISO, ISO-NE and IESO have completed implementation of the data exchange software. ISO-NE and IESO have successfully integrated the new data into their control room displays.

Milestones and timetable:

- FTC was implemented into NYISO's control room displays on July 5, 2005.

P8c Complete (orig. Projected 2004) – NY E-TAGGING

- NYISO has implemented automated tools to improve communication and updates of NYISO transaction bids and schedules with the E-Tag system. The tools allow automated response on incoming E-Tag requests and automated curtailments to the E-Tag system for bid / schedule changes resulting from hour-ahead evaluation, checkout and curtailments.

Milestones and timetable:

- **NYISO** – Has implemented automated tools to improve communication and updates of NYISO transaction bids and schedules with the E-Tag system.
- Phase I development (operations automation) is complete and was deployed on April 25, 2004.
- Release 1.4 of the E-Tagging software was deployed February 1, 2005.

- Release 2.0 will provide more automated integration of this data, including the ability to identify and cut any MIS schedules without a corresponding E-Tag. Release 2.0 was successfully deployed on July 5, 2005.

P10 Q4- 2005 (orig. Projected 2003) – NPCC EXPANSION OF REGIONAL RESERVE SHARING

NPCC will coordinate the implementation of a 100 MW reserve sharing pilot among NPCC members to improve regional reserve market efficiency. NPCC committees have approved revised policies to permit the reserve sharing pilot project. The NPCC RCC formally accepted the Reserve Sharing Procedure on June 1, 2005, with implementation by Q4-2005. The RCC restricted reductions in individual Area reserve requirements to 50 MW for up to one hour. The pilot project does not address a market-based solution – see 16 below for a discussion of market-based issues.

P14 Projected 2005 – NY-HQ-ISO-NE 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 group has drafted a report, "Review of the PJM-NY-NE Procedures and Methodology for the TE-NE HVDC Line". This document is posted on the ISO-NE website at www.iso-ne.com/smd/transmission_services/scheduling
- NYISO, PJM and ISO-NE are preparing a data sharing agreement for future data sharing.
- PJM and NYISO staffs have been participating with ISO-NE and TransÉnergie in periodic conference call meetings and continue to support this effort.

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 is 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 will adopt the RAM proposal as it is currently formulated. It is anticipated that this effort may 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 has 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. ISO-NE is currently engaged in an evidentiary hearing process regarding certain aspects of its proposed locational capacity market. 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 has 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. ISO-NE is currently engaged in an evidentiary hearing process regarding certain aspects of its proposed locational capacity market. The FERC ALJ decision was issued on June 15.

- 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. PJM made a presentation on its RPM at the April 11, 2005 ICAP WG meeting. The PJM Board of Managers received comments from Members at the May 5 Annual Meeting – no decision has been reached whether to pursue this model further.
- FERC held a Technical Conference on June 16th to review the PJM proposal for RPM. FERC and the PJM Board are waiting for written comments, and will re-assess the proposal at that time.
- A joint meeting of ISO- NE/NYISO/PJM and stakeholders is being planned for Q3-2005 to review each ISO/RTO’s respective capacity market proposals. The NY ICAPWG will continue reviewing both the PJM and ISO-NE proposals as part of their ongoing activities.

P18 Q3-2005 (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. Target is to complete an acceptable proposal by the end of 2005.
- The first set of pilot tests were conducted on April 20-21; a report on the results of the pilot test in New York will be issued in July 2005. Any additional tests will be scheduled based upon results evaluation of the April tests.
- Following NYISO, ISO-NE and stakeholder review of the pilot program results by September 30, 2005, and assessment of market participant based proposals for improving the efficiency of the NYISO/ISO-NE interface, further phases of this work will be developed. Initial ITS Implementation Date estimate: By December 31, 2006 (dependent upon initial deployment design).
- Phase 3 - Review of Initial Implementation and Exploration of ITS Expansion. During Phase 2 further substantive discussions with IESO are planned. 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 prepared a proposal that can be implemented in the near term that offers 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. A Participants Committee (“PC”) vote at the January 7, 2005 PC meeting unanimously approved 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
- Manuals were approved by MC on April 13, 2005, complying with FERC’s order

- Partial unit ICAP sales were implemented on June 1, 2005. Three issues identified by FERC in its March 31 order remain outstanding and will be addressed in a compliance filing due August 15, 2005.

P21 Q4-2005 (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.
- 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 continues in the development of a Generation Attribute Tracking System (GATS), with certificate creation beginning when the system goes operational in September. Initial users are expected to be entities active in NJ and MD in support of the state RPS programs. PA, DC and DE will be considering the use of the system to support their needs as they develop plans to implement their RPS. The system will also support adjacent markets through the export of GATS certificates.

P23 Q2-2006 –COORDINATION OF INTERREGIONAL PLANNING

- In January 2003, a Liaison Task Force was formed including all NPCC members as well as PJM to develop ways to improve the coordination of planning for the Northeast region. As a result, there has been considerable improvement in communication on planning issues. During 2004, ISO-NE, NYISO and PJM solicited stakeholder input on a draft protocol agreement. In general, stakeholders were very supportive of moving ahead with the protocol.

Milestones and timetable:

- The ISOs developed a draft coordinated planning protocol document, incorporated stakeholder input and finalized the protocol document in December 2004. This document provides the basis for standardizing data and information exchanges, developing a coordinated plan, and initiating a joint stakeholder process. The IESO, Hydro Quebec (Transenergie) and New Brunswick Power, while not parties to the protocol, have agreed to participate on a limited basis in order to ensure better coordination for the benefit of the Northeast region.
- The initial scope of work for a Northeast Coordinated System Plan began in summer 2004. It includes better coordination of information sharing by harmonizing the timing, development and exchange of data bases and modeling assumptions used in planning analysis, the identification of joint planning issues, the establishment of standardized confidentiality agreements and building upon joint planning activities already under way.
- The initial draft Northeast Coordinated System Plan: 2005 (“NCSP 2005”) was issued to stakeholders on April 6, 2005. This report consolidates the system assessments and plans of each of the participating control areas, highlights existing inter-regional planning activities, summarizes perceived issues and risks and identifies potential issues for future analysis.
- A region-wide planning process will be implemented which includes an open stakeholder advisory group and the issuance of a region-wide coordinated plan. This region-wide planning process would be supplemental to each ISO or RTO's individual and more detailed transmission planning process.

- The first meeting of the Inter-area Planning Stakeholder Advisory Committee (“IPSAC”) was held on June 17, 2005 to receive input and to initiate the process for developing the first fully coordinated NCSP for the Northeast which is expected to be issued by mid-2006.

P24 Q2-2006 - 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:

- **NYISO and ISO-NE** - The end state project (A-619) will provide an external proxy bus representation for controllable tie lines (HVDC and/or PAR) which span two control areas. The NYISO Management Committee approved the generic controllable lines solution at its January 5, 2005 meeting. Stakeholder review was completed in March 2005.
- NYISO tariff changes filed with FERC on March 25, 2005; approved on May 24, 2005.
- Technical Bulletin (#141) was issued on May 16, 2005.
- WebEx training was held on May 10 and 16.
- Full market deployment of the Cross-Sound Scheduled Line occurred on June 7, 2005
- Implementation Date for 1385 Line: NYISO and ISO-NE are discussing the implementation schedule for the application of this software to the 1385 (Northport to Norwalk Harbor) cable with LIPA and NUSCO. The scheduled implementation date for the 1385 Line is June 30, 2006. However, the multiple critical projects that ISO-NE and its stakeholders will be coordinating over the next two years could result in a no-later-than date of October 2006.

P25 Q2-2007 (new issue) – 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 gas pipeline system can limit the ability of gas-fired generation to produce electricity.
- ISO-NE, NYISO, and PJM have agreed, through a Memorandum of Understanding, to collaborate to ensure electric power system reliability in the event of 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
- ISO-NE and NYISO have established mechanisms to receive Transportation Service Provider’s (TSP) informational postings from their electronic bulletin boards (EBBs).
- PJM is in the process of establishing mechanisms to receive Transportation Service Provider’s (TSP) informational postings.
- ISO-NE, NYISO and PJM formed the Northeast ISO/RTO Natural Gas and Electric Interdependency Coordination Committee to coordinate operations (processes and procedures) and planning on matters related to natural gas fuel supply and delivery issues potentially or directly impacting each others’ bulk electric power systems.

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.

- 12 MULTIPLE PROXY BUSES FOR FREE-FLOWING INTERFACES (NY-PJM)**
Further analysis of the feasibility of implementing multiple proxy buses will be included with future assessment of market coordination efforts of the ISOs after implementation and testing of several current initiatives (i.e., PJM's market to market coordination with MISO, NY's SMD2) and will be brought back to a future seams coordination meeting. PJM has invited the NYISO to join in a conference call in the near future to re-visit this issue.
- 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. (July 2003).
- 16 RESERVES PARTICIPATION IN ADJACENT REGIONAL MARKETS**
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. Subsequently, discussions will be held in Q3-2005 with stakeholders to prioritize this as well as other market issues, at which point NYISO resources will be assigned to look at issues in priority order. ISO-NE will consider inter-control area provision of reserves following implementation and assessment of their reserve market.
- 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 has deferred stakeholder discussion on this issue. This issue will be addressed as part of the Market Evolution Plan.
- 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 has been tentatively scheduled for August 18th to initiate discussions on this issue.

The NYISO has also initiated discussions with IESO to eliminate export fees.
- 19 MODELING OF NETTED TRANSACTIONS AT THE NYISO-HYDRO QUEBEC INTERFACE**
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. NYISO is developing a white paper

on the ramifications of this issue and will make available for stakeholder discussion in Q3-2005. This issue will be addressed as part of the Market Evolution Plan.

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 discuss this issue with New England Participants in the upcoming stakeholder processes. (new 1/15/2005)

Pending 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. The working group has been reinitiated to address the outstanding issues; the group is currently analyzing the causes of high circulating flows.