Northeast ISOs
Seams Resolution Report

History of Seam Issues Resolution

2003 – Open Projects

With the April 2003 report, open projects have been renumbered.
Previous project numbers are noted at the end of each item.

P5 **Q4 2003 (orig. August 2003) – NY MS-7040 Transfer Study –** NY study on the impact of MS-7040 transfers above the current 1500 MW limit. Draft study is complete and awaiting final input from Hydro Quebec prior to committee presentation.

P6 **Pending Q4 2003 (orig. Summer 2003)** – **Maritimes to become participants in ACE Diversity Interchange process.** (35a) Data link and AGC modifications completed in New Brunswick Power test site. NBP plans to implement on their production system in the very near future. Changes to NYISO software complete; awaiting final Q/A checkout.

P7 **Pending Q4 2003 (Orig. Date Dec 2002) – COORDINATION OF CONTROLLABLE TIE LINES (PHASE-ANGLE REGULATORS) BETWEEN NY AND PJM –** The FERC Settlement Hearings on the PSEG-ConEd wheeling contracts (FERC Docket EL02-23) have failed to reach an agreement. FERC issued an Order on the Phase I issues 12/9/2002. Appeals of Phase I Order are still pending. The ALJ issued an Initial Decision in the Phase II litigation on June 11th. Briefs have been finalized. Upon issuance of a final order by FERC, NYISO & PJM will develop a protocol to coordinate the scheduling of the PARS which will be incorporated into the ISOs' operational procedures. (29)

P8a **Complete – NY OPEN SCHEDULING SYSTEM (OSS) Phase II – Ramp/ATC Posting**

- Integration of PJM ramp data effective 9/30/2003. PJM Ramp data now incorporated into OSS advisory Ramp / ATC displays and advisory pre-validation for preschedule bids.
- Ramping - Allow multiple schedule changes per hour (included in I3, Issues Under Discussion)
- ATC/TTC posting via OSS – Complete.

P8b **Projected 2003 – NY OPEN SCHEDULING SYSTEM (OSS) Phase II – Facilitated Checkout**

- NYISO, ISO-NE, PJM, IMO, HQ & MISO
- Pilot implementation with ISO-NE successful.
- ISO-NE able to access NYISO transaction data in real-time (incorporated in pilot checkout application).
- ISO-NE solution in place to provide real-time access to transaction data (pending security review / approval).
- IMO now able to access NYISO transaction data in real-time as well; the IMO is working on implementation of the software, with expected completion in Q1 of 2004.
- Collaborative meetings continue through NPCC to finalize specification and implementation standards.
- NPCC members plus MISO targeting implementation of facilitated checkout based on the real-time transaction data exchange protocol across the Northeast by end of 2003.

P8c **Projected 2004 – NY OPEN SCHEDULING SYSTEM (OSS) Phase II – e-Tagging**

- NYISO – Will implement automated tools to improve communication and updates of NYISO transaction bids and schedules with the E-Tag system.
- Automation provides direct benefits to other control areas, such as PJM, that are linking their systems to the E-Tag system for transaction scheduling inputs.
- Allows automated approval / denial of incoming E-Tag requests and automated updates for bid / schedule changes resulting from economic evaluations (e.g. Hour Ahead Market), checkouts, etc. to the E-tag system.
- Phase II will provide enhanced tools for Market Participants to create NYISO bids from E-Tag profiles or vice-versa.
- Business and technical design complete. Phase I development (operations automation) underway.

P9 **On Hold (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. (Project targeted to coincide with implementation of AEP and Dayton into PJM market). (35)

P10 **Projected 2004 (orig. Projected 2003) – EXPANSION OF REGIONAL RESERVE SHARING** – NPCC will coordinate the implementation of a 100 MW reserve sharing pilot among NPCC members and PJM to improve regional reserve market efficiency. Manual implementation anticipated in Winter 2004. Current implementation schedule deferred to 2004 as a result of the August 14 blackout; a revised schedule will be developed following completion of the blackout investigation. (39a)

2004 – Open Projects

P11 **1st Quarter 2004 (Orig. Date 2003) - HARMONIZE NEW YORK DEMAND RESPONSE PROGRAMS WITH ISO-NE** – New England currently allows qualified demand response providers to act as reserves and also permits demand response providers to supply real-time demand reduction when prices reach preset levels; they do not have a Day-Ahead Demand Response Program while New York does. ISO-NE is developing a proposed schedule for implementation of a Day Ahead Demand Response Program within the context of a comprehensive market enhancement plan. (34)

P12 **2nd Quarter 2004 (Orig. Date 2003) – NY REAL-TIME SCHEDULING (RTS) IMPLEMENTATION AND NY SMD 2.0** – Real-Time Scheduling (RTS) is a major portion of the overall *NY SMD 2.0* and involves developing new real-time commitment (RTC) and dispatch (RTD) software in place of the current hour-ahead commitment and real-time dispatch modules. *NY SMD 2.0* builds upon *NE SMD 1.0* as well as the RTS and OSS projects and incorporates a number of "Best Practice" improvements from New York; includes all key features of FERC SMD. The RTS time frame extends from 5 minutes in the future to 2½ hours in the future. Commitment and decommitment decisions are made every 15 minutes by the real-time commitment (RTC) process. Decisions to adjust the output of internal energy suppliers (dispatch) are made every 5 minutes by the real-time dispatch (RTD) process, as is the calculation of energy and ancillary services prices. RTS / *NY SMD 2.0* development by NY enhances existing long-term pre-scheduling options (by providing automated check outs) and introduces In-day Pre-scheduling to complete the needed functionality in the real-time environment. With this development, all 3 Northeast ISO's will explicitly treat firm/non-firm transmission service comparably. In-day Pre-scheduling also addresses real-time ICAP recall requirements for capacity emergencies by providing comparable treatment to ICAP suppliers with firm tie line reservations. (32)

P14 **Projected 2004 – NY-HQ-ISONE HVDC Interconnections** - Evaluate methods to improve regional coordination to enhance and maximize utilization of NY-HQ-ISONE HVDC interconnections.

P15 **Projected 2004 (Orig. Date 2003 but changed as a result of SMD NOPR) - REGIONAL RESOURCE ADEQUACY MODEL (RAM) GROUP (formerly JCAG Working Group)**– Set up to address ways to harmonize the various UCAP markets currently operating in NY, PJM and ISO-NE. The goal is to make UCAP tradable anywhere in the northeast. The Resource Adequacy Model (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 selected for development of the central resource market design. Work is underway. A meeting is scheduled for late October for an updated presentation on NERA's findings. The goal of the joint ISOs/RTOs is to work through the remaining issues with stakeholders in 2003 through the RAM process and to seek approval from individual ISO stakeholder governance processes and the FERC in 2004 for implementation of the new central resource adequacy mechanism in each region. Status report due to FERC in February 2004. (33)

P16 **Projected 2004 (Orig. Projected 2003) – NY TCC OPTIONS FOR EXTERNAL INTERFACES** – TCC options on external interfaces will allow parties to hedge congestion on long-term transactions. TCC options differ from TCC obligations in that the TCC holder would not pay the NY congestion charge if the value of a

TCC option were negative in any hour. Recent discussions on Virtual Regional Dispatch have indicated the desirability of including TCC options as part of the overall VRD design. (37)

P17 **On Hold (Orig. Projected 2003) - ESTABLISH REQUIREMENTS FOR EXTERNAL 30-MIN. RESERVES PARTICIPATION IN NY** - 1st draft white paper complete Feb. 2002. Currently being addressed by NPCC TFCO CO-1 WG. Considered a low priority project. (39)

P18 **Projected 2004 – VIRTUAL REGIONAL DISPATCH (FORMERLY REGIONAL DISPATCH COORDINATION)** – NYISO and ISO-NE have developed a regional dispatch coordination process concept and are in the process of designing a pilot program to demonstrate the concept. A draft working paper has been distributed for market participant review. Five joint NY/NE stakeholder meetings have been held to discuss the concept. Overall technical definition slated for completion in December 2003. The IMO and PJM are being kept informed of progress.

P19 **Q2 2004 (orig. Projected 2004) – PARTIAL UNIT ICAP SALES** – NE 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 is considering several options for resolving this issue.

P20 **Projected 2004 – ELIMINATION OF RATE PANCAKING** – The elimination of rate pancaking has been called for by the FERC to promote inter-regional trade and increase competition. The Northeast ISOs/RTOs support this objective. PJM Transmission Owners are in discussion with MISO Transmission Owners. ISO–NE will include a proposal to eliminate pancaked rates as part of an anticipated RTO filing in 2003. In June, the NYISO and the New York Transmission Owners presented a proposal for the elimination of export fees to stakeholders in New York. A meeting between ISO-NE and the NE TOs was held in mid-October. The goal is to take action by the end of 2003 to begin the elimination of pancaking in 2004.

P21 **Projected 2004 – NY GENERATOR ATTRIBUTES TRACKING SYSTEM** – Green power suppliers need consistent rules and trading platforms to permit consistent tracking and trading of green power attributes across the ISOs. NY is working with market participants to determine the suitability of adapting the New England Generator Information System (GIS) to New York markets. The IMO is currently looking at a tracking system for implementation. PJM has a group specifying a system supporting its state initiatives. 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. (April 2003)

P22 **Projected 2004 – NY-NE COORDINATION FOR THE CROSS SOUND CABLE (CSC) PROJECT** – ISO-NE and NY have completed the work to allow for primary access once the cable is made operational. ISO-NE has completed changes to facilitate secondary transmission reservations. The NYISO is looking at a number of alternative methods for facilitating secondary service, and is considering the implementation of secondary service capability in 2004.

P23 **Projected 2004-2006 –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. The initial scope of work includes better coordination of information sharing by harmonizing the timing, data bases and modeling assumptions used in planning analysis, the establishment of standardized confidentiality agreements and building upon joint planning activities already under way. The intermediate term goal (2003-2004) is to develop and issue an initial coordinated system plan in 2004 which will cover the New York and New England region. A longer-term goal is the development of a region-wide planning process which would include a region-wide coordinated plan.

2000 – Completed Projects

1. **May 2000 – NY EMERGENCY TRANSFER AGREEMENT WITH PJM** – ensures that energy will flow across control area boundaries during emergency situations

2. **June 2000 - NYISO DATA FEED FOR PJM E-DATA TOOL** – provides NY zonal and generator LBMP data electronically for display on PJM's e-Data tool.

3. **August 2000 – NY EMERGENCY TRANSFER AGREEMENTS WITH ISO-NE** – ensures that energy will flow across control area boundaries during emergency situations

4. **Sept 2000 – NY PREVENTION OF TRANSACTION BID PRODUCTION COST GUARANTEE GAMING -** by scheduling transactions in NY and canceling them (or not scheduling them) in neighboring control areas, resulting in improper payments in NY and ramping difficulties in PJM. Immediate corrective action taken with a permanent fix implemented in the NY market software making this gaming scheme unprofitable.

2001 – Completed Projects

5. **Jan 2001 – PJM CHANGES TIMING REQUIREMENTS –** PJM implemented new business rules to allow schedule changes through the Enhanced Energy Scheduling (EES) system with only 20 minutes notice.

6. **Feb 2001 – NY RESERVE SHARING WITH ISO-NE –** Phase 1 allows NY to include 300 MW from ISO-NE as 30-min. reserves. Phase II (sharing of up to 100MWs of 10-minutes reserves) effective 6/15/01.

7. **March 2001 – NY TRANSACTION CURTAILMENT NOTIFICATION MESSAGES –** enhanced communication process by improving informational messages when transactions are not scheduled or curtailed.

8. **April 2001 – PJM MODIFIES NYPP-E/NYPP-W LMP DEFINITION –** PJM's NYPP-W and NYPP-E interface points are combined into a single New York Interface point. The two interfaces will continue to be used but the price at these points will be the same and reflect the definition of a single NY interface point.

9. **May 2001 – NY EMERGENCY TRANSFER AGREEMENT WITH HQ** – ensures that energy will flow across control area boundaries during emergency situations

10. **June 2001 – NY'S IMPLEMENTATION OF TRANSACTION SCHEDULING DESK** – NYISO implemented an additional scheduling position in the Control Room that can be directly accessed by market participants to address real-time scheduling questions and problems. Timely provision of information reduces business risk and facilitates a level playing field for all MP's.

11. **June 2001 – PJM IMPLEMENTATION OF CSS –** PJM implements the Collaborative Scheduling System (CSS), which is part of the EES system. It allows users to submit scheduling information to one place and the information is sent to the NY MIS system for processing.

12. **June 2001 – PJM/NY COORDINATION OF IN-DAY TRANSACTION SCHEDULES TO HELP CONTROL RAMPING ISSUES –** To help control ongoing ramping problems between NY/PJM schedules, PJM implemented an approval process for all hourly (HAM equivalent) PJM/NYISO schedules. These schedules will only be approved and hold ramp after being checked out hourly with the NY-ISO.

13. **Dec 2001 – NY MULTI-HOUR BLOCK TRANSACTIONS** - Develop process to accept and schedule external LBMP energy transactions with minimum run times. Allows a marketer to arrange the 5-day by 16-hour market products commonly offered in existing Trading Markets.

2002 – Completed Projects

13a. **Jan 2002 – ISO-NE AND NYISO ANNOUNCE AGREEMENT TO ESTABLISH COMMON MARKET DESIGN AND EVALUATE A SINGLE RTO –** Provides for the development of a plan to establish a common market design and to evaluate a New England and New York RTO.

14. **Jan 2002 – PJM IMPLEMENTS NYIS INTERFACE LMP –** The NYPP-W and NYPP-E interface points are converted into a single New York Interface point (NYIS).

14a. **Jan 2002 - PJM AND MISO ANNOUNCE PLAN TO DEVELOP A JOINT AND COMMON WHOLESALE MARKET –** Covers all or parts of twenty seven (27) Midwest and mid-Atlantic states, the District of Columbia, and the province of Manitoba. This removes the potential for seams over a large portion of the Eastern Interconnection.

15. **Feb 2002 – NY TRANSACTIONS PRESCHEDULING** - An external LBMP or wheel-through preschedule request may be submitted up to 18 months prior to the effective transaction date. A preschedule request is checked for ramp and ATC before being approved. It is then given economic priority in the scheduling software over other external transactions that are not prescheduled, to provide the greatest certainty that the transaction will flow. NYISO implementation of Long-term Pre-scheduling provides comparable treatment of long-term firm service with PJM firm and "non-firm willing to pay congestion" service options. Long-term pre-scheduling allows preferential (firm) treatment of transactions, consistent with PJM & ISO-NE SMD 1.0, and addresses scheduling requirements for bundled ICAP/Energy products.

15a. **April 2002 - PJM AND ALLEGHENY POWER SYSTEM FORM PJM WEST** - The larger energy market provides one market with a common transmission tariff, business practices and market tools, thus eliminating seams issues between Allegheny Power and PJM.

16. **May 2002 - ISO-NE CHANGES TO ICAP RULES** - amending procedures for submitting external ICAP transactions between ISO-NE and NYISO. The changes to ISO-NE Market Rule 4 insure that imports from NY to NE will not exceed the TTC of the New York ties.

17. **May 2002 - ISO-NE RULE CHANGES TO PERMIT/FACILITATE SNETS FROM ISO-NE TO NY** – FERC Order dated 4/26/2002; ISO-NE can use all available resources to support short notice external transactions (SNETs) as long as ISO-NE replacement reserves aren't depleted in doing so. The short-notice scheduling capability gives market participants the ability to schedule new transactions on an hourly basis in a manner compatible with the hourly market. Results from Summer 2002 indicate a 31% increase in MWh exports and a 54% increase in the number of contracts from New England to New York.

18. **May 2002 – NY TRANSACTIONS REINSTATEMENT** - for transactions curtailed for in-hour due to reliability violations. NYISO will reinstate external transactions in-hour as soon as the reliability problem is resolved (previously the transaction had to wait until the next hour-ahead commitment run).

19. **May 2002 – NY HOUR-AHEAD CLOSING TIME CHANGED FROM 90 TO 75 MINUTES** - to allow for closer coordination with ISO-NE, which uses a 75-minute closing time. This allows MPs to use more current information in formulating transaction strategy.

20. **May 2002 - INTERIM TRANSACTION CHECKOUT BETWEEN NYISO AND ISO-NE** - This NYISO/ISO-NE Interim Transaction Checkout Tool addresses a seams issue requirement to enhance checkout for summer 2002 until OSS is deployed. It provides an electronic means of sharing transaction information to assist the operators during checkout and identify transaction issues more easily.

21. **May 2002 – IMO SEAMS INITIATIVES** – implemented a procedure that permits staggered HAM closing times – IMO generally closes their market to MP's 2 hours before the hour – a process is in place that will evaluate their accepted NY import/export bids in the hour-ahead commitment. Also, an interconnection agreement between NYISO and the IMO was made effective on May 1, along with several critical joint control room procedures.

22. **May 2002 – NY EMERGENCY TRANSFER AGREEMENT WITH IMO** – ensures that energy will flow across control area boundaries during emergency situations

23. **May 2002 – NYISO FILING FOR ICAP DELIVERABILITY TO PJM** – NYISO filed with FERC on May 24 to modify its tariff to provide delivery of ICAP purchased by PJM from NY suppliers, allowing NY generators the opportunity to meet the PJM deliverability requirement and participate in the PJM ICAP market.

23a. **June 2002** – **IMO, ISO-NE, NYISO SIGN AGREEMENT TO WORK COOPERATIVELY TO HARMONIZE MARKET RULES, ELIMINATE SEAMS ISSUES AND DEVELOP LARGER MARKETS** – Goal is to develop larger markets for energy and ancillary services. Elimination of export charges is a priority.

24. **June 2002 - DISPLAY TTC/ATC FOR ALL INTERFACES ON NPCC WEBSITE** – provides market participants with a single location to view the most limiting values across neighboring control area interfaces. NPCC has developed a website where regional MP's can view in one location the TTC/ATC values for all regional interfaces.

25. **June 2002 – NY/PJM IMPLEMENT PLAN TO ENHANCE CONGESTION MANAGEMENT -** Under specific conditions between NY and PJM through control room operating procedures. The pilot provides a means to relieve congestion in western PJM by shifting generation in NYISO.

26. **June 2002 – NY AND NE AREA CONTROL ERROR (ACE) DIVERSITY EXCHANGE INITIAL DEPLOYMENT** - Intended to enhance regulation performance. Initial implementation with NYISO and ISO-NE participating; other NPCC Control Areas to participate when IT resources are available. Takes advantage of the diversity among the control areas to reduce the burden on regulating units that should aid regulation performance.

27. **July 2002 – NY IN-DAY COMMITMENT AND SCHEDULING ENHANCEMENTS -** This project implements consistent treatment of reserves in NYISO's hourly and real-time markets which will improve price convergence at the proxy (boundary) transaction busses with the neighboring control areas.

27a. **August 2002– NPCC ENHANCEMENT/EXPANSION OF LAKE ERIE EMERGENCY REDISPATCH –** NPCC FERC filing to add the MISO as a signatory and incorporate new settlement provisions.

28. **Oct 2002 (Orig. Date Sept. 2002) – NY INTERCONNECTION AGREEMENT WITH HQ/TE** – Interconnection agreement signed in October 2002. Review of potential for increasing the 7040 transmission line import limit above 1500 MW and evaluation of ways to better utilize NY-HQ-ISO-NE DC facilities are scheduled to be addressed under P5 and P14.

29a. **Dec 2002 – PJM IMPLEMENTS SPINNING RESERVES MARKET –** The spinning market for PJM was implemented on December 1, 2002. Spinning reserves consist of extra power plant generating capacity that is kept running so it can be used on short-notice to respond to increased demand or to supplement an unexpected drop in generation on the grid. Power suppliers will be paid a per megawatt hour market clearing price to provide spinning reserve services – a pricing schedule that has been approved by the FERC.

2003 Completed Projects

P1 **March 2003 – ISO-NE IMPLEMENTED *NE SMD 1.0*** –Under *NE SMD 1.0*, ISO-NE implemented LMP with day-ahead and real-time balancing markets similar to those utilized in PJM and NY. This was successfully implemented on 3/1/2003. (30)

P2 **March 2003 – ISO-NE UCAP IMPLEMENTATION** – ISO-NE implemented NY-based UCAP market as part of *NE SMD 1.0*. New England market's is similar to New York's schedules and auction processes. First auction held in March 2003 for April 2003 capacity market. With the opening of the ISO-NE markets, the same UCAP product is now used throughout the Northeast Region (PJM, NY and ISO-NE) (31)

P3 **March 2003 – NY NEW TRADING HUBS** - Establish trading hubs as requested by market participants to provide locations that would facilitate and enhance trading activity in the New York Market. NY market

participants agree that the need for trading hubs is currently being met by the existence of the zonal LBMPs and that no further action is required at this time. (36)

P4 **April 2003) – NY OPEN SCHEDULING SYSTEM (OSS) Phase I – Deployed on 4/13/2003.** OSS is implemented as a "one-stop-shopping" tool enabling interregional transaction scheduling for external transactions between NY and PJM. Phase I deliverables include: (38)

- Submittal of bilateral transaction bids and schedules
- Pre-scheduling of available transmission and ramp
- "One-stop-shop" transaction submittal with NY MIS and PJM EES
- Enhanced transaction management tools

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.

I1 **CONTROLLABLE LINE SCHEDULING** – Concept of operations for general methodology to schedule controllable lines has been drafted by NY. Stakeholder input will be gathered through the existing NY working group process that is open to all regional participants. Discussions are ongoing with LIPA and ISO-NE regarding application of the CSC approach for the Norwalk-Northport 1385 cable (Oct. 2002).

I2 **MULTIPLE PROXY BUSES FOR FREE-FLOWING INTERFACES** – There is a desire to provide east and west scheduling points for transactions on the NY-PJM interface. A draft white paper has been distributed for market participant review, and was discussed at the joint NY/NE meeting on 5/29/2003. This issue is being referred to the individual ISO Market Committees to discuss and refine the business issue definition. . (Jan. 2003)

I3 **DIFFERENT RAMPING RULES** –Operations should look at the short-term ability to make 30-minute schedule changes between NY and PJM. The need for multiple scheduling points on free flowing ties may be circumvented by the development and implementation of cross-border coordinated dispatch mechanisms such as VRD and/or congestion management at the borders. The NY SMD 2.0 software architecture will be capable of supporting more frequent schedule changes once the applicable business rules and scheduling protocols are agreed upon with a participating external control area. (Jan. 2003).

I4 **REDUCED LEAD TIME FOR IN-DAY TRANSACTION SCHEDULING –** 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. (July 2003).