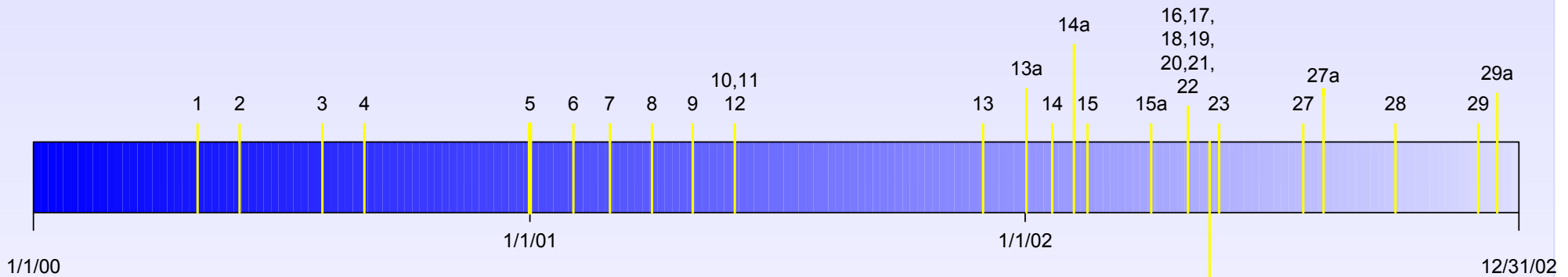


# Completed Northeast ISOs "Seams" Projects (2000 - 2002)



## Reference to Above Timeline of Projects \*

### 2000 Seams Projects

1. May - NY Emergency Transfer agreement with PJM
2. June - NYISO Data Feed for PJM E-data tool
3. August - NY Emergency Transfer agreement with New England
4. September - NY prevention of transaction bid production cost guarantee gaming

### 2001 Seams Projects

5. January - PJM changes timing requirements
6. February - NY reserve sharing with ISO-NE
7. March - NY transaction curtailment notification messages
8. April - PJM modifies NYPP-E /NYPP-W LMP definition
9. May - NY Emergency Transfer Agreement with HQ
10. June - NY's implementation of transaction scheduling desk
11. June - PJM implementation of CSS
12. June - PJM/NY coordination of in-day transaction schedules to help control ramping issues
13. December - NY multi-hour block transactions

### 2002 Seams Projects

- 13a. January - ISO-NE and NYISO announce agreement to establish common market design and evaluate a single RTO
14. January - PJM implements NYIS interface LMP
- 14a. January - PJM and MISO announce plan to develop a joint and common wholesale market
15. February - NY transaction pre-scheduling
- 15a. April - PJM and Allegheny Power System form PJM West
16. May - ISO-NE changes to ICAP rules
17. May - ISO-NE rule changes to permit/facilitate SNETs from ISO-NE to NY
18. May - NY transactions reinstatement
19. May - NY hour-ahead closing time changed from 90 to 75 minutes
20. May - Interim transaction checkout between NYISO & ISO-NE
21. May - IMO seams initiatives
22. May - NY Emergency Transfer Agreement with IMO
23. May - NYISO filing for ICAP deliverability to PJM
- 23a. June - NY and NE Area Control Area (ACE) diversity exchange initial deployment
24. June - Display TTC /ATC for all interfaces on NPCC website
25. June - NY/PJM implement plan to enhance congestion management
26. June - NY and NE Area Control Error (ACE) diversity exchange initial deployment
27. July - NY in-day commitment and scheduling enhancements
- 27a. August - NPCC enhancement / expansion of Lake Erie emergency redispatch
28. October - NY interconnection agreement with HQ/TE \*\*
29. December - Coordination of controllable tie lines between (Phase-Angle Regulators) between NY and PJM
- 29a. December - PJM implements spinning reserves market

\* Descriptions of these projects may be found on the accompanying sheets.

\*\* Dates change - see detailed description document.

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

**2000**

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**

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

- 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** - In addition, 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 by the end of 2002.
29. **Dec 2002 – COORDINATION OF CONTROLLABLE TIE LINES (PHASE-ANGLE REGULATORS) BETWEEN NY AND PJM** - for both day-ahead and real-time to support the ultimate FERC ruling on the PSEG-ConEd wheeling contracts. NYISO & PJM will develop procedures to coordinate the setting of the PARS and address it in their respective unit commitment and dispatch programs. As of Jan. 2003, settlement discussions ended. FERC Order issued on Phase I. Phase II issues assigned to ALJ. Initial briefs are due in late January.
- 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**

30. **1st Quarter 2003 - ISO-NE TO IMPLEMENT SMD 1.0** –Under SMD 1.0, ISO-NE will implement LMP with day-ahead and real-time balancing markets similar to those utilized in PJM and NYISO. To be implemented 3/1/03 pending successful completion of market trials.
38. **March 2003 – OPEN SCHEDULING SYSTEM (OSS) FOR SEAMS ISSUES** – OSS will be implemented as a “one-stop shopping” tool enabling interregional transactions. Specific seams-issues-related features are:
- Checkout of transaction failures through OSS Phase II - Define processes that will minimize transaction failures due to missing or mismatched data.
  - Ramping - Allow multiple schedule changes per hour.
  - Transaction scheduling via OSS – Defines a single system for managing inter-ISO transactions and allocating interface transfer capability.
  - ATC/TTC posting via OSS - Coordination and consistency with neighboring control areas is required.
- Initial deliverables in 4Q 2002 included one-stop-shop for external transactions between NYISO-PJM. Market trials successfully completed in December 2002. Additional functionality as described above will be deployed in 2003 to support the NYISO RTS development.
31. **1st Quarter 2003 – ISO-NE ICAP IMPLEMENTATION** – ISO-NE to implement NYISO-based ICAP market as part of SMD 1.0. New England market will conform to New York product definitions, schedules and auction processes. . To be implemented 4/1/03 pending successful completion of market trials.
35. **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 on hold, pending development of PJM/MISO’s regional congestion management process)
- 35a. **Projected Summer 2003** – Maritimes become participants in ACE Diversity Interchange Process.
36. **Projected 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.
37. **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 NYISO if the value of a TCC option were negative in any hour.
39. **Projected 2003 - ESTABLISH REQUIREMENTS FOR EXTERNAL 30-MIN. RESERVES PARTICIPATION IN NYISO** - 1st draft white paper complete Feb. 2002. Currently being addressed by NPCC TFCO CO-1 WG.
- 39a. **Projected 2003 (NEW) – 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.

2004

32. **1<sup>st</sup> Quarter 2004 (Orig. Date 2003) – NY REAL-TIME SCHEDULING (RTS) IMPLEMENTATION** – Real-Time Scheduling (RTS) is a major portion of the overall 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. The RTS time frame extends from 5 minutes in the future to 2½ hours in the future. During this period, generating units may be started or shut down, or the output of energy resources may be adjusted. 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 / SMD 2.0 development by NYISO 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 to assure ICAP deliverability providing comparable treatment to ICAP suppliers with firm tie line reservations.
33. **Projected 2004 (Orig. Date 2003 but changed as a result of SMD NOPR) - REGIONAL RESOURCE ADEQUACY MODEL (RAM) GROUP (formerly ICAP/JCAG Working Group)**– Set up to address ways to move the various ICAP markets closer in NYISO, PJM and ISO-NE. The goal is to make ICAP tradable anywhere in the northeast. The Joint Capacity Adequacy Group (JCAG) developed initial recommendations in mid 2002. The initial work plan was reassessed in light of the SMD NOPR and the joint 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. The goal of the joint ISOs/RTOs is to work through the remaining issues with stakeholders in 2003 and to seek approval in 2004 for implementation of a new resource adequacy mechanism.
34. **1<sup>st</sup> 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 New York's Day-Ahead Demand Response Program or Emergency Demand Response Program equivalents. Proposals are under development to offer all four programs in NYISO and ISO-NE as part of SMD 2.0.
40. **1<sup>st</sup> Quarter 2004 (Orig. Date 2003) - NYISO TO IMPLEMENT SMD 2.0** - SMD 2.0 builds upon 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.

## 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).*

**TRANSMISSION SERVICE CHARGE DISCOUNTING** - ability for TOs to discount TSC rates on external interfaces to selectively reduce export charges and encourage use of ties. The software capability exists, however, there does not appear to be any business incentives to exercise discounts. (Oct. 2002)

**IMPROVED TTC/ATC POSTING** – Monthly and yearly posting of TTC/ATC values to support transaction pre-scheduling. Clarify how the ATC values calculated by each ISO should be used to ascertain the ability of the interface to support transactions. (Oct. 2002)

**MULTIPLE TRANSMISSION SERVICE CHARGE INVOICING** - Companies that conduct business across Control Area borders are faced with receiving a TSC bill from each TO. A single charge should be provided for each transaction to the appropriate parties and revenues allocated to the TOs according to the appropriate usage formulas. (Oct. 2002)

**TRANSMISSION INTERCONNECTION PROCEDURES** - Need consistent approach to treating merchant transmission interconnection agreement and procedures among the ISOs. (Oct. 2002)

**CONTROLLABLE LINE SCHEDULING** – Concept of Operations for general methodology to schedule controllable lines has been drafted. A multi-ISO stakeholder group (similar to JCAG) needs to be formed to review the draft Concept of Operations to provide stakeholder input. (Oct. 2002)

**INTER-CONTROL AREA CONGESTION MANAGEMENT/PARALLEL FLOW MANAGEMENT** – develop congestion hedges across control area boundaries. (Oct. 2002)

**CROSS-BORDER PRICE CONVERGENCE** – The lack of price convergence at the control area boundaries may inhibit the desire of market participants to arbitrage between neighboring markets. This issue is being referred to the individual ISO Market Committees for further definition of the business issue that needs resolution. (Jan. 2003)

**IMPROVED INDEPENDENT CONTROL AREA RAMP LIMIT INFORMATION** – The ISOs should update ramp data consistent with the actual capability of their respective systems at a given time and provide the ramp information to the marketplace. The NPCC website should be modified to add a column of data to show the most limiting TTC for a given interface (the information is currently being posted). (Jan. 2003)

**MULTIPLE PROXY BUSES FOR FREE-FLOWING INTERFACES** – There is a desire to provide east and west scheduling points for transactions on the NYISO-PJM interface. This issue is being referred to the individual ISO Market Committees to discuss and refine the business issue definition. (Jan. 2003)

**PARTIAL UNIT ICAP SALES** – New England's initial implementation of SMD does not support the sale of ICAP to external control areas from portions of units. The Commission has directed that this functionality be added to SMD by no later than implementation of the SMD NOPR. ISO-NE is considering several options for resolving this issue. (Jan. 2003)

**DIFFERENT RAMPING RULES** – SMD 2.0 to address via 15-minute scheduling changes; statistics indicate NYISO rarely curtails transactions due to ramping constraints; working with PJM to include PJM ramp limits in OSS. Operations should look at the short-term ability to make 30-minute schedule changes between NY and PJM. (Jan. 2003)

**RATE PANCAKING** – ISOs should participate in initiatives to eliminate rate pancaking. The elimination of rate pancaking, resulting in a single access charge, should promote inter-regional trade and increase competition (Jan. 2003).

ISO NEW ENGLAND

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## **RTO Seams Working Group**

James Douglass, Senior Regulatory Counsel  
David LaPlante, Vice President, Markets Development  
August 13, 2003

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THE PEOPLE BEHIND NEW ENGLAND'S POWER.



## Scope and Regional Configuration

- July 2001 Order found New England only RTO lacked sufficient scope and regional configuration.
- FERC expressed concern that market “seams” limited the effective scope of proposed RTO.
- Proposed RTO will address scope concerns by noting progress toward resolving seams and explaining recent initiatives intended to capture benefits of a larger, integrated market.

## Market Seams Initiatives

- Coordination with Neighboring Markets
  - NY/NE Coordination Agreement
  - Northeast Market Operators Agreement
  
- Virtual Regional Dispatch
  - Joint Stakeholder Process
  - NEPOOL Markets Committee (8/11/03)
    - Review cost/benefit from New England perspective
    - Continue technical development

## **NY/NE Interregional Coordination and Seams Resolution Agreement (ICA)**

- Focused on elimination of market seams with New England's only directly- linked neighboring market.
- Terms negotiated and agreed with NYISO.
- Posted for review and comment on July 25<sup>th</sup>.

## ICA Highlights: Section 2 – Key Efforts

- Enhanced regional planning
  - PJM + NPCC
  - Coordinated System Plan in 2004
- Resource Adequacy Market (RAM) working group
- Elimination of export charges
- Virtual Regional Dispatch
- Improved inter market communications
  - Transaction scheduling and check-out

## **ICA Highlights: Seams Resolution Process**

- Interregional Coordination Officers identify and prioritize seams resolution projects consistent with existing quarterly FERC review process.
- Consultation through existing stakeholder processes.
- Regular ISO Board review.
- Dispute resolution through CEOs, with ultimate resort to FERC.

## **Northeast Market Operators Coordination Agreement**

- Coordination among competitive market operators in NPCC (NYISO/ISO NE/IMO)
- Established June 2002
- Regular meetings of Northeast Independent Market Operators Coordinating Committee
- Harmonize neighboring markets:
  - Transaction scheduling
  - Regional planning
  - Elimination of export charges

## Why Virtual Regional Dispatch?

- Historical data shows Market Participants are not efficiently arbitraging price differences between NY/NE Control Areas.
- Counter intuitive flows are not uncommon (net interchange flowing from high cost area to low cost area).
- Independent Market Advisor has identified the potential for production cost savings and more efficient markets if external interface schedules were more efficient.

## VRD Objective

- ISO's use market information to schedule physical interfaces to minimize inter regional production cost (maximize dispatch efficiency).
- Increase generator output in the lower cost Control Area and decrease generator output in the higher cost Control Area based on competitive bids.
- Dispatch moves toward single system dispatch efficiency.



## **VRD: External Interface Scheduling**

The flow between the NY/NE control areas would be determined in the following manner:

- The objective function is to schedule interface flows to converge prices at the proxy buses in each region.
- Physical interchange is reviewed and adjusted every 15 minutes to maintain price convergence.
- The ISOs share explicit pricing curves representing sensitivity to interchange schedule changes, for the purpose of establishing efficient interchange.

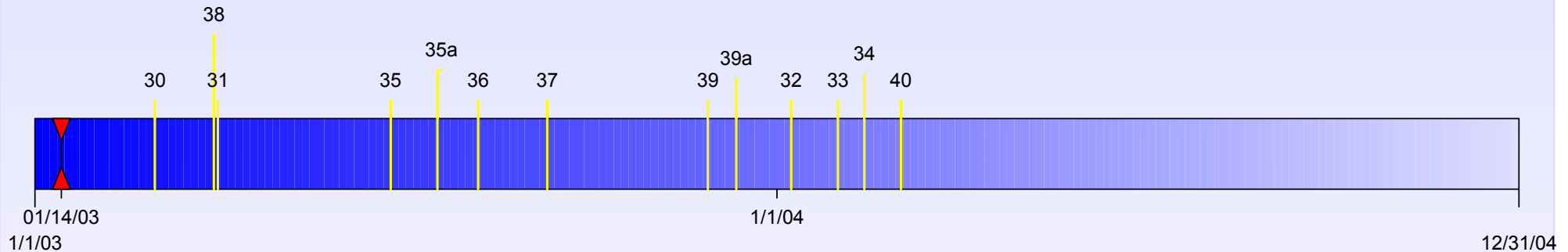
## **VRD: Next Steps**

- Include VRD white paper in RTO filing.
- Continue technical development, and evaluation of costs and benefits.
- Consideration of hedging features proposed by Select Energy, and other proposals raised during development
- Joint stakeholder process continues beyond RTO filing.

## Questions/Comments

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# Ongoing Northeast ISOs "Seams" Projects (2003 - 2004)



## Reference to Above Timeline of Projects \*

### 2003 Seams Projects (projected)

- 30. March 1 - ISO-NE to implement SMD 1.0
- 38. March 30 - Open-scheduling system (OSS) for seams issues
- 31. April 1 - ISO-NE ICAP implementation
- 35. June - Lake Erie system redispatch project implementation
- 35a. Summer 2003 - Maritimes become participants in ACE Diversity Interchange Process
- 36. NY new trading hubs
- 37. NY TCC options for external interfaces
- 39. Establish requirements for external thirty-minute reserves participation in NYISO

### 2004 Seams Projects (projected)

- 32. NY Real-time Scheduling (RTS) implementation \*\*
- 33. Regional ICAP Working Group implementation \*\*
- 34. Harmonize NY Demand Response Programs with ISO-NE \*\*
- 40. NYISO to implement SMD 2.0 \*\*

### Issues Under Discussion \*\*\*

- Transmission Service Charge Discounting
- TTC / ATC
- Multiple Transmission Service Charge Invoicing
- Transmission Interconnection Procedures
- Controllable Line Scheduling
- Inter-Control Area Congestion Management/ Parallel Flow Management
- Cross-Border Price Convergence
- Improved Independent Control Area Ramp Limit Information
- Multiple Proxy Buses For Free-Flowing Interfaces
- Partial Unit ICAP Sales
- Partial Unit ICAP Sales
- Different Transaction Ramping Rules
- Rate Pancaking

\* Descriptions of these projects may be found on the accompanying sheets.

\*\* Dates change - see detailed description document.

\*\*\* Issues that have been brought to 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.

**DRAFT 7/25/03**

**INTERREGIONAL COORDINATION AND SEAMS ISSUE RESOLUTION  
AGREEMENT**

*BETWEEN*

**NEW YORK INDEPENEDENT SYSTEM OPERATOR, INC.**

*AND*

**ISO NEW ENGLAND INC.**

This Interregional Coordination and Seams Issue Resolution Agreement (“Agreement”) is entered into as of July 31, 2003 (the “Effective Date”), by and between the New York Independent System Operator, Inc. (“NYISO”) and ISO New England Inc. (“ISO-NE”) (each a “Party” and together the “Parties”).

**RECITALS**

A. NYISO is the administrator of markets for electricity and related products, and the Independent System Operator (“ISO”) for the New York Control Area.

B. ISO-NE is the administrator of markets for electricity and related products, and the Independent System Operator (“ISO”), for the New England Control Area.

C. Each of the Parties administers a competitive wholesale electricity market that features congestion management based on Locational Marginal Pricing and includes both day-ahead and real-time markets.

D. The Parties, along with the Independent Market Operator of Ontario (“IMO”), are participants in the Northeast Independent Market Operators System Operation, Planning and Market Development Agreement.

E. The Parties agree that coordinating the development of market rules in order to increase the compatibility of the markets they administer in order to enable seamless trading of products between the markets will increase economic efficiency and achieve long-term benefits for both regions.

F. The Parties agree that the elimination of multiple transmission charges for exports between regions will enhance opportunities for efficient trading between the regions.

G. The Parties agree that coordinating system planning and the assessment of new interconnections will provide benefits to both regions.

H. The Parties recognize the importance of stakeholder input into decisions regarding the design of the wholesale electricity market and intend to work closely with market participants in their respective regions regarding the matters addressed by this Agreement.

## **AGREEMENT**

In consideration of the foregoing, and to effect the Parties' agreement to implement a process to resolve certain critical seams issues between their respective regions, the Parties agree to the procedures set forth below:

### **1. Designation of Interregional Coordination Officer**

Each Party shall designate an Interregional Coordination Officer ("ICO"). The ICOs shall have responsibility to direct the initiatives contained within this Agreement, to identify additional seams and market inefficiency issues and other opportunities for market improvements ("Seams Issues") and to attempt in good faith to develop proposals, including options where appropriate, for resolution of Seams Issues.

#### **1.1 Cooperation with Other Regions**

The Parties will work with system operators and market participants in other control areas to address issues of general regional concern such as the coordination of interregional planning.

#### **1.2 Non-Duplication**

The Parties agree to coordinate their efforts with other regions with the initiatives agreed upon under this Agreement. In addition, the Parties agree that such other efforts will impose no additional obligations upon the Parties relative to the initiatives under this Agreement.

### **2. Continue Existing Cooperation**

The Parties agree to continue to expand existing cooperative efforts as set forth below, while continuing to seek stakeholder input from market participants in their respective regions.

#### **2.1 Coordinate Interregional Planning**

The Parties agree that an enhanced level of coordination of interregional planning will be beneficial to both the reliability and efficiency of the Northeast wholesale electric markets. Accordingly, the Parties agree to:

- a. Support the efforts of the recently-initiated Liaison Task Force, which was initiated by the Parties and now includes all NPCC ISOs and control areas as well as PJM. Objectives of this NPCC/PJM effort will include conforming input, standards and schedules.

b. Conduct joint system impact studies for those projects that have inter-control area effects.

c. Seek to ensure that beneficial transmission projects are considered appropriately from the broader regional perspective, including, but not limited to, relieving “bottled generation” restrictions and prioritizing transmission constraints in need of resolution.

d. Jointly issue a Coordinated System Plan in 2004, which will cover the New York and New England regions, and work towards coordinating the NYISO, ISO-NE, IMO, and PJM system plans as soon as possible thereafter.

## **2.2 Resource Adequacy Assurance**

The Parties agree that a coordinated approach between the Northeast ISOs on resource adequacy will improve the reliability of the Northeast by providing enhanced ability to offer capacity products across the region. Accordingly, the Parties agree to take the following actions, in consultation with market participants and state regulatory authorities as appropriate:

a. Ensure that adequate resources remain available to meet customer demand in all timeframes in a manner that is compatible with procedures that are employed in adjoining jurisdictions.

b. Actively support the work of the Resource Adequacy Market Working Group (“RAM Group”) to finalize the proposed design of the central resource market for the Northeast Region in 2003.

c. Use best efforts to achieve agreement within their respective stakeholder processes in order to develop and file the appropriate tariff modifications with FERC in 2004 to implement the new forward central capacity market auctions in their respective regions.

## **2.3 Elimination of Export Charges**

The Parties agree in principle to achieve the elimination of multiple transmission charges on exports (“export charges”) throughout the Northeast region as soon as possible, and, as regards charges for transmission service between New York and New England, the Parties agree:

a. to actively pursue, in conjunction with Transmission Owners (“TOs”), market participants and state regulatory commissions within the respective regions, an agreement on the principles for the elimination of export charges between the two regions.

b. to keep each other apprised of activities in their respective regions and endeavor to bring together the parties to develop a reciprocal agreement between the regions.

c. to take necessary actions, in good faith, to achieve the goal of beginning the elimination of export charges between New York and New England in 2004.

d. to actively support the elimination of export charges between and among other regions in the Northeast as expeditiously as possible consistent with the above timeframe for New York and New England.

#### **2.4 Development of Virtual Regional Dispatch**

The Parties agree on the importance of achieving price convergence across regional borders in order to increase market efficiency. Accordingly, the Parties agree that, while continuing to seek stakeholder input throughout the process, they will take the following steps:

a. Develop a plan for the implementation of Virtual Regional Dispatch, or alternative cost effective initiatives to promote price convergence between ISO markets, across the two regions by the fourth quarter of 2003.

b. Use best efforts to achieve consensus among their respective stakeholder processes in order to implement Virtual Regional Dispatch, or alternative cost effective initiatives to promote price convergence between ISO markets, across the two ISOs' regions by the first quarter of 2005 or earlier if possible.

c. Actively support efforts to expand the implementation of Virtual Regional Dispatch or similar coordination provisions among other regions in the Northeast.

#### **2.5 Support Improved Inter-Market Communications**

The Parties agree on the importance of providing improved communications between their respective markets through implementation of the web-based communications standards currently being implemented in New York and the Parties intend to:

a. Provide the ability to process hour-ahead and day-ahead facilitated checkouts by the third quarter of 2003.

b. Continue to follow, analyze and evolve common technology to further improve inter-market communications.

### **3. Work Plan For the Identification of Additional Seams Issues**

The Parties agree to direct their ICOs to proceed under a work plan that includes the following tasks:

a. Adopt a mutually acceptable process for identifying Seams Issues and ensuring full involvement by market participants in the process;

b. Prioritize the identified Seams Issues for resolution, based on the magnitude of likely improvement in reliability or reduction of costs for each issue;

c. Seek approval of the prioritized list of Seams Issues from each Party;



- d. Investigate the Seams Issues consistent with their priority rank, and develop proposals, and options where appropriate, to address each Seams Issue;
- e. Develop implementation steps for proposals approved by the Parties; and
- f. Integrate any agreed upon seams resolution plans into the existing FERC Seams reporting process; and
- g. Prepare quarterly reports that the Parties will jointly submit to FERC and state regulatory authorities.

**4. Considerations for Parties' Review of Proposed Additional Seams Issues**

The proposals developed by the ICOs shall be submitted to the CEOs of the Parties. Each CEO shall consider in good faith whether such proposals are desirable and consistent with the needs of each respective ISO and its market participants, including, without limitation, consistency with other market rules or ongoing changes and the impact on resource requirements of each organization.

**5. Communications with Boards of Directors**

The Parties agree that each Party will report progress towards the resolution of identified initiatives as well as recommendations regarding any additional Seams Issues identified under this agreement to their respective Boards of Directors (or designated respective Board Committees) on a periodic basis

**6. Communications with Stakeholders and Third Parties**

The Parties agree that each Party may communicate with its stakeholders and interested third parties about the existence of this Agreement, the issues and prioritization of Seams Issues, and proposals, and options for proposals (if any). Such communications will utilize the existing procedures (whether formal or informal) within each Party's respective stakeholder governance processes. Each Party may consider its communications with its stakeholders in determining whether to approve the identified Seams Issues, the prioritized list of Seams Issues, and any proposal for addressing such Seams Issues.

**7. No Effect on Individual ISO Governance Processes**

In implementing this agreement, each Party shall follow its then-existing governance process.

**8. Miscellaneous**

**8.1 Filing of Agreement with FERC**

Upon execution, this Agreement will be included as an attachment to the proposed RTO New England filing planned for 2003.

## **8.2 Term and Termination**

a. Subject to Section 8.2.b, this Agreement shall expire three (3) years after the Effective Date, provided that the term shall renew at each expiration date for a successive one (1) year term unless a Party gives notice to the other Party no less than ninety (90) days before the end of a term that the Agreement shall not renew.

b. Any of the Parties may terminate their participation in this Agreement upon ninety (90) days notice to the other Party.

c. All proposals adopted by the Parties for resolution of Seams Issues, all requests to FERC for informal dispute resolution of Seams Issues, and all submissions to FERC for formal dispute resolution, shall survive termination or expiration of this Agreement. Agreements or decisions arising from informal or formal dispute resolution, as provided in Section 6.3 shall survive the termination or expiration of this Agreement, notwithstanding that this Agreement may have terminated or expired prior to the conclusion of the dispute resolution process. Each Party shall have the right to submit any issue under informal dispute resolution at the expiration or termination of this Agreement to FERC for formal dispute resolution or termination of this Agreement.

## **8.3 Notices**

Any notice under this Agreement shall be given in writing and delivered by fax or overnight courier to the following addresses:

### **If to ISO-NE:**

Kathleen A. Carrigan  
Senior Vice President, General Counsel and Corporate Secretary  
ISO New England Inc.  
One Sullivan Rd.  
Holyoke, Massachusetts. 01040  
kcarrigan@iso-ne.com

### **If to NYISO:**

Robert E. Fernandez  
General Counsel and Secretary  
NYISO  
3890 Carman Rd.  
Schenectady, New York 121303  
rfernandez@nyiso.com

A Party may change its fax number or address for receipt of notice under this Agreement by giving notice of the change to the other Party.

#### **8.4 Alternative and Formal Dispute Resolution**

a. If the parties to this Agreement are unable to complete any of the tasks outlined herein, or if either of the ICOs determines that the ICOs lack sufficient direction to proceed with any task, any ICO may refer the matter to the Chief Executive Officers of the Parties (“CEOs”). The CEOs agree to schedule a meeting between the Parties to resolve these issues or to provide direction, as appropriate, on a priority basis.

b. The CEOs will inform their respective Board Chairmen prior to taking an action under 8.4.d.

c. In the event that the CEOs do not reach agreement on any issue referred to them by an ICO within ten (10) days, then either Party may refer the matter to a neutral, third-party Dispute Resolution Service, which may include the FERC’s Dispute Resolution Service, and request a session be convened to initiate non-binding dispute resolution services. Costs assessed by the Dispute Resolution Service for the use of such service shall be borne equally by the Parties.

d. In the event that the Parties fail to achieve resolution of an issue, after initiation of alternative dispute services described in Section 8.4.c, the Parties agree that either Party may submit the unresolved issue to FERC on behalf of both Parties for formal dispute resolution under applicable FERC rules.

#### **8.5 Amendments to Agreement**

No amendment of this Agreement shall be effective unless set forth in writing and executed by the Parties, and filed with FERC, and, if necessary, accepted or approved by FERC.

#### **8.6 Relationship of Parties**

The parties are not forming a partnership or other legal entity and no party is authorized by this Agreement to act as agent for any other party. Each party shall be responsible for all of its own expenses incurred in connection with this Agreement, including, but not limited to, the costs of travel to meetings, administrative costs and legal or other consulting fees.

#### **8.7 No Third Party Beneficiaries**

There are no third party beneficiaries to this Agreement.

#### **8.8 Assignment**

This Agreement may not be assigned.

### **EXECUTION**

Wherefore, this Agreement is executed by the parties as of the Effective Date.

**ISO NEW ENGLAND INC.**

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By: Gordon van Welie  
Title: President and CEO

**NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.**

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By: William J. Museler  
Title: President and CEO