

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

Broader Regional Markets

P9 LAKE ERIE SYSTEM REDISPATCH PROJECT IMPLEMENTATION

This NPCC procedure allows the redispach 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 redispach.

- PJM, NYISO, MISO, and IESO have finished analyzing the causes of high circulating flows and have provided a report with recommendations <http://www.jointandcommon.com/working-groups/joint-and-common/downloads/20070525-loop-flow-investigation-report.pdf>.
- The second phase of PJM and MISO's loop flow study to identify the sources of high circulation on specific flowgates was completed in November 2008. This study report and presentation materials can be found at <http://www.jointandcommon.com/working-groups/joint-and-common/downloads/20081114-loop-flow-phase-ii-study-report-final-20081112.pdf> and <http://www.jointandcommon.com/working-groups/joint-and-common/downloads/20081114-item-3c-loop-flow-phase-ii-study-presentation-v3.pdf>.
- This project has been moved to the closed list. P36 *Long Term Solution for Lake Erie Loop Flows* is being used to report on efforts to develop solutions to mitigate Lake Erie loop flows. (Q3-2009)

P15 REGIONAL RESOURCE ADEQUACY MODEL (RAM) GROUP

The Regional Resource Adequacy Model (RAM) Working Group (formerly the JCAG Working Group) was set up to develop longer-range UCAP markets in NY, PJM and ISO-NE than currently exist. The RAM Working Group developed initial recommendations in mid-2002. The work plan was reassessed in light of the SMD NOPR and the ISOs/RTOs filed joint comments addressing resource adequacy on January 10, 2003. The comments described a central market-based resource adequacy framework, which was consistent with the goals of the SMD NOPR. NERA was selected to analyze the proposed central resource adequacy market design, and presented their final report at the February 26 regional RAM meeting. A NYISO status report was filed with FERC on February 27, 2004. The broad range of concerns raised by stakeholder groups in each ISO/RTO make it unlikely that all of the ISO/RTOs would adopt the RAM proposal as it was then currently formulated. It was anticipated that this effort would lead, instead, to enhancements in the capacity markets in each region. In enhancing their existing markets, the ISO/RTOs have committed to maintain the ability to trade the same product (UCAP) between regions and to identify and remove any remaining barriers to the trading of capacity between regions. Each region has Resource Adequacy/ICAP working groups looking at this issue.

- The NYISO submitted a hybrid proposal to its stakeholders for consideration which incorporates a voluntary forward capacity market for procurement of a portion of its future resource requirements.
- On June 16, 2006, the Commission issued an order approving the proposed capacity market settlement agreement for the New England region, which provides for the eventual implementation of a forward capacity market after an interim transition period that begins on December 1, 2006.
- PJM introduced a proposal for a Reliability Pricing Model ("RPM") in June 2004 and has subsequently presented and revised the proposal at numerous stakeholder meetings. The proposal has been

presented and discussed with its Members Committee, at FERC and at its jurisdictional commissions. PJM has presented training programs and tutorials to members and interested parties.

- Beginning on December 8 and ending on December 10, 2008, ISO New England conducted the second New England Forward Capacity Market Auction for the Capacity Year beginning June 1, 2011 and ending May 31, 2012. ISO New England's Second Forward Capacity Auction Results Filing may be viewed at: <http://www.iso-ne.com/regulatory/ferc/filings/2008/dec/index.html>.
- PJM introduced a proposal for a Reliability Pricing Model ("RPM") in June 2004 and has subsequently presented and revised the proposal at numerous stakeholder meetings and has discussed the proposal with various PJM states PUCs. PJM has discussed the proposal with the NY PSC, with the NYISO and with MISO to ensure that the RPM proposal would not impact seams or create adverse impacts on regional markets. PJM filed its RPM proposal with FERC on August 31, 2005 and FERC held a technical conference on RPM on February 3, 2006. In an order on (Docket Numbers EL05-148-000, ER05-1410-000) April 20, the FERC endorsed the major principles of RPM. It called for the technical conference and hearings, which were held on June 7th and June 8th, to help resolve details prior to implementing RPM in place. RPM Settlement Proceedings were initiated in mid-June 2006. Parties filed proposed settlement on Sept 29, 2006 which is expected to be contested by a few parties in opposition. On December 21, 2006, FERC approved, with conditions, the RPM Settlement Agreement. The December 21st Order also denies rehearing of the Commission's finding of the April 20 order that PJM's current capacity market rules are not just and reasonable. PJM's first RPM auction began on April 2 and closed on April 6. It was for delivery of capacity during the 2007/2008 planning year (June 1, 2007 to May 31, 2008). The auctions procure needed capacity after participants have specified self-supply and contracted (bilateral) resources. Generally, annual auctions will procure capacity three years prior to the required need to provide opportunity for planned resources to compete to supply the needed capacity service. PJM's long-standing capacity requirement ensures that there are sufficient resources in place to meet the peak demand for electricity plus a reserve margin. PJM members can use generation, transmission or demand response, including energy-efficiency programs. They can meet their supply requirements by owning resources (self-supply) or contracting for them (bilaterals). PJM's analysis shows that the RPM will yield lower costs overall than the previous model. The intent of RPM is to send pricing signals that will attract investment in new capacity resources where they are most needed further enhancing reliability. The 2007-2008, 2008-2009, 2009-2010, 2010-2011 and 2011-2012 Base Residual Auction Reports and the 2008-2009 Third Incremental Auction Report are located on the PJM website under the corresponding Delivery Year headings: <http://www.pjm.com/markets/rpm/operations.html>.
- PJM commissioned a study in accordance with Open Access Transmission Tariff requirements to evaluate the performance of the Reliability Pricing Model in addressing the infrastructure investment issues identified by PJM and stakeholders in 2004-2006. The study report was released on June 30, 2008 and may be viewed at: <http://www.pjm.com/documents/ferc/documents/2008/20080630-er05-1410-000.pdf>.
- Following the issue of the Brattle Group Report on the Effectiveness of the Reliability Pricing Model in June 2008, PJM commissioned a stakeholder process to evaluate potential changes to the RPM market rules. Comprehensive proposals were created included changes to the RPM auction process design, the penalty structures, the types of resources that may participate, and the basis price that will factor into what the cleared resources will be paid (aka Cost of New Entry). None of the comprehensive proposals achieved super-majority in the stakeholder process. PJM subsequently filed with FERC to initiate a settlement process. The first meeting was held on December 16, 2008.
- The first RPM settlement meeting was held on December 16, 2008 in front of a FERC Administrative Law Judge. Settlement talks ended in January 2009, when parties established that agreement between them would not be possible. In February 2009, PJM filed with FERC a settlement agreement among

some parties to resolve the issues at hand. PJM requested that FERC issue an order no later than March 27, 2009 so that changes could be implemented in time for the May 2009 RPM auction for the 2012/2013 Delivery Year.

- PJM has reconvened the Capacity Market Evolution Committee to address compliance items as directed in the March 26, 2009 FERC Order on the Reliability Pricing Model. The stakeholder group will investigate automated methods for updating the Cost of New Entry, which serves as the basis for price on the capacity market demand curve. The committee will also review the following issues: scarcity pricing revenue offset, incremental auction design, establishment of new Cost of New Entry regions, and longer-term issues. The FERC Order directs PJM to make compliance filings on September 1, 2009 and on December 1, 2009 to address various aspects of the capacity market design. (Q2-2009)
- Presentations were made by ISO-NE and PJM describing their FCM and RPM approved market designs at NYISO November 2nd and 17th, 2007 ICAP Working Group meetings.
- Further to the NYISO Board's direction, the NYISO presented to the ICAP Working Group, at meetings during 2008 and Q1 2009, an iterative design of a forward capacity market.
- The NYISO has engaged NERA to develop a conceptual forward market design.
- At the joint NYISO Board of Directors Management Committee meeting on June 10, 2008, and during several ICAP Working Group meetings in 2007, 2008, and Q1 2009, market participants expressed a range of views on the forward capacity market design proposed by the NYISO and two market participants presented alternate designs concepts.
- The present design presented by the NYISO for its stakeholders' consideration incorporates a voluntary forward capacity market for procurement of a portion of future resource requirement. The general design includes:
 - Advance Auctions
 - Approximately 75 and 60 months prior to commitment year
 - Voluntary two sided auctions
 - Forward Procurement (FP)
 - Certifications approximately 50 months prior to commitment year
 - FP approximately 44 months prior to commitment year
 - Primary purpose is for NYISO to ensure that capacity committed to market is adequate and regulated solution need not be triggered
 - Reconfiguration Auctions
 - Physical Reconfiguration Auction - covers load forecast changes, replacement of FP capacity failing to meet milestones - held at y-37 months, y-23 months and y-10 months and accelerated if there was a significant failure of qualified capacity
 - Voluntary Reconfiguration Auction - to allow reconfiguration of positions taken in the voluntary auctions (e.g., marketers)
 - Strip Auction (conceptually unchanged from current design)
 - Annual auction held before spot auctions
 - Spot Auction (conceptually unchanged, frequency may be reduced from monthly to less frequent)
 - Would use Demand Curve
- Work on remaining design elements is continuing in Q1 and will continue in Q2 2009.
- In Q1 2009, the NYISO engaged The Brattle Group to conduct a comparison of the costs and benefits of the contemplated forward capacity market design to the NYISO existing capacity market. The Brattle

Group's analysis will include information received during stakeholder sector focus group meetings it will conduct in April 2009. The Brattle Group's draft report will be presented at the NYISO's ICAP Working Group meeting on May 8, 2009, and the final report will be presented at the June 5, 2009 ICAP Working Group meeting.

- The NYISO plans to present a forward capacity market proposal to the Business Issues Committee for vote. The outcome of that vote will determine the degree to which resources are committed to fully develop FCM market rules and tariff language.
- At the March 19, 2009 ICAP Working Group meeting, the NYISO presented details on qualifications and milestones for new entry to participate in a forward procurement auction, In-City mitigation, credit requirements, settlement rules and seasonal variations issues associated with the forward capacity market design proposal, and revisions to the demand curve setting process.
- The Brattle Group presented the cost benefit evaluation report for replacement of the NYISO's existing Installed Capacity (ICAP) market with a new Forward Capacity Market (FCM) to the ICAP Working Group meeting on June 5, 2009. The evaluation report was based on three key inputs; stakeholder comments from sector focus group meetings, the PJM and ISO-NE experience with FCM development, and economic theory and literature relevant to forward capacity markets. The report concludes that a mandatory forward capacity market could have greater long-term net benefits than the existing ICAP market. However, the incremental benefits would not be reaped until new capacity is needed. The NYISO's most recent Reliability Needs Assessment (RNA) base case projects capacity surpluses through 2018. Monitoring both the PJM and ISO-NE experience with their forward market design would provide additional experience to guide the development of a FCM for NYISO. Deferring the development of an FCM market design would allow the NYISO to allocate resources to other high priority capacity market enhancements. (Q2-2009)
- At the June 10, 2009 NYISO Business Issues Committee Meeting (BIC) meeting the NYISO conducted an advisory vote to ascertain Market Participant interest in further development of functional requirements for an FCM. A majority of NYISO Market Participants supported ending the current FCM development work. The NYISO will continue to monitor the progress of neighboring forward capacity market designs. (Q2-2009)
- This project has been moved to the closed list. PJM, ISO-NE and NYISO all have capacity markets in place that provide for cross border capacity sales. The Regional Resource Adequacy Working Group is no longer active. (Q3-2009)

P18 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).

- NYISO and ISO-NE have documented a technical definition of a virtual regional dispatch process and have received potentially viable alternative methodologies from their stakeholders. The ISOs will proceed with further stakeholder meetings to finalize the technical definition and to work towards a joint stakeholder acceptance of the proposal.
- The first set of pilot tests were conducted on April 20-21, 2005. Any additional tests will be scheduled based upon results evaluation of the April tests.

- NYISO and ISO-NE issued a report on the first pilot test on October 24, 2005. A joint meeting of NY and NE stakeholders to review the pilot test report and further develop market participant based proposals for improving the efficiency of the NYISO/ISO-NE interface was held on November 14, 2005. Based on discussions at that meeting, ITS will be considered along with other market issues as part of the NYISO rules assessment initiative currently underway.
- Prior to the interruption in ITS activity a participant-initiated proposal for intra-hour transaction scheduling was under consideration.
http://www.nyiso.com/public/committees/documents.jsp?com=bic_mswg&directory=2005-01-18&cols=5&rows=5&start=26&maxDisplay=999). The proposal would allow transactions to be scheduled on shorter notice and, potentially, for shorter duration. The shorter timeframes would allow participants to more quickly respond to price differences between the two areas.
- In 2007 NYISO evaluated inter-market real-time transaction scheduling as part of an evaluation of scheduling and dispatch market rules.
http://www.nyiso.com/public/committees/documents.jsp?com=bic_miwg&directory=2007-05-24&cols=5&rows=5&start=1&maxDisplay=999. A resumption of ITS efforts would then consider any potential changes recommended by the NY rules assessment. Both NYISO and ISO-NE have high priority, large projects underway that preclude activity on Intra-hour Transaction Scheduling before 2008.
- NYISO and ISO-NE will jointly perform an analysis of the impact of uneconomic interchange between the NYISO and ISO-NE control areas. This analysis will attempt to identify the potential economic benefits of more efficient use of available interface transfer capacity. The ISO's intend to bring the results of this analysis forward to stakeholders for review and feedback. NYISO and ISO-NE will work together to identify market mechanisms that can lead to more efficient scheduling and dispatch across the interface between control areas.
- On June 23, 2008, the NEPOOL Participants Committee voted to support an ISO-NE proposal to allow intra-hour scheduling of transactions with neighboring control areas. Rule revisions to implement this change will be filed with the FERC in July 2008. Initially ISO-NE expects to implement this scheduling functionality at the New Brunswick interface. These rule revisions were approved by the FERC on September 30, 2008 (Docket # ER08-1277-000) to be effective on October 1, 2008.
- The NYISO's 2007 State of the Market Report provides an analysis of scheduling and pricing patterns at the NYISO's interfaces with neighboring control areas. This analysis indicates that there is an opportunity to increase the efficient use of transfer capacity during unconstrained periods resulting in both production cost and net consumer benefits in both control areas. The analysis indicates that reducing the transaction scheduling lead time would enable market participants to more efficiently schedule transactions. The report recommends the development of processes to improve coordination between the ISOs even if only during limited circumstances, such as reserve shortages.
- On October 10, 2008, the NYISO presented a proposal for a reserve shortage protocol. The protocol would allow for the curtailment of RTC export transactions to maintain adequate reliability based Operating Reserves due to unforeseen events until normal market transaction scheduling has an opportunity to solve for these events. The NYISO is in the process of developing revisions to its Operational protocols to accommodate this process. The NYISO intends to present additional details and responses to questions at stakeholder meetings in early 2009.
- The NYISO reviewed the Reserve Shortage Operating Protocol proposal with market participants at the January 5, 2009 Market Issues Working Group and the January 20, 2009 System Operations Advisory Subcommittee meetings. The protocol was also discussed at the February 20, 2009 Market Issues Working Group meeting. Revisions to operating procedures and training materials are under

development. Implementation of the protocol is expected in the second quarter of 2009. The NYISO also met with ISO-NE operational staff to review the proposed changes.

- On June 1, 2009 the NYISO implemented a new operating protocol for handling RTC export transactions to ISO-NE during times of reserve shortages. The reserve shortage operating protocol states that if a deficiency of 10 minute Operating Reserves (East 10 and NYCA 10) occurs, or is forecasted to occur, for a sustained period, as a result of an unforeseen event, the NYISO may curtail RTC scheduled export transactions to ensure adequate reserves are available to meet requirements. ISO-NE already has an operating protocol in place to address reserve shortages through curtailment of export transactions. Specific details of this protocol were discussed with Market Participants at the NYISO's Market Issues Working Group (MIWG) meetings and in the System Operations Advisory Subcommittee (SOAS) meetings on May 6, 2009 and May 20, 2009 respectively. On June 23, 2009 a draft Technical Bulletin, #187-Reserve Shortage Operating Protocol was posted to the NYISO website and distributed to Market Participants for review and comment. (Q2-2009)
- The NYISO is assessing the feasibility of a project to enhance interregional transaction coordination by offering dynamic transaction scheduling capabilities at the NYISO borders. This concept would provide Market Participants with the ability to submit flexible transaction schedules for evaluation on an intra-hour basis. Development of this capability is initially targeted for the HQ interface with the roll-out to additional interfaces in future phases. Future phases of the project may provide for the sale of reserve and regulation products; however, this functionality is not within scope of the current design effort. At the June 26, 2009 Market Issues Working Group (MIWG) the NYISO presented an overview of this concept. (Q2-2009)
- This project has been moved to the closed list. A new project, P37 *Enhanced Interregional Transaction Coordination*, has been added to the report. This project will cover efforts to improve the coordination of energy scheduling at the borders between control areas. (Q3-2009)

P21 NORTHEAST GENERATOR ATTRIBUTES TRACKING (GAT) SYSTEM

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

- NY is working with market participants to determine the suitability of adapting the New England Generator Information System (GIS) to New York markets. The NYISO has been actively participating in the NY Dept. of Public Service hearings on a Renewable Portfolio Standard, where attributes trading is identified as a necessary and desirable condition. On September 24, 2004, the New York State Public Service Commission (PSC) issued its Order on the Renewable Portfolio Standard that outlines a centralized procurement process for renewables. A workshop on the need for a GATS system, sponsored by the PSC and New York State Energy Research and Development Authority (NYSERDA), was held on July 14, 2005. On September 21, 2005, the PSC issued a State Administrative Procedure Act (SAPA) notice stating that it is considering authorizing PSC Staff and NYSEERDA, in consultation with the NYISO, to begin the design of a certificate-based tracking and trading system. In the RPS Program January 26, 2006 Order in Case 03-E-0188, the New York Public Service Commission expressed its inclination to modify the current Environmental Disclosure Program to include an attributes accounting system similar to systems used in other states. The NYISO, NYPSC, and NYSEERDA met on December 19, 2006 to discuss the PSC's implementation schedule and to review the potential involvement of the NYISO in such a system.
- NYISO is supporting the NYSEERDA and NYDPS staff effort to develop a comprehensive set of functional requirements for a New York GATS. (Q2-2009)
- The IESO is awaiting direction from government before proceeding further on this initiative.

- PJM Environmental Information Services Inc (PJM-EIS), a wholly owned subsidiary of PJM Technologies, launched its Generation Attribute Tracking System (GATS). The system was placed in service in September 2005. The system is now being used by PJM LSEs to demonstrate compliance with RPS programs in five PJM jurisdictions (NJ, MD, DC, DE, and PA). As of March 2008 there are 181 subscribers and 342 registered renewable generators in GATS. 22 of these registered renewable generators are located outside of PJM in regions where a tracking system does not currently exist. Each of these external facilities has qualified for one or more PJM-state RPS programs, and GATS facilitates their participation and enhances their liquidity.
- In July 2002, the New England Power Pool (NEPOOL) launched the NEPOOL Generation Information System (GIS). This system tracks the generation attributes, emissions, and outputs of all generators in New England. The system also facilitates the trading of renewable energy certificates (REC) for states with renewable energy portfolio standards (RPS). Consistent with current New England state requirements, NEPOOL's Generator Information System Operating Rules recognize the need to track the attributes of all energy transmitted between New England and other ISOs. Under those rules, energy transactions with unit-specific NERC Tags are given the attributes of the particular generating station while all other energy transactions are given attributes of the system mix of the exporting control area.
- The NEPOOL GIS was the first tracking system in the nation to support multi-state RPS programs. The PJM-EIS GATS was designed on the basis of the NEPOOL GIS. Although there are some functional differences, the two systems are compatible in architecture, core functionality and look-and-feel.

P24 CROSS-BORDER CONTROLLABLE LINE SCHEDULING

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.

- Full market deployment of the Cross-Sound Scheduled Line occurred on June 7, 2005.. The Northport-Norwalk Scheduled Line was implemented on June 27, 2007. The Neptune Scheduled Line was implemented on July 1, 2007. The Dennison Scheduled Line was implemented in the NYISO's markets on October 1, 2008.
- Linden VFT, a 300MW injection from PJM to NYISO is targeted to begin operations during the third quarter 2009 with full operation targeted for the fourth quarter of 2009.
- Details on the operation, transmission reservations, and Tariff changes to support implementation of the Linden VFT Scheduled Line in the New York energy market were presented at the NYISO's MIWG teleconferences on January 26 and 30, 2009. Tariff changes necessary to support implementation of the Linden VFT in the energy market were passed at the NYISO's February 25, 2009 Management Committee meeting , were approved by the NYISO Board on March 17th and will be filed with FERC. NYISO will work with PJM and Con Ed to ensure emergency operating protocols are in place prior to operation of the Linden VFT Scheduled Line.
- The NYISO Tariff changes to support the implementation of the Linden VFT in the NYISO energy markets were approved by FERC on May 27, 2009. (Q2-2009)

- Test flows of power on the Linden VFT began on September 16, 2009. Commercial operation is targeted to begin on November 1, 2009. The NYISO will provide notice to FERC and to its Market Participants at least two weeks prior to commencing commercial operation over the Linden VFT Scheduled Line. (Q3-2009)

P33 INTERREGIONAL CONGESTION MANAGEMENT

NYISO and PJM are evaluating a coordinated bilateral Congestion Management Process concept. PJM and NYISO met in April and May 2007 and discussed possible opportunities for coordination. The main intent of this activity is to develop a concept that enables optimal dispatch between control areas such that one control area may alleviate congestion in the other.

- A straw-man proposal is planned to be developed by late 2007 with market participant review planned for early 2008. Any PJM-NYISO congestion management results are expected to be shared with ISO-NE. PJM and NYISO met in September 2007 to continue discussion of possible opportunities for coordination.
- NYISO and PJM are evaluating a coordinated bilateral Congestion Management Process concept. The intent of this activity is to develop a concept that enables optimal dispatch between control areas such that one control area may alleviate congestion in the other. NYISO continues to work with PJM on the development of a feasible process. NYISO presented a Congestion Management process overview to market participants at the December 14, 2007 Market Issues Working Group.
- PJM and NYISO had a productive meeting on January 29th, 2008 to continue discussions on a potential congestion management process. More specifically, the parties reviewed RTO to RTO redispatch examples, interaction between any new process and existing PJM NYISO agreements and potential data exchanges. It is PJM's and NYISO's intent to complete the development of a conceptual design for a congestion management process and present this to stakeholders by the end of 2008.
- PJM and NYISO have held several meetings in the first half of 2008 to develop a conceptual design for implementing a coordinated congestion management process. These discussions have focused on the overall design, potential operational procedures and data coordination protocols necessary to integrate a congestion management process. The last meeting between the design teams occurred on April 9th, 2008. The ISOs will continue work on the development of a conceptual design serving the needs of both control areas with the intent of bringing a proposal forward by the end of 2008.
- The Commission issued an order November 17, 2008, approving NYISO's exigent circumstances/loop flow tariff filing in Docket No. ER09-198-001. In this order, the Commission directs NYISO to work with its market participants, NERC, and neighboring RTOs to develop potential solutions to the loop-flow problem on a comprehensive basis through a collaborative process. The Commission also directs the NYISO, within 90 days of the date of the order, to file a status report on its progress in developing solutions to the loop flow problem, including an inter-RTO congestion management process. NYISO and PJM staff met on December 12, 2008 to continue discussions on a congestion management process.
- On February 12, 2009, NYISO hosted a technical conference for market participants, with representatives from PJM, MISO, IESO and ISO-NE participating, to discuss design considerations and take stakeholder feedback on the development of an Interregional Congestion Management Process. NYISO and PJM staffs have met to discuss the details of performing the market flow calculation and have begun the internal evaluation of identifying the necessary data to be shared to support that process. The NYISO's 90 Day Status Report on Development of Solutions to Loop Flow and Development of Inter-ISO/RTO Congestion Management Process was filed on February 17, 2009.

- PJM and NYISO continue to work on the development of a market flow calculation tool. The development of a unified approach to the calculation of market flows across regions is required in order to evaluate the implications of the use of historic entitlements in a congestion management process. The NYISO presented an overview of activities in support of the development of a congestion management process at the June 26, 2009 Market Issues Working Group (MIWG) meeting. (Q2-2009)
- At the September 1, 2009 Market Issues Working Group (MIWG) meeting, the NYISO provided an update on efforts to develop a congestion management process. The current effort is focused on development of the market flow calculation tool and identification of the appropriate baseline for measuring relief provided as part of the settlement process. As noted in the presentation, the plan calls for implementation of the market flow calculation tool in 2010 with full implementation of a congestion management process between NYISO and PJM in 2011 and implementation with additional neighboring control areas in 2013. Also included in this presentation is a schedule for the development of these proposals to support a January 2010 filing with FERC. The presentation can be found at [http://www.nyiso.com/public/webdocs/committees/bic_miwg/meeting_materials/2009-09-01/MIWG Market Solutions to Loop Flow.pdf](http://www.nyiso.com/public/webdocs/committees/bic_miwg/meeting_materials/2009-09-01/MIWG_Market_Solutions_to_Loop_Flow.pdf). (Q3-2009)

P36 LONG-TERM SOLUTION FOR UNSCHEDULED LAKE ERIE LOOP FLOWS

Unscheduled power flows, particularly around Lake Erie, can negatively impact both electric system reliability and market operations. The NYISO is conducting a comprehensive investigation of transaction scheduling and pricing protocols and incentives in order to assist its efforts to work with PJM, MISO and IESO to develop an alternative long-term solution to mitigate the market and reliability impacts of unscheduled Lake Erie power flows. The results of this ongoing analysis have been, and will continue to be, shared with stakeholders to facilitate an informed discussion of a viable long term solution for managing loop flow.

- Representatives from NYISO, PJM, IESO and MISO met on March 23, 2009 to address the development of solutions to mitigate loop flows. Discussion of the underlying causes of loop flow and the process for sharing data to further the analysis were discussed.
- NYISO met with PJM in June 2009 to discuss their experience with a process that allows MPs to “buy through” TLRs. The NYISO is exploring this process as a potential solution to manage loop flows on a long term basis. The NYISO expects to provide an update on the development of a solution to address loop flow at a future Market Issues Working Group (MIWG) meeting. (Q2-2009)
- The NYISO is working on the development of a “buy-through of congestion” approach to manage the cost of loop flows. This would require a collective solution among all of the ISO and RTO markets surrounding Lake Erie to manage scheduling data and settlement impacts, firm transmission and the potential for free-riders. This approach would entail charging parties scheduling transactions for the cost of congestion incurred by neighboring systems to support flows on systems that are not part of the direct scheduling path for the transaction. A presentation providing additional details on this approach can be found at [http://www.nyiso.com/public/webdocs/committees/bic_miwg/meeting_materials/2009-09-01/MIWG Market Solutions to Loop Flow.pdf](http://www.nyiso.com/public/webdocs/committees/bic_miwg/meeting_materials/2009-09-01/MIWG_Market_Solutions_to_Loop_Flow.pdf). (Q3-2009)
- FERC’s July 16, 2009 Lake Erie Report/Order orders the NYISO to “expeditiously develop long-term comprehensive solutions to the loop flow problem with its neighboring RTOs, including addressing interface pricing and congestion management. NYISO is required to submit a compliance filing to FERC detailing its proposed solution, including necessary Tariff revisions by mid-January 2010. Executives from PJM and the NYISO met on August 12, 2009 to address the July 16, 2009 FERC order, physical solutions and market solutions to address circuitous transaction schedules. (Q3-2009)

- On September 16, 2009, FERC issued an Order Granting Clarification to the NYISO request for clarification or rehearing of the Commission's order issued July 16, 2009. In this Order, FERC states "we clarify here that NYISO must address, in its 180-day report, all solutions to the Lake Erie loop flow problem, including but not limited to: (i) the implementation status of the Ontario-Michigan PARs; (ii) the progress that has been made on the operating agreements for the Ontario-Michigan PARs; and, (iii) the complementary role that physical controls will play in the comprehensive solution to the Lake Erie loop flow problem." (Q3-2009)
- Representatives from Midwest ISO, NYISO, IESO and PJM have conducted a series of conference calls on August 27, September 3 and September 10 followed by an in-person meeting on September 14 to discuss the development of solutions to mitigate loop flows around Lake Erie. These conference calls discussed the implementation status of the Ontario-Michigan PARs, improvements to the process for sharing data to support further loop flow analysis, and solutions to support the development of broader regional markets. (Q3-2009)
- A white paper addressing the development of broader regional markets is being written. The white paper will address solutions to loop flows (both physical and market based,) congestion management and interregional transaction coordination. This white paper is expected to be the focal point of discussion for a joint ISO-stakeholder meeting scheduled for October 29, 2009 in Albany, New York. (Q3-2009)

P37 ENHANCED INTERREGIONAL TRANSACTION COORDINATION

The NYISO is leading an effort to develop enhanced interregional transaction capabilities at its borders with neighboring control areas. This enhancement would allow market participants to submit flexible transaction bids for evaluation on an intra-hour basis leading to sub-hourly adjustment of transaction schedules and interchange between control areas. This capability would support convergence of scheduled interchange with pricing patterns between control areas. It would also expand the pool of flexible resources available to balance intermittent generation between control areas and improve transmission utilization and price consistency between control areas. Implementation would take place in phases in conjunction with neighboring control areas.

- At the September 1, 2009 Market Issues Working Group (MIWG) meeting, NYISO provided an overview of the enhanced interregional transaction scheduling capability. The presentation can be found at: http://www.nyiso.com/public/webdocs/committees/bic_miwg/meeting_materials/2009-09-01/Enhanced_Interregional_Transaction_Coordination_Concept.pdf. This presentation includes an overview of energy bidding, scheduling, pricing, settlement and NERC tag changes necessary for the initial phase of this project supporting intra-hour energy transactions at the NYISO-HQ interface and additional details regarding the schedule for further review with stakeholders. (Q3-2009)

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 NYISO rules assessment initiative currently underway. (July 2003)

- At the March 20, 2009 Market Issues Working Group the NYISO presented an overview of the current 75-minute bid lockdown. Scheduling of transaction for the next hour and 30-minute gas turbine commitments are the primary reason for this timetable. Some market participants have speculated that reducing this window would permit less expensive resources to be scheduled, however, NYISO is not aware of any changes in costs for resources that are unable to be represented prior to the 75 minute bid lockdown. As the NYISO currently evaluates every 15 minutes for the least cost solution, the NYISO sees no demonstrable benefits of reducing the bid lockdown. Subsequently, NYISO does not endorse reducing the current 75-minute window due to potential negative impacts resulting from a less secure bid set.

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

There is Market Participant interest in selling operating reserves from generation sources in one region to provide reserves in another region. This issue will be considered along with other longer-term market issues as part of the NYISO Market Evolution Plan, which was presented to NY stakeholders in June 2005. Since late 2005, the NYISO's Market Evolution Plan is part of its strategic planning process. The NYISO suggested this item to its Market Issues WG for stakeholder discussion and prioritization. Following implementation (October 2006) and assessment of their reserve market, ISO-NE will consider inter-control area provision of reserves. (April 2004).

- Reliability issues related to inter-area reserve have been addressed at the NPCC level, and concepts have been approved to be placed in NPCC Criteria documents.
- Two alternatives were explored. One was an expansion of existing ISO-NE/NYISO reserve sharing agreements, which was rejected because it would meet reliability interests but not market interests. The second alternative was preferred in that it would give access to external reserve resources to the ISO-NE and NYISO markets and would allow competition for the provision of reserve reliably and on a comparable basis.
- ISO-NE and NYISO have had preliminary implementation discussions, but the effort is presently on hold due to manpower limitations and awaits prioritization for implementation. ISO-NE's ability to aggressively pursue this initiative is very much dependent on the final schedules for completion of major market initiatives currently under way or pending FERC decisions and on the results of the collaborative priority setting process that ISO-NE conducts with its stakeholders.

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 is rendered infeasible, the NYISO will incur congestion rent shortfalls in the day-ahead market. There is currently no way to assign the cost impact (due to the congestion rent shortfall) of that outage to the responsible external transmission owner. TCCs in New York are fully funded, therefore the New York Transmission Owners are exposed to revenue shortfalls when transfer capability is reduced by external outages outside of their control. In addition, transmission outages or deratings that cause reductions in transfer capability between regions may have an impact on ICAP sales between regions. Due to the

emphasis on evaluating SMD2 performance subsequent to deployment in February 2005, NY deferred stakeholder discussion on this issue. NYISO Senior Management will evaluate project, scheduling, and budget impacts in conjunction with all other identified initiatives and determine what further action will be taken. (Oct 2004)

18 ELIMINATION OF RATE PANCAKING

The NYISO, with the support of the New York TOs, will initiate discussions among the affected parties in the Northeast to explore the potential for rate pancaking relief between New York and PJM. A meeting between the NY and PJM TOs was held on August 18, 2005 to initiate discussions on this issue. With the Transmissions Owners as the primary drivers of this issue, NYISO and PJM are awaiting indications of intent from PJM's TOs as to the level of priority this issue has with the PJM's TOs. On November 02, 2006, PJM supplied transaction data regarding volume and rates for PJM exports into NY.

- The NYISO has also initiated discussions with IESO to eliminate export fees. The revenue application review process for the transmitter that owns the inter-tie transmission lines in Ontario, and is responsible to the provincial regulator for this fee, is currently ongoing. The possibility of eliminating the transmission export fee, along with other options, is being discussed at this rate hearing. In May 2007, the Ontario Energy Board recently upheld the \$1/MWh export charge from IESO. However, the IESO will be (1) conducting a study on appropriate export transmission service rates for Hydro One Networks' 2010 rate process; and (2) will start negotiations with the NYISO and other neighboring jurisdictions to pursue reciprocal arrangements to eliminate export charges. The IESO will begin discussions with its neighbors early in 2008 and will complete its market impact studies in 2009. The Ontario Energy Board must approve any changes to Hydro One's export transmission charges.

114 Asymmetric Capability Year Impact on Inter-Area Capacity Sales

The NYISO capability year begins May 1st, while the capability years for both PJM and ISO-NE begin on June 1st. The election to use Unforced Deliverability Rights (UDRs) for controllable tie-line capacity at an interface with an external control area is factored into the NYISO's annual planning process determining locational capacity requirements. The capacity of a controllable tie-line not used for UDRs may be modeled as emergency assistance in the planning process, subsequently reducing the locational capacity requirement. The one month difference between capability years across the ISOs may be an issue in instances where full capability year obligations or contracted capacity from one control area is transitioned meet requirements in the neighboring control area.

- NYISO and LIPA are discussing potential ways to address the impact for the May 2010 period.
- The NYISO is evaluating a number of options associated with the May/June difference; any option will likely involve changes to NYISO tariffs, manuals, and possibly New York State Reliability Council (NYSRC) rules. The NYISO expects to provide a proposal to MPs in the near future. (Q2-2009)
- NYISO has included a project to consider the extent of market rule changes, software changes and potential operations procedure changes that would be required to align NY's capability year with those of PJM and ISO-NE in its 2010 project candidate list including a recommendation to pursue this initiative. (Q3-2009)

Broader Regional Planning

P26 COORDINATION OF INTERREGIONAL PLANNING

To continue to develop ways to improve the coordination of planning for the Northeast region, this project is established to identify future deliverables towards achieving progress in this endeavor. ISO-NE, NYISO and PJM will be presenting the results of their current efforts under the Northeastern Coordination of Planning Protocol. Under the Northeastern Coordination of Planning Protocol, a Northeast group of NYISO, PJM, & ISO-NE called "Joint ISO/RTO Planning Committee" (JIPC) met with market participants at the March 23, 2007 meeting of the Inter-area Planning Stakeholder Committee (IPSAC) and several presentations were made. PJM, NYISO, and ISO-NE are currently exchanging modeling information and load flow analysis such that work completed in 2006 can be expanded in the 2007 work-plan.

- On December 14, 2007 another IPSAC meeting was held by teleconference and web-ex at which the ISOs made presentations on several topics, including: New England Loss of Source Feasibility Study; planned system improvements in each ISO/RTO region; environmental and renewable resource issues. In addition, the ISOs presented their proposed Scope of Work for an inter-regional transmission adequacy study for discussion and stakeholder input. Stakeholders raised additional issues that are currently under consideration. Interim study results for the transmission analysis were discussed with stakeholders at an IPSAC meeting held on June 27, 2008. At this meeting, the ISO/RTOs also reviewed their plans for additional analyses with stakeholders. Plans call for conduct of further transmission studies, and production analyses. An update will be presented to stakeholders at a meeting planned for the 4th quarter 2008. The agenda and meeting materials from the Dec 14, 2007 and the June 27, 2008 meetings are posted at the following link: <http://www.interiso.com/documents.cfm>. Additional materials have been posted by each of the ISO/RTOs on their secure links.
- The integration of over 450 MW (nameplate) of wind resources in the NY North Country is planned for 2009. ISO-NE and NYISO are conducting joint operating studies to ensure reliable operation of the system. These issues were discussed with stakeholders at the June IPSAC meeting.
- During the month of August 2008, high-level meetings were held between NYISO, PJM and ISO-NE to discuss possible expansion of inter-regional planning activities. Follow-up meetings were held.
- An IPSAC meeting was held on December 11, 2008 at which the following items were discussed: the NCSP, the Joint Coordinated System Plan, the North – Country Vermont Study, PJM 500kV Expansion Studies; Environmental Issues, Interregional Wind Integration Issues and Next Steps. Additional presentations demonstrated that Queue studies and other studies have also been well coordinated and resulted in proactive system plans.
- The draft NCSP was posted on January 9, 2009 and an IPSAC conference call was held on January 30, 2009 to discuss comments on the draft Plan and to receive further input from stakeholders regarding continuing studies of interregional system assessments and system improvements.
- Following these two IPSAC meetings a final comment period was concluded on February 4 and the final NCSP was posted on March 3, 2009. The final NCSP is a comprehensive document that discusses: summaries of the RTO's system plans, interregional studies conducted by the JCSP that include the coordination of projects in the Queues having potential interregional impacts, additional coordinated planning activities and issues, wind and renewable resource studies, key environmental issues with potential interregional impacts, renewable resource development, demand side resource development, and plans for additional JIPC analysis.

- Next steps planned are summarized in the NCSP. In particular, NYISO and PJM will be conducting both reliability and production cost analyses which will focus on the New Jersey – Southeast New York area. In addition new tie lines are being explored, including further analysis between ISO-NE and NYISO, as well as their respective transmission owners, that builds upon the prefeasibility study of a tie between Plattsburgh and Vermont. Upon completion of these studies, plans call for conducting a feasibility analysis of the need for a new tie between southern New England and Southeast New York.
- An IPSAC WebEx was held May 7, 2009 to discuss the planned scopes of work and the status of study work. Preliminary results of the Vermont-New York interconnection studies and the NYISO/PJM focused study reliability analysis were presented to stakeholders at an IPSAC meeting held on June 30, 2009. Other topics presented at this meeting included an overview of other inter-regional planning activities, coordination of studies and databases, an overview of each ISO's economic planning process and plans for development of an inter-regional production costing database for future economic analysis. Economic analysis will include focused studies of the ability to transfer power across the New York - PJM interface. Additional economic analysis will focus on the ability to transfer power across the New York - New England Interface. Once the coordinated data base is fully developed, plans call for conducting economic analysis for the three ISO/RTO regions. (Q3-2009)
- An IPSAC meeting was held on June 30, 2009 when an update was provided on: the Vermont-New York New Interconnection; North Country Studies including the integration of wind resources; NYISO/PJM Focused Reliability Study that will confirm generator deliverability modeling used in resource adequacy studies; Other Interregional Planning Activities such as the planned formation of the Eastern Interconnection Planning Collaborative (EIPC); Coordination of Studies and Databases Overview of ISO Economic Planning Processes for ISO-NE; NYISO, and PJM; and Background on joint modeling and plans for joint Interregional Economic Planning Efforts. (Q3-2009)
- An IPSAC WebEx meeting is scheduled for November 6, 2009. The WebEx will provide a status update regarding analysis of the Vermont-New York New Interconnection, NYISO/PJM Reliability and Market Efficiency Analysis and the development of a common economic database for the combined region. Process improvements for coordinating interconnection studies and transmission planning studies are under development. An in-person IPSAC meeting is being planned for mid-December in New England. (Q3-2009)

P34 LIMITATIONS DUE TO LOSS OF LARGE SOURCE

ISO-NE has historically limited resources above certain MW levels when tripping at higher outputs could result in reliability problems for one of the other northeastern markets. PJM, NYISO and ISO-NE have filed a joint protocol with FERC on the coordination of loss of source procedures (http://www.iso-ne.com/regulatory/ferc/filings/2006/dec/er07-231-000_12-22-06_iso_phase_ii.pdf). On January 12, 2007, the Commission issued an order in docket no. ER07-231-000 accepting the joint protocol, without suspension after 60 days notice, effective January 16, 2007. The Commission found, however, that it should have been filed under Section 205 of the FPA and directed the RTOs/ISOs to resubmit the Protocol on tariff sheets. The RTOs/ISOs complied with this directive on February 12, 2007. On May 21, 2007, the Commission issued an order accepting the tariff sheet revisions for the Phase II Procedure, with an effective date of January 16, 2007.

- Operating studies of the loss of source, including the Phase II HVDC line connecting Quebec and New England, have been updated and approved. Planning studies simulating loss of source events have been updated. The results of these studies were reviewed at the March 23rd Inter-Area Planning Stakeholder Advisory Committee meeting.

- Analysis of potential of short-term transmission changes (series reactors) that could relieve the severity of the loss of source contingencies have been shown to produce marginal benefits and to introduce potential operating problems. They were discussed at the December 14, 2007 stakeholder meeting and it was agreed that these changes should not be pursued.
- Draft results of a long term assessment of the transmission system that reflects major improvements planned for NYISO, PJM, and ISO-NE were presented at the June 27, 2008 IPSAC meeting.. This assessment includes a determination as to their effect on the limitations on the size of allowable source loss in New England. The analysis also identifies the technical feasibility of mitigating the loss-of-source through the use of voluntary load shedding. Compatibility of such a mechanism with existing reliability rules must also be determined. The preliminary results suggest that the loss of source limit could potentially increase to a 1,500 MW to 1,600 MW level by the 2012 timeframe. A pre-feasibility study that determines the impacts of upgrading the Plattsburgh-Vermont tie to 230kV and of adding a 345kV tie between Southwest Connecticut and Westchester was also discussed with stakeholders. These improvements could result in a further increase in the loss of source limit. Additional study results will be discussed at an IPSAC meeting planned for the 4th quarter 2008. As needed, further analysis will then identify and analyze representative system improvements for discussion with stakeholders in 2009.
- Current plans call for presentation of more detailed study results at the December 2008 IPSAC meeting. These will more fully evaluate the impacts of 500kV transmission improvements in PJM and a potential upgrade of the Plattsburgh-Vermont tie.
- A status of more detailed loss of source studies was presented at the December 11, 2008 IPSAC meeting. With the addition of the planned 500kV improvements by 2012, the loss of source limit will likely be constrained by limitations in the PJM system to the 1,500 MW level. At 1,600 MW, the New York constraint will become less binding than the PJM constraint at that time. Loss of source analysis is continuing as a part of other interregional studies, such as the NY-VT tie, and the NJ- Southeast NY studies referenced in P26. The loss of source issues and studies are summarized in the NCSP and will be included in ongoing JIPC analysis reported under P26. This item as separate and distinct is considered closed. (Q3-2009)

P35 Eastern Interconnection Planning Collaborative (EIPC)

On September 1, 2009, 23 planning authorities representing about 95% of the peak load in the Eastern Interconnection, entered into an agreement to form the Eastern Interconnection Planning Collaborative Analysis Team. The goal of this initiative, the first of its kind in the Eastern Interconnection, is to provide a grass roots approach to interconnection-wide transmission analysis by the roll-up of the existing regional plans to identify potential opportunities for efficiencies between regions.

On September 14, 2009, members of the EIPC submitted a proposal, in response to a DOE Funding Opportunity Announcement, for performing interconnection-wide transmission analyses. The project proposes to facilitate the establishment of a multi-constituency stakeholder steering committee to provide strategic guidance to the technical studies. It is anticipated that this initiative will provide benefit to states, policy makers and other stakeholders by providing a coordinated analysis of scenarios of interest and developing potential transmission expansion options and cost estimates to inform their decisions. The DOE anticipates making an initial award selection in early November and a final award by the end of the year.

- The EIPC has announced two Webinars for October 13th and 16th to initiate dialogue with stakeholders, to receive input and to answer questions regarding this initiative. (Q3-2009)

I13 INTERREGIONAL COST ALLOCATION

The Northeastern ISO/RTO Coordination of Planning Protocol currently provides that cost allocation will be addressed consistent with the provisions of each ISO/RTO's Tariff. The discussions between NYISO and PJM and between NYISO and ISO-NE referred to in item P26 above also included potential consideration of a cross-border cost allocation mechanism for prospective application.

- At the December 11, 2008 IPSAC meeting there was discussion of interregional cost allocation. The ISO/RTOs current plans call for an open stakeholder process to address interregional cost allocation once projects have been identified and the individual ISO/RTO cost allocation procedures have been substantially finalized by the Commission. Stakeholders expressed different views regarding the schedule and timing for addressing such cost allocation issues. The JIPC is holding to this plan and a summary of existing regional cost allocation methods is included in the NCSP.
- The existing economic planning processes and cost allocation methodologies in the three regions were discussed in detail at the June 30, 2009 IPSAC meeting. If justifications for individual projects are identified, there are several means available in the existing ISO/RTO tariffs to pay for the projects. (Q3-2009)