

Northeast Seams Report

A faint background map of the Northeast United States, including parts of New York, New Jersey, Pennsylvania, and Delaware. Overlaid on the map is a complex network of lines representing a power grid, with various nodes and connections in shades of grey, red, and blue.

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Management Committee Meeting

October 28, 2015

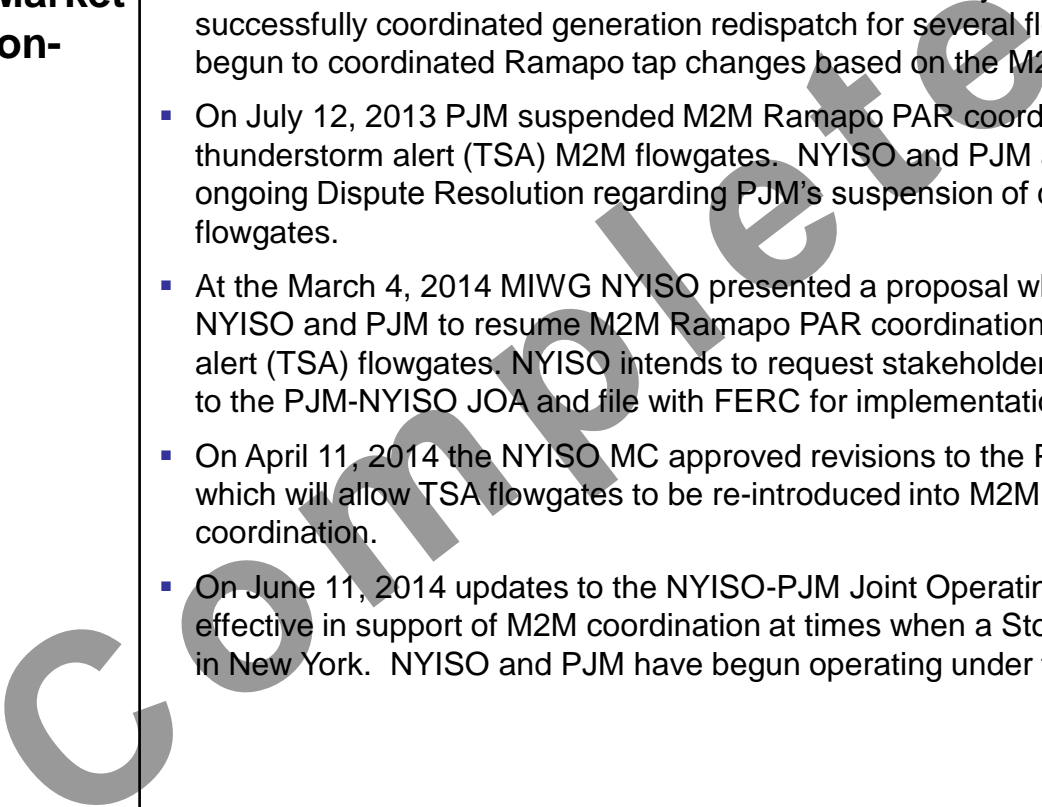
Rensselaer, NY

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Issue	Description
<p>1. Michigan-Ontario PAR Cost Allocation</p>	<ul style="list-style-type: none"> ▪ On October 20, 2010 Midwest ISO and ITC filed proposed tariff amendments at FERC seeking to allocate 30.9 % of the cost of ITC's phase angle regulating transformers at Bunce Creek on the Michigan-Ontario border to New York, and 19.5% to PJM. The Commission has set a November 10, 2010 comment date in Docket No. ER11-1844. The NYISO intends to vigorously oppose this proposal. ▪ On November 17, 2010 the NYISO, the New York TOs, ISO-New England and many other entities filed protests in opposition to joint Midwest ISO-ITC cost allocation proposal. NYISO contends that the cost allocation proposal is not consistent with Commission precedent or the Commission's recent transmission planning and cost allocation NOPR. ▪ On May 22, 2012, FERC issued a declaratory order instructing the NYISO "...the Commission has accepted MISO's proposed allocation and charges in Docket No. ER11-1844, and permitted them to become effective, subject to refund. Therefore, any charges properly billed pursuant to these Commission-accepted MISO Tariff provisions must be paid by NYISO in accordance with the provisions of MISO's Tariff." ▪ A hearing before the FERC Administrative Law Judge (ALJ) regarding cost recovery for the MI/ON PARs was concluded on September 13, 2012. Initial and Reply Briefs were filed by all parties to the proceeding in October. ▪ On December 18, 2012 the FERC ALJ issued his Initial Decision rejecting the MISO/ITC proposal to allocate a portion of the cost of the MI/ON PARs to PJM and New York. MISO and ITC filed exceptions arguing that the AJL's Initial Decision should be overturned by the Commission. Responses to the MISO/ITC Exceptions were submitted by NYISO, the NYTOs, PJM, the PJM TOs and the MISO TOs on February 6, 2013.

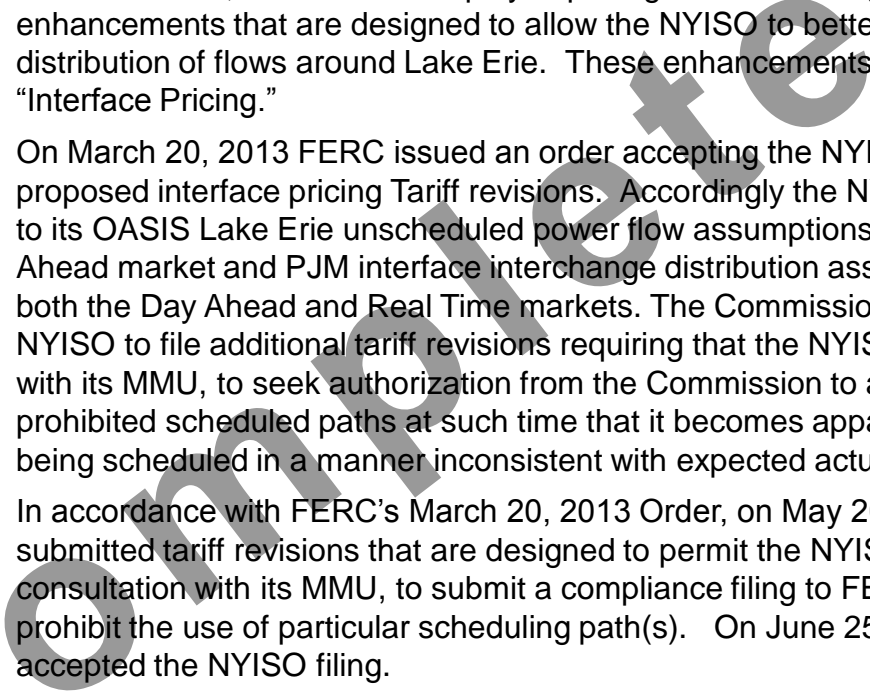
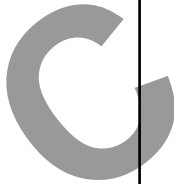
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Issue	Description
<p>2. Market-to-Market Coordination-PJM</p>	<ul style="list-style-type: none"> ▪ NYISO and PJM activated M2M coordination on January 15, 2013. The ISOs have successfully coordinated generation redispatch for several flowgates and have begun to coordinated Ramapo tap changes based on the M2M protocols. ▪ On July 12, 2013 PJM suspended M2M Ramapo PAR coordination of the thunderstorm alert (TSA) M2M flowgates. NYISO and PJM are engaged in ongoing Dispute Resolution regarding PJM's suspension of coordination on these flowgates. ▪ At the March 4, 2014 MIWG NYISO presented a proposal which would allow NYISO and PJM to resume M2M Ramapo PAR coordination of the thunderstorm alert (TSA) flowgates. NYISO intends to request stakeholder approval for updates to the PJM-NYISO JOA and file with FERC for implementation by summer 2014. ▪ On April 11, 2014 the NYISO MC approved revisions to the PJM-NYISO JOA which will allow TSA flowgates to be re-introduced into M2M Ramapo PAR coordination. ▪ On June 11, 2014 updates to the NYISO-PJM Joint Operating Agreement became effective in support of M2M coordination at times when a Storm Watch is in effect in New York. NYISO and PJM have begun operating under the revised protocols.



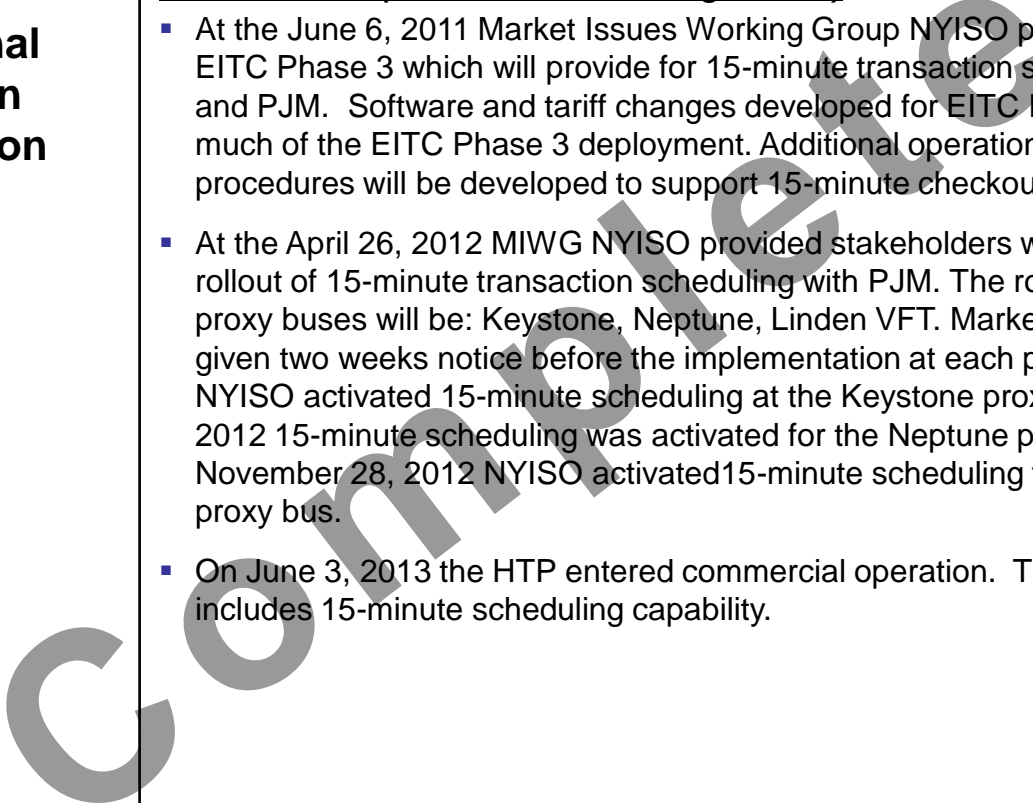
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Issue	Description
3. Interface Pricing	<ul style="list-style-type: none"> ▪ On October 26, 2011 NYISO deployed pricing and scheduling software enhancements that are designed to allow the NYISO to better reflect the distribution of flows around Lake Erie. These enhancements are referred to as “Interface Pricing.” ▪ On March 20, 2013 FERC issued an order accepting the NYISO’s January 18 proposed interface pricing Tariff revisions. Accordingly the NYISO began posting to its OASIS Lake Erie unscheduled power flow assumptions used for the Day Ahead market and PJM interface interchange distribution assumptions used for both the Day Ahead and Real Time markets. The Commission also directed the NYISO to file additional tariff revisions requiring that the NYISO, in consultation with its MMU, to seek authorization from the Commission to add additional prohibited scheduled paths at such time that it becomes apparent that a path is being scheduled in a manner inconsistent with expected actual flows. ▪ In accordance with FERC’s March 20, 2013 Order, on May 20, 2013, the NYISO submitted tariff revisions that are designed to permit the NYISO, acting in consultation with its MMU, to submit a compliance filing to FERC proposing to prohibit the use of particular scheduling path(s). On June 25, 2013 FERC accepted the NYISO filing.



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Issue	Description
<p>4. Enhanced Interregional Transaction Coordination</p>	<p><u>EITC Phase III (15-minute scheduling at PJM)</u></p> <ul style="list-style-type: none"> ▪ At the June 6, 2011 Market Issues Working Group NYISO provided an update on EITC Phase 3 which will provide for 15-minute transaction scheduling between NY and PJM. Software and tariff changes developed for EITC Phase 1 will support much of the EITC Phase 3 deployment. Additional operational tools and procedures will be developed to support 15-minute checkouts with PJM. ▪ At the April 26, 2012 MIWG NYISO provided stakeholders with an update on the rollout of 15-minute transaction scheduling with PJM. The roll-out order for the proxy buses will be: Keystone, Neptune, Linden VFT. Market Participants will be given two weeks notice before the implementation at each proxy. On June 27, NYISO activated 15-minute scheduling at the Keystone proxy bus. On October 30, 2012 15-minute scheduling was activated for the Neptune proxy bus. On November 28, 2012 NYISO activated 15-minute scheduling for the Linden VFT proxy bus. ▪ On June 3, 2013 the HTP entered commercial operation. The implementation includes 15-minute scheduling capability.



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Issue	Description
<p>4. Enhanced Interregional Transaction Coordination <i>(continued)</i></p>	<p><u>EITC Phase V (CTS with PJM)</u></p> <ul style="list-style-type: none"> ▪ On October 22, 2014 NYISO deployed software to support CTS with PJM and related enhancements including the scheduling 15-minute externals transactions from the 1st timestep of RTC and the ability to submit variable 15-minute transactions bid curves. NYISO reviewed details associated with the (planned) October 22 software deployment and (planned) November 4 CTS activation at the September 29 MIWG. ▪ On November 4, 2014 NYISO activated CTS with PJM. ▪ In December 2014 NYISO plans to begin providing CTS performance metrics to the OC and MC in the Operations Performance Metrics Monthly report. ▪ NYISO presented its initial set of BRM Metrics at the December MIWG. NYISO will be returning to future MIWGs with those, and additional metrics.

C o m p l e t e

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Issue	Description
<p>4. Enhanced Interregional Transaction Coordination <i>(continued)</i></p>	<p><u>EITC Phase IV (CTS with ISO-NE)</u></p> <ul style="list-style-type: none"> ▪ On April 19, 2012 FERC issued an order accepting NYISO’s proposed tariff revisions effective with the implementation of CTS. ▪ A special MIWG was held on February 12, 2015 to review the CTS with ISO-NE initiative. The NYISO will be returning to MIWG in March and April with additional details and examples on the pricing and settlement aspects of the market design. ▪ NYISO reviewed revisions to the Joint Energy Scheduling System (JESS) upload/download transaction bidding templates at the Customer Support Focus Group on April 15, 2015. ▪ Activation of CTS bidding with ISO-NE is targeted for December 15, 2015. NYISO will provide a notice with the final date two weeks prior to activation. ▪ NYISO is planning to review details of the scheduled October 28 software deployment and the (targeted) December 15 activation of CTS bidding with ISO-NE at the October 13 Market Issues Working Group. ▪ NYISO filed tariff and coordination agreement revisions to support CTS with ISO-NE on September 10, 2015. ▪ An additional sandbox testing session to support the activation of CTS bidding with ISO-NE is planned for the week of November 16, 2015.

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Issue	Description
<p>4. Enhanced Interregional Transaction Coordination <i>(continued)</i></p>	<p><u>Five-minute Transaction Scheduling (at HQ Chateaugay)</u></p> <ul style="list-style-type: none"> ▪ Five-minute transaction scheduling would look to continue to improve real-time interchange scheduling processes by allowing economic scheduling of interchange across controllable interties via the 5 minute Real-Time Dispatch ('RTD'). <p><u>Evaluation of Energy Market Offer Cap</u></p> <ul style="list-style-type: none"> ▪ At the March 25, 2014 MIWG NYISO reviewed details related to the temporary bid cap waiver which was in effect from January 22 to February 28. At this MIWG, Potomac Economics provided their assessment of the impact the existing offer cap had on market outcomes. ▪ On December 15, 2014, PJM filed with FERC proposing to increase its offer cap to \$1,800/MWh for time period January 9, 2015 through March 31, 2015. NYISO submitted comments on PJM's filing supporting the Commission's efforts on offer caps and the regional coordination of comparable offer caps in order to limit potential seams issues between neighboring regions, satisfy reliability, and avoid inefficient market outcomes. ▪ At the April 2, 2015 MIWG, the NYISO provided an update on the status of making changes to the Energy Market Offer Cap and the ongoing coordination effort with its neighbors. ▪ PJM is reviewing options for increasing their energy market offer cap. They are targeting October for stakeholder and board approval to allow for the updated offer cap to go into effect, if changed, by January 1, 2016. ▪ On October 1, 2015 the PJM Markets Committee voted to raise the PJM energy market offer cap to \$2,000 and allow for cost recovery in excess of the offer cap through make whole payments.

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Issue	Description
<p>4. Enhanced Interregional Transaction Coordination <i>(continued)</i></p>	<p><u>15-Minute Transaction Scheduling at Ontario</u></p> <ul style="list-style-type: none"> ▪ The IESO has expressed interest in pursuing quarter hour scheduling with NYISO beginning in 2017. ▪ The IESO has indicated that other priorities will delay the quarter hour scheduling timeline. The NYISO and IESO have agreed to revisit prioritization discussions later this year.

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Estimated Benefits of Broader Regional Markets Initiatives

- An analysis of the Broader Regional Markets initiatives conducted by the NYISO's Independent Market Monitor indicates, under a \$6 per MMBTU natural gas price scenario, annual regional savings of at least \$362 million with \$193 million annual savings on New York interfaces and constraints.
- Coordination of flows around Lake Erie would result in an estimated \$53 million in annual savings regionally with \$18 million for New York interfaces and constraints
 - ✓ Gross value of over-priced and under-priced loop flow is \$430 on an annual basis
 - ✓ Reasonable to expect to capture 10-20% of this value
- Improved interface utilization would result in \$309 million in annual savings regionally with \$175 million for New York interfaces and constraints
 - ✓ Measured as reduction in production costs
 - ✓ Results in price convergence between regions
- At the September 27, 2010 joint stakeholder technical conference David Patton presented an update to the analysis of the benefits of the Broader Regional Market Initiatives originally presented at the April 21 MC meeting.

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Issue	Description
<p>5. Reserves Participation in Adjacent Regional Markets</p>	<ul style="list-style-type: none"> ▪ 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. ▪ The NYISO intends to evaluate the capabilities for cross border reserve trading as part of the Interregional Transaction Coordination effort in 2010. ▪ On November 10, 2010 NYISO presented a proposed approach for allowing market participants to purchase or sell Operating Reserves and Regulation Service at an external interface. Reserve product qualification, performance management, scheduling, and settlement aspects of the proposed approach were discussed.

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Issue	Description
<p>6. Congestion Rent Shortfalls Resulting From External Transmission Outages</p>	<ul style="list-style-type: none"> ▪ Transmission outages or deratings occurring outside of the NYCA that are not anticipated at the time of a TCC auction can force the NYISO to reduce the assumed transfer capability between the NYCA and the adjacent control area. If the resulting set of TCCs are rendered infeasible, the NYISO will incur congestion rent shortfalls in the day-ahead market. There is currently no way to assign the cost impact (due to the congestion rent shortfall) of that outage to the responsible external transmission owner. In addition, transmission outages or deratings that cause reductions in transfer capability between regions may have an impact on ICAP sales between regions. 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. ▪ NYISO will evaluate this issue as part of NYISO’s market rules assessment initiative.

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Issue	Description
<p>7. Elimination of Rate Pancaking</p>	<ul style="list-style-type: none"> ▪ 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 TOs. PJM has supply 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. The decision on the transmitter’s revenue application is expected to be given in May of 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 to pursue a reciprocal arrangement 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. ▪ While rate pancaking between NYISO and ISO-NE has already been eliminated, it is anticipated that the recently initiated interregional cost allocation discussions taking place under the Northeastern ISO/RTO Coordination of Planning Protocol will address the elimination of through-and-out charges between NYISO and PJM.

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Issue	Description
<p>8. Asymmetric Capability Year Impact on Inter-Area Capacity Sales</p>	<ul style="list-style-type: none"> ▪ On February 3, 2010 FERC approved Tariff changes necessary to support the Capability Year adjustment election for holders of UDRs. ▪ At the June 17, 2010 Installed Capacity Working Group (ICAP WG) NYISO presented an overview of market design considerations related to the realignment of NYISO’s ICAP Capability Year with neighboring markets. PJM and ISO-NE both employ a planning year beginning on June 1 each year and the NYISO employs two distinct six-month capability periods within a capability year beginning on May 1 each year. The NYISO requested feedback from market participants related to anticipated market benefits, additional perceived obstacles, potential impacts on exports from New York, and prioritization with respect to other ICAP market enhancements. ▪ NYISO is evaluating an annual capacity/forward capacity market design which will be presented for stakeholder consideration in Q4-2014. ▪ NYISO presented design options for implementation of an annual capacity market product at the August 28, 2014 ICAP Working Group meeting. ▪ The Analysis Group reviewed the framework for their capacity market assessment at the August 28, 2014 ICAP Working Group meeting. ▪ The Analysis Group presented the findings of their capacity market assessment at the February 25, 2015 ICAP Working Group. Their analysis has indicated that development of a forward capacity market structure is not warranted.

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Issue	Description
9. Capacity Market Enhancements	<ul style="list-style-type: none"> ▪ Explore Impediments to Reciprocal Capacity Wheeling with New England <ul style="list-style-type: none"> ♦ Identify the scope of issues pertaining to auction structure, timing, planning, operations, IRM/LCR, cost allocation and other impact areas in NY and NE markets ▪ Identify/enumerate capacity market seams <ul style="list-style-type: none"> ♦ Investigate whether delisted capacity is treated similarly in ISO-NE and NYISO (ICAP vs. UCAP, interaction with export limit, losses, etc.) ▪ NYISO, ISO-NE, and PJM are pursuing capacity initiatives to address fuel assurance. NYISO is working with stakeholders to develop capacity market enhancements to better align market incentives with generator performance on critical operating days. The NYISO’s Fuel Assurance Initiative also includes Energy Market changes. ▪ On November 20, 2014 FERC issued an order directing the ISO/RTO market operators to file reports outlining their efforts to address fuel assurance issues. NYISO provided stakeholders with an overview of this report at the February 5, 2015 SOAS. The report was filed on February 18. ▪ IESO has expressed interest in allowing resources located in their area to participate in the NYISO capacity markets. ▪ IESO will not be ready to support capacity exports to NYISO in time for the 2015/2016 Winter Capability period. NYISO will provide stakeholders with an update on any IESO progress toward meeting eligibility requirements.

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Issue	Description
<p>10. Market Solutions to Loop Flow: Buy-Through of Congestion</p>	<ul style="list-style-type: none"> ▪ Per the December 30, 2010 FERC order, the NYISO has suspended work on Buy-Through of Congestion in order to focus resources on the Commission’s priorities of Interface Pricing and Market to Market. ▪ On March 19, 2014 NYISO, PJM, MISO and IESO jointly submitted an informational report to FERC addressing the effects of various market improvements on loop flow, and assessing the need to implement a Buy-Through of Congestion solution to loop flow. ▪ NYISO is obligated to continue to submit periodic informational reports to FERC addressing the effects of various market improvements on loop flow, and assessing the need to implement a Buy-Through of Congestion solution to loop flow. See New York Independent System Operator, Inc., 133 FERC ¶ 61,276 (2010). ▪ On June 2, 2014 FERC issued an order granting NYISO’s request to change the semiannual reporting requirement on BRM initiatives to an annual reporting requirement. ▪ NYISO will work with PJM, MISO, and IESO to draft the annual report to FERC on BRM initiatives. NYISO expects to submit the report to FERC in March.

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Issue	Description
<p>11. Coordination of Regional Day Ahead Electric Market Timing with Gas Day</p>	<ul style="list-style-type: none"> ▪ In FERC Order 809, the Commission adopted changes to the gas nomination timeline and directed the ISOs and RTOs to implement corresponding changes to the timing of their Day-Ahead Markets, or to explain why no changes are necessary. ▪ NYISO has had preliminary discussions with PJM on their efforts to align their day ahead market with the natural gas nomination cycles and continues to monitor PJM's progress on changing its day ahead scheduling window. NYISO understands that ISO-NE does not intend to change its day ahead scheduling window. ▪ NYISO discussed the impact of FERC Order 809 on the NYISO's day ahead market timing and efforts to coordinate any changes across the regional markets at the June 9th MIWG. ▪ On July 23, 2015 NYISO filed a response to FERC Order 809 explaining how its existing Day-Ahead scheduling practices satisfy FERC's timing requirements.

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Issue	Description
<p>12. Coordination of Interregional Planning</p>	<ul style="list-style-type: none"> ▪ FERC issued Order 1000, the Final Rule on Transmission Planning & Cost Allocation on July 21, 2011. It contains new requirements in the following areas: <ul style="list-style-type: none"> ▪ Regional Planning ▪ Public Policy Considerations ▪ Inter-regional Planning ▪ Cost Allocation: Both regional and inter-regional ▪ Eliminates “Right-of-First-Refusal” tariff provisions ▪ Order 1000 Regional Requirements <ul style="list-style-type: none"> ▪ During 2012 and 2013, the NYISO had numerous stakeholder meetings, made two joint compliance filings and received two interim Orders from the Commission requiring further filings. The NYISO also responded to several protests during that period. ▪ During the first half of 2014, NYISO began work on various implementation procedures and other tasks in anticipation of a final FERC Order, including: <ul style="list-style-type: none"> ▪ Updates to the Reliability Planning Manual ▪ Updates to the CARIS Planning Manual ▪ Preparation of a new Public Policy Planning Manual ▪ Preparation of draft Study Agreements for Reliability and PPR

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Issue	Description
<p>12. Coordination of Interregional Planning <i>(continued)</i></p>	<ul style="list-style-type: none"> ▪ Order 1000 Regional Requirements (cont'd) ▪ On July 2, 2014 NYISO filed a request with FERC to change the effective date of the Regional Compliance filing to the start of the next planning cycle in Jan 2016 ▪ On July 17, 2014 FERC issued an Order which largely accepted the October 2013 compliance filing, but required a further compliance filing by September 15 to clarify specific issues. <ul style="list-style-type: none"> ▪ FERC rejected NYISO's request to defer the implementation date and approved the January 1, 2014 effective date originally requested. ▪ On Sept 2nd, NYISO filed its response to protests of the July 17th Order ▪ On Sept 15th NYISO and the NYTOs made a joint compliance filing in response to the July 17th Order ▪ On April 20, 2015 FERC issued an Order accepting the majority of the revisions proposed in the September 2014 compliance filing and directing a further compliance filing within 30 days, that includes a <i>pro-forma</i> Developer Agreement and certain other minor changes. ▪ On May 18th, NYISO made a compliance filing in response to the April 20th Order, and on June 23rd filed its response to several protests ▪ Awaiting a final Order from FERC ▪ On August 28th, FERC issued a deficiency letter in the PPTPP Clean Up Docket with responses due in 60 days.

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Issue	Description
<p>12. Coordination of Interregional Planning <i>(continued)</i></p>	<ul style="list-style-type: none"> ▪ Order 1000 Regional Requirements –Implementation ▪ On August 1, 2014, NYISO issued a notice soliciting proposals for Public Policy Transmission Needs. ▪ NYISO received proposals from 8 separate entities on September 30th which was forwarded to the PSC for review in accordance with the NYISO Tariff. ▪ On December 11, 2014 the NYPSC issued an Order Establishing Modified Procedures for Comparative Evaluation in the Matter of AC transmission Upgrades <ul style="list-style-type: none"> ▪ Adopts a comparative evaluation process and schedule for the AC Transmission Proceeding (Case 12-T-0502) ▪ This process will inform the decision in the Public Policy Requirements process (Case 14-E-0454) ▪ Extends the schedule for a PSC decision in both proceedings to August or September 2015 ▪ On May 20, 2015 the PSC issued an Order granting an extension of time of one month for the completion of the Staff Report—which is now due on July 6th <ul style="list-style-type: none"> ▪ The Technical conferences are scheduled for July 20, 21 & 31st ▪ The August 21st comment and September 4th response deadlines were extended further to allow Staff additional time to complete its Final Report

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Issue	Description
<p>12. Coordination of Interregional Planning <i>(continued)</i></p>	<p>Order 1000 Regional Requirements –Implementation –(Cont’d)</p> <ul style="list-style-type: none"> ▪ On Sept 22, 2015 DPS Staff filed its Final Report in the AC Transmission proceeding and a Motion requesting the PSC to declare a Public Policy Need <ul style="list-style-type: none"> ▪ Staff recommended that the PSC direct the NY TOs, Next Era and North American Transmission to submit various projects in the Marcy-New Scotland and Knickerbocker to Pleasant Valley corridors to the NYISO for evaluation in its Public Policy Transmission Planning Process. ▪ Technical Conferences will be held on Oct 8-9th ▪ Initial and reply comments on the Staff Report are due on Nov 6th and Nov 23rd respectively ▪ The PSC is expected to issue a decision on the Staff recommendations at its December open meeting

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Issue	Description
<p>12. Coordination of Interregional Planning <i>(continued)</i></p>	<ul style="list-style-type: none"> ▪ Order 1000 Regional Requirements –Implementation (cont’d) ▪ On July 20, 2015 the NYPSC issued an Order identifying the relief of congestion in Western NY as a Public Policy Transmission Need and directed NYISO to solicit and evaluate proposed solutions in its PPTPP <ul style="list-style-type: none"> ▪ The PSC provided certain additional metrics for the NYISO to consider in its evaluation ▪ The PSC did not identify a particular timeframe for the proposed projects ▪ The PSC did not prescribe a specific cost allocation methodology ▪ The PSC deferred action on other proposed needs at this time ▪ On July 30th and August 27th, NYISO made presentations to ESPWG on the needs identified in response to the PSC’s Western NY Order. ▪ The current schedule is as follows: <ul style="list-style-type: none"> ▪ Nov 1 – NYISO will solicit proposed solutions ▪ Nov 30 – Developers to submit qualification information ▪ Dec 31 – Deadline to submit proposed solutions and study deposits

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Issue	Description
<p>12. Coordination of Interregional Planning <i>(continued)</i></p>	<ul style="list-style-type: none"> ▪ Order 1000 Interregional Requirements <ul style="list-style-type: none"> ▪ NYISO, PJM and ISO-NE held IPSAC webex meetings on January 28th and February 26th to discuss stakeholder comments on the Northeast Protocol. Written comments were requested by March 4th ▪ Separate compliance filings were made by each region on July 10th ▪ On September 24th, NYISO filed an answer to third party protests regarding certain aspects of the July 10th compliance filing ▪ On an IPSAC Webinar held on March 28th, ISO-NE, NYISO and PJM reviewed the Order 1000 interregional requirements and implementation procedures anticipated under the July 10th compliance filings ▪ On May 14, 2015 FERC issued an Order finding the Interregional Compliance filings of NYISO, PJM and ISO-NE to be partially compliant, accepted them subject to a further compliance filing in 60 days <ul style="list-style-type: none"> ▪ The Amended Northeastern Planning Protocol was accepted—subject to minor clarifications ▪ Interregional cost allocation was approved as filed ▪ The three ISOs were also directed to make minor clarifications to their respective tariffs ▪ On June 25th, NYISO reviewed proposed revisions to Attachment Y as well as the Northeast Protocol with stakeholders at a joint ESPWG/ IPTF meeting ▪ Compliance filings were made by NYISO, PJM and ISO-NE on July 13, 2015

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Issue	Description
<p>13. Eastern Interconnection Planning Collaborative (EIPC)</p>	<ul style="list-style-type: none"> ▪ On December 18, 2009, the DOE announced award selections totaling \$60 million dollars in funding to develop open and transparent stakeholder processes and to conduct transmission planning analyses on an interconnection-wide basis. The awardees for the Eastern Interconnection were the EIPC proposal for developing the stakeholder process and performing the technical analysis and the EISPC proposal to establish a consensus-building process among the Eastern states to identify resource and policy options as input to the technical analysis. <p>2011: Phase 1 Summary</p> <ul style="list-style-type: none"> ▪ Eight energy futures were developed and approved by SSC ▪ Macroeconomic analysis was completed on a total of 80 futures and sensitivities ▪ The SSC selected the final three Scenarios for analysis in Phase II: <ul style="list-style-type: none"> ▪ Business As Usual ▪ National RPS—Regional Implementation ▪ Combined Federal Climate and Energy Policy ▪ Phase I Report was filed with DOE on December 16th ▪ Phase I Report posted on EIPC Website at: http://eipconline.com/uploads/Phase_1_Report_Final_12-23-2011.pdf

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Issue	Description
<p>13. Eastern Interconnection Planning Collaborative (EIPC) <i>(continued)</i></p>	<p>2012: Phase II Summary</p> <ul style="list-style-type: none"> ▪ Power flow models were developed for the final three SSC Scenarios ▪ EIPC PAs identified transmission facilities to support each resource expansion ▪ Cost estimates were developed for the transmission and resource additions for each scenario ▪ Production cost analysis and sensitivity analysis was conducted for each scenario ▪ PAs prepared a draft Report to present the results of the Phase II analyses for stakeholder review and comment <p>▪ EIPC submitted the final version of the Phase 2 Report to DOE for review and comment on December 26th</p> <ul style="list-style-type: none"> ▪ <i>This report is posted on the EIPC website at http://eipconline.com/Phase II Resources.html</i>

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Issue	Description
<p>13. Eastern Interconnection Planning Collaborative (EIPC) <i>(continued)</i></p>	<p>2013 - 2014: EIPC Non-Grant Study</p> <ul style="list-style-type: none"> ▪ Joint IPTF/EGCWG meetings were held on January 6th , 23rd & Feb 20th to discuss comments on the Roll-up cases and draft Report and to receive input on potential scenarios ▪ Final Roll-up Report posted February 14th ▪ EIPC webinar to discuss input on scenarios was held on March 25th ▪ Stakeholder written comments on scenarios were due March 28th ▪ Final two scenarios and 2014 work plan was posted on April 14th <ul style="list-style-type: none"> ▪ Update Scenario for 2023 ▪ Drought Scenario for 2023 ▪ A webinar was held on September 9th to provide a status update to stakeholders, which included: <ul style="list-style-type: none"> ▪ Results from the updated Roll-up Case ▪ Discuss assumptions for the Drought Scenario ▪ Provide a Schedule Update ▪ A webinar was held on November 21st to present the results for the Drought Scenario <ul style="list-style-type: none"> ▪ The draft 2014 Report was posted for comment on December 30, 2014 ▪ The Final Report was posted on January 23, 2015

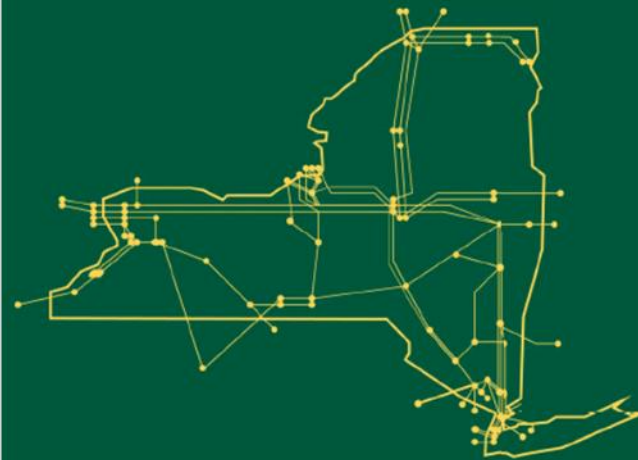
Broader Regional Planning

Issue	Description
<p>13. Eastern Interconnection Planning Collaborative (EIPC) <i>(continued)</i></p>	<p>2013 - 2014: EIPC Gas-Electric Interface Study</p> <ul style="list-style-type: none"> ▪ DOE has granted EIPC an extension of time in order to perform an analysis of the gas/electric interface. <ul style="list-style-type: none"> ▪ Participants in this study are: NYISO, PJM, ISO-NE, IESO, MISO and TVA ▪ Levitan selected as consultant in September 2013 ▪ Four Study Targets have been defined: <ul style="list-style-type: none"> ▪ Target 1: Baseline Assessment ▪ Target 2: Infrastructure Adequacy ▪ Target 3: Contingency Analysis ▪ Target 4: Dual-Fuel vs Firm Transportation ▪ Target 1 is complete <ul style="list-style-type: none"> ▪ Final Draft Target 1 Report was posted and sent to DOE on April 14, 2014 ▪ Target 2 analysis has been completed <ul style="list-style-type: none"> ▪ Final Draft Target 2 Report was posted and sent to the DOE on March 15, 2015 ▪ Target 3 <ul style="list-style-type: none"> ▪ Final Draft Target 3 Report (public version) was posted and sent to the DOE on March 27, 2015

Broader Regional Planning

Issue	Description
<p>13. Eastern Interconnection Planning Collaborative (EIPC) <i>(continued)</i></p>	<p>2013 - 2014: EIPC Gas-Electric Interface Study (cont'd)</p> <ul style="list-style-type: none"> ▪ Target 4 <ul style="list-style-type: none"> ▪ The Final Target 4 Draft Report was posted and sent to the DOE on December 4, 2014 ▪ Levitan & Associates made a presentation on the results of the Gas-Electric Study to the EGCGW at a meeting held on May 19, 2015 ▪ A draft Phase II Report was distributed and posted for stakeholder comment on May 1, 2015 ▪ A Stakeholder Steering Committee Meeting (SSC) was held on May 28th in Minneapolis to; <ul style="list-style-type: none"> ▪ Review the study results with stakeholders ▪ Discuss and receive comments on the draft Phase II Report ▪ Update the schedule for completion of the DOE Project ▪ Final stakeholder comments were due on June 3, 2015 ▪ The Final Phase II Report was submitted to the DOE on July 7, 2015 to close out the Project under the DOE grant

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