

Northeast Seams Report

Update on Northeast Seams Issues

June 2, 2010

NYISO Business Issues Committee Meeting



Draft –for Discussion Purposes Only



Broader Regional Markets

Issue	Description
1. Market Solutions to Loop Flow: Buy-Through of Congestion	<ul style="list-style-type: none">▪ 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 address 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.▪ The NYISO hosted a joint technical conference on Broader Regional Markets - Solutions to Loop Flows for stakeholders from PJM, IESO, MISO and NYISO markets on October 29, 2009. The meeting focused on the development of Congestion Management and Buy-Through of Congestion protocols. A whitepaper outlining the considerations and potential solutions to loop flow was distributed prior to this meeting.

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Broader Regional Markets

Issue	Description
<p>1. Market Solutions to Loop Flow: Buy-Through of Congestion <i>(continued)</i></p>	<ul style="list-style-type: none"> ▪ The Midwest ISO held a second technical conference on Broader Regional Markets – Solutions to Loop Flows on December 15, 2009. Three market based solutions, Buy-Through of Congestion, Congestion Management (Market-to-Market Coordination) and Interregional Transaction Coordination were presented to stakeholders. An updated draft of the white paper was made available to stakeholders. This paper outlines the fundamental power system dynamics responsible for loop flow, previous efforts on the part of utilities, system operators, and reliability coordinators to address loop flows and a discussion of physical phase angle regulator (PAR) and market based solutions. ▪ On January 12, 2010 NYISO filed a report with FERC outlining proposed Broader Regional Markets initiatives to improve the coordination of power system scheduling across the grid. The proposed market enhancements were developed in collaboration with neighboring grid operators along with input from market participants. Key aspects of the proposal include Buy-Through of Congestion, Market-to-Market Coordination, Interface Pricing Revisions, Interregional Transaction Coordination, and the installation and coordinated operation of PARs to more closely conform actual power flows to scheduled power flows.

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Broader Regional Markets

Issue	Description
1. Market Solutions to Loop Flow: Buy-Through of Congestion <i>(continued)</i>	<ul style="list-style-type: none">▪ The NYISO's Broader Regional Markets Plan report submitted to FERC on January 12, 2010 has received largely favorable comments from a number of parties including other ISOs and market participants. The ISOs continue to work together to develop design details for each of the plan's proposals. NYISO anticipates scheduling NYISO stakeholder and inter-ISO stakeholder meetings to discuss these design plans. The NYISO looks forward to receiving a response from FERC providing further guidance on the proposed plan and comments submitted by stakeholders.▪ On February 12, 2010, the NYISO submitted an answer to the FERC that opposed ITC's request (a) for a declaration from the Commission that a regional cost sharing agreement for ITC's Bunce Creek PARs would be consistent with Commission precedent, and (b) that the Commission mandate participation by the NYISO and New York stakeholders in regional cost sharing discussions related to the multi-regional allocation of the cost of ITC's Bunce Creek PARs. The NYISO's answer raised both legal and equitable concerns with ITC's proposal.▪ At the April 12, 2010 MIWG there was a presentation on potential enhancements to the methodology for pricing external interfaces. The proposed changes would improve the representation of the distribution of incremental power flows based on network topology.

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Broader Regional Markets

Issue	Description
1. Market Solutions to Loop Flow: Buy-Through of Congestion (continued)	<ul style="list-style-type: none">▪ At the May 24, 2010 MIWG meeting NYISO provided updates on the six initiatives identified in the January 12, 2010 Broader Regional Markets report:<ul style="list-style-type: none">◆ <i>Interface Pricing Revisions</i>◆ <i>Regional PAR Coordination Operating Guide</i>◆ <i>Parallel Flow Visualization</i>◆ <i>Buy-through of Congestion</i>◆ <i>Market-to-Market Coordination</i>◆ <i>Enhanced Interregional Transaction Coordination</i>

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Issue	Description
2. Market Solutions to Loop Flow: Interregional Congestion Management	<ul style="list-style-type: none">▪ NYISO and PJM are evaluating a coordinated bilateral Congestion Management Process concept. This 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.▪ 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.▪ At the September 1, 2009 MIWG meeting, the NYISO provided an update on efforts to develop a congestion management 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.

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Issue	Description
<p>2. Market Solutions to Loop Flow: Interregional Congestion Management <i>(continued)</i></p>	<ul style="list-style-type: none"> ▪ The NERC IDC (Interchange Distribution Coordination) Working Group recommended and the NERC ORS (Operating Reliability Subcommittee) approved the implementation of an enhancement to the IDC to provide for a parallel flow visualization tool to calculate generation-to-load dispatch impacts on flowgates. The ISOs and RTOs are working with NERC to develop the processes necessary for the exchange of data needed to perform the required calculations. Implementation of the IDC enhancements is targeted to begin parallel testing by November 1, 2010. ▪ The NYISO’s internal software development effort required to provide current hour and next hour data to the NERC IDC entails software deployments targeted for June and September. ▪ NYISO is participating in NAESB BPS working group effort to establish guidelines for the identification of firm versus non-firm generation. The characterization is needed by the Parallel Flow Visualization effort, for subsequent utilization by the Interchange Distribution Calculator (IDC) and Transmission Loading Relief (TLR) protocols.

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Issue	Description
3. Market Solutions to Loop Flow: Enhanced Interregional Transaction Coordination	<ul style="list-style-type: none">▪ The NYISO's 2008 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 report recommends the development of processes to improve coordination between the ISOs even if only during limited circumstances, such as reserve shortages.▪ At the June 26, 2009 MIWG meeting, NYISO provided an overview of a market based scheduling mechanism that would allow for dynamic scheduling between control areas. The initial focus is on the development of this capability at the Quebec interface for energy. Expanding the functionality to reserve and regulation products and to additional control areas could be considered in future phases.▪ NYISO presented an update on Enhanced Interregional Transaction Coordination at the September 1, 2009 MIWG meeting. This presentation included 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. Also included in this presentation is a preliminary schedule for review with the SOAS and BIC through the fall of this year followed by formal stakeholder approval and continued development work in 2010.

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Broader Regional Markets

Issue	Description
<p>3. Market Solutions to Loop Flow: Enhanced Interregional Transaction Coordination <i>(continued)</i></p>	<ul style="list-style-type: none"> ▪ NYISO provided an update on the effort to develop enhanced interregional transaction coordinating capabilities at the January 5, 2010 Market Issues Working Group meeting. NYISO intends to seek stakeholder approval for Phase 1, enhanced energy transaction scheduling at the NYISO-HQ interface in 2010 with a planned implementation in 2011. Discussions with ISO-NE and PJM regarding opportunities to achieve more efficient scheduling outcomes through increased coordination and frequency of scheduling decisions has begun. ▪ Included in the Broader Regional Markets Plan is a schedule for development of Enhanced Interregional Transaction Scheduling capabilities and Market to Market coordination with ISO-NE. The plan calls for presentation of a draft scope for review of Interregional Transaction Coordination by the end of 2010 with implementation in the 1st quarter of 2013 and draft scope for review of Market-to-Market Coordination by the end of 2012 with implementation by the end of 2014. ▪ TransEnergie and NYISO continue discussion of five minute energy scheduling. Further discussion with stakeholders is planned for the second quarter of 2010 in support of implementation in 2011. ▪ Discussion of fifteen minute energy scheduling with PJM is expected to result in presentation of a conceptual design to stakeholders later this year in support of implementation by the end of 2011.

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Issue	Description
<p>3. Market Solutions to Loop Flow: Enhanced Interregional Transaction Coordination <i>(continued)</i></p>	<ul style="list-style-type: none"> ▪ There will be a presentation to review market design considerations related to the implementation of Enhanced Interregional Transaction Coordination at an upcoming MIWG meeting in May 2010. The focus of this presentation will be on the determination of appropriate prices for settlement based on scheduling outcomes and system conditions. ▪ At the May 13, 2010 MIWG meeting NYISO provided an update on the development of Enhanced Interregional Coordination. The presentation covered changes to bidding rules and NERC e-Tagging requirements necessary to implement intra-hour transaction scheduling. A conceptual overview of changes to the real-time scheduling rules necessary to support evaluation of intra-hour transactions was provided. Changes to real-time market settlements were also covered. Specific details related to implementation at HQ and PJM interface were also covered ▪ At the May 24, MIWG NYISO provided an update on pricing revisions necessary to support Enhanced Interregional Transaction Coordination. Standard pricing rules for proxy generator buses, special pricing rules for proxy generator buses (CSC, Linden VFT, Neptune), and pricing rules for non-competitive proxy generator buses (HQ Chateauguay, HQ Cedars-Dennison) were addressed in the presentation.

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Broader Regional Markets

Estimated Benefits of Broader Regional Markets Initiatives

- Preliminary 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 \$368 million with \$211 million annual savings on New York interfaces and constraints,
- Coordination of flows around Lake Erie would result in an estimated \$51 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 \$413 on an annual basis
 - ✓ Reasonable to expect to capture 10-20% of this value
- Improved interface utilization would result in \$317 million in annual savings regionally with \$193 million for New York interfaces and constraints
 - ✓ Measured as reduction in production costs
 - ✓ Results in price convergence between regions

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Broader Regional Markets

Issue	Description
4. Reserves Participation in Adjacent Regional Markets	<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.

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Broader Regional Markets

Issue	Description
5. Congestion Rent Shortfalls Resulting From External Transmission Outages	<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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Broader Regional Markets

Issue	Description
<p>6. 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.

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Broader Regional Markets

Issue	Description
6. Elimination of Rate Pancaking <i>(continued)</i>	<ul style="list-style-type: none">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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Broader Regional Markets

Issue	Description
<p>7. Asymmetric Capability Year Impact on Inter-Area Capacity Sales</p>	<ul style="list-style-type: none"> ▪ 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 to meet requirements in the neighboring control area. ▪ The development of a conceptual design for realignment of the capability periods is included in the 2010 project plan. ▪ On November 19, 2009 LIPA presented to the ICAPWG a proposal for an interim solution to address their concern for May 2010. The solution would allow for the adjustment of locational ICAP requirements on a one time basis. ▪ At the NYISO’s December 16, 2009 Management Committee meeting, Market Participants approved revisions to the NYISO’s Market Administration and Control Area Services Tariff to revise the Capability Year adjustment election for holders of rights to UDRs. NYISO will continue to pursue the evaluation of market rule, software and operational procedure changes necessary to align the NYISO capability year with neighboring control areas.

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Broader Regional Markets

Issue	Description
7. Asymmetric Capability Year Impact on Inter-Area Capacity Sales <i>(continued)</i>	<ul style="list-style-type: none">▪ On January 14, 2010 NYISO submitted tariff revisions to revise the Capability Year adjustment election for holders of rights to UDRs. The filed tariff language would require holders of UDRs to make such an election by 5:00 PM February 1, preceding the Capability Year. Draft NYISO Technical Bulletin #192, "Interim Capability Year Adjustment Procedure" outlining details of this process has been distributed to market participants for review.▪ On February 3, 2010 FERC approved Tariff changes necessary to support the Capability Year adjustment election for holders of UDRs.▪ The NYISO intends to present design considerations related to the development of a long term solution to the alignment of capability periods with neighboring control areas at a future ICAP WG in May or June 2010.

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Broader Regional Planning

Issue	Description
8. Coordination of Interregional Planning	<ul style="list-style-type: none"> <li>■ An IPSAC WebEx meeting was held on November 6, 2009. The WebEx provided 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. <li>■ An IPSAC meeting was held on December 18th at which the following updates were provided: (i) the results of additional analysis on the Vermont-New York Interconnection; (ii) a summary of existing and pending environmental regulations and a discussion of the potential impacts on the Northeast region; (iii) presentation on the current outlook for natural gas supply, which included estimates of significant increases in the resources available from shale gas sources in the Northeast and mid-Atlantic region, the addition of LNG terminals, and improvements in pipelines; (iv) a summary of the final results of the PJM-New York focused reliability and economic efficiency studies; and (v) a discussion of the data sources and model to be used in both the upcoming NY-NE and three ISO/RTO focused production cost analyses. <li>■ At the December 18, 2009 IPSAC meeting, the ISOs indicated their intent to summarize existing cost allocation methodologies and to make the summary available to stakeholders for discussion at the next IPSAC meeting—planned for late January 2009. Stakeholders expressed differing views regarding the timeliness of starting cross-border cost allocation discussions at this time.

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Broader Regional Planning

Issue	Description
8. Coordination of Interregional Planning <i>(continued)</i>	<ul style="list-style-type: none">▪ Many stakeholders expressed the desire to obtain access to the detailed assumptions and data bases to be used in future studies. Some of the data bases are considered proprietary by program vendors and the ISO/RTOs are examining ways of making this information more readily available. Other stakeholders felt that the improved accuracy available from confidential ISO/RTO databases should be used subject to sharing as many assumptions as possible consistent with information policy constraints.▪ An IPSAC Webex call was held on February 2, 2010 to discuss the status of NCSP09, IREMM study update a survey of transmission cost allocation methods, and next steps.▪ The first meeting of the (NYISO) Interregional Planning Task Force was held as a Webex on January 29, 2010, followed by an in person meeting on February 10th . NYISO staff provided updates on IPSAC work plans for 2010 and the EIPC initiative and initiated discussions regarding the development of a process and schedule for addressing cross border planning and cost allocation issues.

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Broader Regional Planning

Issue	Description
9. Limitations Due to Loss of Large Source	<ul style="list-style-type: none">▪ A status of 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. 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. The loss of source issues and studies are summarized in the NCSP.

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