NYISO Management Committee Meeting Minutes December 17, 2014 10:00 a.m. –12:30 p.m.

1. Introductions, Meeting Objectives, and Chairman's Report

The chair of the Management Committee (MC), Ms. Deidre Altobell (Con Edison) called the meeting to order at 10:05 a.m. by welcoming the members of the MC. The members of the MC identified themselves and attendance was recorded. A guorum was determined.

2. Approval of Meeting Minutes

Motion #1:

The Management Committee (MC) approves the November 20, 2014 meeting minutes. *The motion passed unanimously by show of hands*

3. President/COO Report

Mr. Stephen Whitley (NYISO) announced the NYISO completed the SSA16 bid to bill process audit. In addition, he noted that on November 28th, FERC issued an order regarding the September 2013 Southwest black out and the NYISO was reviewing the report to learn about its findings. The NYISO was reviewing its processes and will share its findings at the Operating Committee.

Mr. Rich Dewey (NYISO) provided an update on property purchases adjacent to Krey Blvd that would improve the NYISO's physical security profile. Initially, the NYISO estimated a cost range of up to \$2.0 million for the properties, but the NYISO was able to purchase the properties for \$1.3 million. There will be some incremental costs related to site building demolition and modification. He anticipated that building site improvements would take place throughout 2015 and conclude by the end of 2015.

Mr. Rick Gonzales (NYISO) reviewed the Market Operations report and the Operations Performance Metrics report included with the meeting material.

In response to a question, Mr. Gonzales said the NYISO's Coordinated Transaction Scheduling (CTS) metrics were production cost values. Mr. Mike Mager (Multiple Intervenors and the City of New York) said it was important that pricing metrics based on LBMP savings be reported to stakeholders; however, he added, it does not need to be monthly. Mr. Gonzales said the NYISO could provide the price saving estimates, but noted that the NYISO would also have to make assumptions and work with stakeholders to develop meaningful metrics. Mr. Rich Miller (Con Edison) agreed and said that the Comprehensive Shortage Pricing proposal listed costs to be offset by Broader Regional Market savings. It was important for Market Participants to know the LBMP savings and more helpful if the savings could be broken down more granularly. Mr. Gonzales said that was a fair request. In response to a question, Ms. Emilie Nelson (NYISO) said the NYISO would discuss the new CTS metric charts in greater detail at the December 18th Market Issues Working Group.

Mr. Gonzales stated that there could be potential Ontario generating unit sales to NY from an ICAP perspective. He said that IESO has requested that Ontario generating resources provide installed capacity imports to NYISO for the summer 2015 capability period. Ontario has agreed that it would be subject to the same general principles outlined in the Northeast Memo of

Understanding (MOU) related to interregional ICAP transactions that are currently adhered by PJM, NYISO, ISO-NE, and Hydro Quebec (HQ). The NYISO expects to have a signed letter agreement between IESO and NYISO senior management by the end of 2014 and the NYISO expects to modify and take into account the potential for IESO imports in the NYISO's external ICAP import rights process to allow ICAP imports from IESO for the summer 2015 period. [Secretary's Note: As of the end of January, 2015. the agreement with IESO continues to be developed; it was not finalized by the end of 2014] The NYSIO will work with stakeholders to effectuate the necessary process changes and manual changes. Mr. Frank Francis (Brookfield) asked if the letter the management of IESO and NYISO would sign was a separate letter from the MOU. Mr. Gonzales said it was a separate letter, but had the same content as the MOU. In response to a question, Mr. Gonzales said that IESO reached out to the NYISO first.

Mr. Mark Younger (Hudson Energy Economics for Indeck) said IESO does not have a capacity market of its own, and therefore, did not have UCAP ratings. He asked if IESO generators would have to comply with the NYISO's UCAP methodology. Ms. Nelson said the details have to be worked out, but external resources have to abide with the same performance criteria that internal resources comply with to participate in the NYISO's markets. Mr. Francis noted that IESO was in the process of constructing a capacity market and wasn't sure if it would be established before summer 2015, but he did not think that should prevent this possibility from happening. Mr. Whitley said that there would be a process in place to prevent double counting in both areas. Mr. Bob Boyle (NYPA) said if IESO generators report GADS data to NERC then the NYISO has some performance information. Mr. Younger said we allow system sales from HQ because HQ runs the entire system. He asked if, in the case of IESO's capacity, system sales would not be allowed. Mr. Gonzales said that was the expectation and the NYISO wanted to discuss with stakeholders to make sure all of the issues get addressed.

Mr. Wes Yeomans (NYISO) reported that, on December 5th, the New York State Reliability Council approved an Installed Reserve Margin of 117.0% for 2015, which was the same percentage from 2014.

Mr. Yeomans also read the following statement:

Hydro Quebec Disturbance and Export Curtailments

As discussed at the December 11, 2014 Operating Committee meeting, on December 4, shortly after 3 PM, Hydro Quebec experienced forced outages of two 735 kV transmission line circuits north of Montreal. This resulted in automatic load shedding in the Montreal area of approximately 500 MW of load (177,000 customers) and subsequent curtailments of 600 MW to IESO, 800 MW to NYISO, 2,000 MW to ISO-New England. Shortly afterwards market systems and emergency sales resulted in power schedules to Hydro Quebec from IESO, NYISO, and ISO-New England. Hydro Quebec did activate Demand Response. Hydro Quebec customers were restored by 6 PM. Hydro Quebec re-activated Demand Response on the morning of Friday, December 5 to create capacity for their morning peak load pickup. The two transmission lines were restored to service Friday afternoon.

Mr. David Clarke (Power Supply Long Island) asked what the consequences to New York were. Mr. Yeomans said there was a re-dispatch in the NYISO's real time market for generators in New York and the NYISO entered reserve pickup. It was not a violent drop to the interconnection to the three control areas and the load shedding in Montreal. He noted that the curtailments did not happen at the same time. In response to a question, Mr. Yeomans said the NYISO entered a couple of 30 minute intervals of shortage pricing in New York.

4. Comprehensive Shortage Pricing (CSP)

Mr. Mike DeSocio (NYISO) began by thanking stakeholders for their efforts in working with the NYISO on the proposal. He expressed disappointment that there was not enough support for a June 2015 implementation; but because of stakeholder dedication to this proposal, there was overwhelming support for a November 2015 implementation last week at the Business Issues Committee.

Mr. DeSocio said he had the opportunity to participate in a few FERC technical conferences regarding uplift and price formation. At the crux of those discussions was an overarching theme. The NYISO's market design was best in class. Time and time again, other participants of the conference would hold up NYISO market features as examples on how to construct an efficient market. The NYISO has all of the stakeholders to thank for working with and challenging the NYISO to create the best market design. He said he viewed the proposal as the next step in ensuring the New York market design remains best in class. Market Participants have challenged the NYISO to bring forth the best and most workable changes to the NYISO market structure. For stakeholders that remember, the NYISO has been working on this design since fall of 2013. It has been a long road, but the end is near with a vote at the MC.

Another theme of the FERC technical conferences that were held since last year's polar vortex was the encouragement from all parties for FERC's immediate action to ensure all of the ISOs and RTOs have proactive plans for meeting reliability and dealing with the country's growing dependency on natural gas. To this end, FERC recently ordered the NYISO to report on its plans to ensure resources are available, performing and have adequate fuel supplies to meet tomorrow's needs. This report is due to the FERC on February 18th, and this proposal is a major component of the NYISO's plan.

Shifting gears a bit, the NYISO has had many discussions with stakeholders regarding the cost of this proposal. The NYISO does not take cost impacts on consumers lightly; however, the NYISO believes that the benefits of this proposal are far greater than its costs. In fact, the cost of this proposal is dwarfed by the costs of market changes proposed or being proposed by our neighbors. ISO-NE's performance incentive program is expected to costs over \$1 billion, and PJM's board recently approved PJM to follow suit with a performance proposal that will cost nearly \$5 billion (or roughly \$1.25 billion in terms of NYISO's footprint).

With this in mind, there have also been several discussions on the possibility of altering the proposed shortage pricing levels or, worse-yet, phasing-in the shortage pricing levels. The NYISO does not consider these alternate approaches as acceptable options. Under-valued shortage pricing would lead to outcomes that are detrimental for all New Yorkers — with such an approach, New York would be expected to have lower prices than ISONE for similar categories of reserve shortages and, as a result, electricity power flows — based on such market pricing outcomes - would support New England reliability to the detriment of New York operating reserves.

The proposal, which is contained in the NYISO's presentation, will enhance reliability and unit availability, and provide for fuel assurance and for more cost effective operation by ensuring that New York generators have a strong reason to be available for operation during cold and hot weather events — by making timely arrangements to procure fuel on a day-ahead basis. New York is heavily reliant on natural gas. Increased reliance on natural gas, combined with recent extreme weather, compel the NYISO to take action to protect reliability by improving generator performance, unit availability and fuel assurance. The Comprehensive Shortage Pricing proposal will help achieve these objectives by providing long term economically efficient price signals and incentivizing the desired behavior by suppliers and consumers. In the short term, there may be

price increases in the energy market. However, these price increases should be mostly offset by CTS-related cost benefits. Once the demand curves are re-set for years beginning in 2017, increased energy prices from shortage pricing are expected to be offset by lower capacity costs. Moreover, these market enhancements are expected to significantly improve the performance of the generator fleet during critical operating periods such as polar vortex conditions last winter. On January 7, 2014, more than 7,000 MW of generators were unavailable in New York. The NYISO expects this number to be significantly less once these market measures are implemented. Increased generator availability benefits consumers to the tune of \$200M for every 0.5% decrease in the Installed Reserve Margin (IRM). Delaying implementation of these measures would delay performance and consumer benefits. The NYISO strongly believes that a November 2015 implementation date is prudent from both a reliability and consumer viewpoint.

Mr. DeSocio thanked stakeholders again for all of their hard work and commitment to make sure New York remains at the forefront of market design, while ensuring that New York's reliability challenges are met in a cost efficient manner.

Mr. DeSocio reviewed the presentation included with the meeting material. Mr. Gonzales added that the PSC asked the NYISO to evaluate lower levels of shortage pricing and the NYISO wished to also share the evaluation with the MC. The NYISO looked at \$250 and \$500 levels. There were additional savings under the \$500 level, but the NYISO did not consider any other level other than \$750 as acceptable because of coordination issue with NYISO's neighbors. Even at \$500, NY's clearing prices for similar categories of reserve shortages with ISO-NE would be \$250 less than ISO-NE and exports from NY would go to New England. The NYISO also looked at PJM and PJM has a higher energy cap. The NYISO is not the highest at shortage pricing, but would be more comparable under the proposal.

Mr. William Heinrich (NYS DPS) thanked the NYISO for providing the information. He also said it made more sense to start the proposal in at \$500 and then phase it in to \$750. He also expressed a concern that New York should not be increasing its pricing just because our neighboring regions increase their pricing. He asked if the NYISO was ensuring that these actions do not result in a bidding war. Mr. Mukerji said that the NYISO and the Market Monitoring Unit (MMU) were evaluating what neighboring regions were doing. Mr. Miller agreed with Mr. Heinrich's concern of keeping up with the neighbors.

Mr. Rich Bolbrock (MEUA) said if prices were lower than our neighbors, at \$500, it would mean more revenue for NY generators for supplying the energy and reliability criteria would not be violated at that level. He said he did not understand the reliability concern. Mr. Mukerji said if prices were lower in NY than its neighbors, NY generators will export power to neighboring regions. Mr. Pallas LeeVanSchiack (Potomac Economics) said the MMU supported \$750 shortage pricing and noted that NY has been the beneficiary of importing ICAP from neighbors, but ISO-NE and PJM resources may be less inclined to export to NY with higher shortage pricing in their respective regions. Mr. Bolbrock disagreed with the MMU and said that external ICAP does not translate into energy.

Mr. Dan Congel (TC Ravenswood) offered a different point of view that during shortage events and there is a bidding war, MWs are scarce and suppliers want the opportunity to compete.

Mr. Mager disagreed with the NYISO in that CSP costs should not be linked with CTS savings. In response to a question, Mr. Whitley said that CTS with ISO-New England (ISO-NE) was scheduled for implementation for November 2015 and ISO-NE has a corporate goal to achieve that date.

Ms. Doreen Saia (Entergy) said that the consumer benefits for the proposal were confusing and requested that the NYISO have a discussion at the MIWG in early 2015 to improve the consumer impact analyses and how that information gets presented. She added that the NYISO would likely have to make assumptions in how it crafted its analyses and there should be a discussion before more analyses are done by the NYISO. Mr. Miller (Con Edison) agreed and said that the consumer impact analysis should be performed earlier before committee action. He also suggested that the NYISO should examine alternative proposals, even if those alternative proposals substantially differ from the NYISO's proposal.

In response to a question, Mr. DeSocio said that the NYISO was on schedule for a June 2015 software update for CSP; however, the software would not be activated until November 2015. Mr. Younger asked if the reliability rules apply throughout the year. Mr. DeSocio said that was correct. Mr. Gonzales added that the NYISO was meeting existing reliability rules. However, the NYISO was concerned about maintaining reliability during winter seasons and the proposal would improve unit availability during the winter.

Mr. Andrew Antinori (NYPA) stated it was his understanding that the Demand Curve Reset (DCR) process in 2016 would look at 36 months of LBMP data. However, with a November 2015 deployment for CSP, the DCR consultant will only have six months of data. The consultant would have to extrapolate so that there would be an additional six months of LBMP data to reflect CSP. Mr. Antinori asked if his understanding was correct that the NYISO would use those 12 months of LBMPs as reflective of the future when the DCR process happens and the NYISO will not look at the prior 24 months. Mr. Mukerji said that was correct and the NYISO would ask the consultant to estimate the impact of all of the market changes that have been in place. Ms. Saia said that the accuracy of the data was handcuffed by the loads because they sought an implementation delay for CSP in order to get support for the proposal. The consultant would have to make fewer assumptions if the consultant has more real world data.

Mr. Antinori also asked if his understanding of the DCR process would be incorporated into the RFP process for selecting a consultant. Mr. Mukerji said that was correct. Mr. Younger asked if the NYSO could clarify that whatever is put in the RFP, it should also put equivalent focus on what CTS with PJM and ISO-NE is expected to do to prices, and therefore, to net revenues to generators as well as CSP. Mr. Mukerji said that was correct.

Mr. Mager asked if there would be an opportunity for the NYISO to test the software upgrade in summer 2015 so that Market Participants would be comfortable with the changes. Mr. DeSocio said the NYISO would have to take the request back.

Mr. Chris LaRoe (IPPNY) read the following statement:

IPPNY appreciates the NYISO's efforts in advancing this important market initiative, and we strongly support the rule changes that will result from this proposal. As the administrator of New York's wholesale market, a critical role of the NYISO (and its Market Monitor) is to review its market structure and identify improvements that will result in a more efficient market design, because more efficient markets lead to more reliable markets. In this case, the NYISO's efforts were further warranted by the FERC's focus on fuel assurance and performance incentive issues after last winter's polar vortex conditions – issues that the NYPSC itself urged that the FERC address expeditiously. The NYISO has provided an additional month for review after its proposal was fully developed and finalized, answered the open questions and has supplied ample support and evidence that these proposed changes, which have been strongly endorsed by the Market Monitor, will enhance NYCA reliability and resource availability by

reflecting system needs within day-ahead and real-time market prices. No party disputes these benefits.

Throughout this initiative, the NYISO has endeavored to meet a June implementation date for these important changes to be in place during the summer peak period to ensure that the significant benefits that these rule changes could produce during that period would not be lost. However, while the NYISO will be in a position to deploy the associated software to support these changes in June and the original BIC motion supported a June implementation date, the NYISO's MC presentation now calls for a November implementation date. There is no question that these changes would be beneficial next summer. However, it was clear from the working group discussions that the June implementation would not garner the support necessary from load-side resources to meet the 58% threshold for this filing to be presented to the FERC. As was the case at the December 10 Business Issues Committee, I expect that the members from within the generator and other supplier sectors will cast votes for the proposal. However, I would construe such votes as support for implementing the important market design changes in the NYISO proposal itself, not for the November implementation. A vote in favor of today's motion should not in any way be construed as a precedent for allowing delayed implementations or phase-ins of future market design changes.

Mr. Miller (Con Edison) re-iterated Mr. Heinrich's concern about the NYISO trying to keep up with its neighbors and also requested that the NYISO review at MIWG what it plans to file at FERC on February 18 regarding its regional fuel assurance coordination efforts prior to actually filing at FERC. Mr. Mukerji said the NYISO noted his request.

Ms. Saia praised the professionalism and diligence of Mr. DeSocio and NYISO staff for their hard work at the working group level and said it was appreciated. Mr. Whitley mentioned that the NYISO would make a commitment to get the consumer impact information out earlier to stakeholders. Mr. Miller strongly supported the NYISO and requested that the NYISO consider when it does future consumer impact analyses, to evaluate alternative scenarios even if the NYISO did not support alternative scenarios as such an effort would increase the transparency for Market Participants.

Motion #2:

The Management Committee ("MC") hereby recommends revisions to the NYISO's MST and OATT as described in the presentation entitled "Comprehensive Shortage Pricing," at the December 17, 2014 MC meeting and recommends that the Board of Directors authorize the NYISO staff to file these under Section 205 of the Federal Power Act.

The motion passed with 83.96% affirmative votes

5. NYISO Annual Survey Update

Mr. John Garza (Telesight) reviewed the presentation included with the meeting material. Mr. Garza explained how the survey score could be impacted by current events (implementation of the New Capacity Zone, etc.). In response to a question, Mr. Garza said that he did not have data that show how the NYISO compared to its neighbors. Mr. Garza encouraged stakeholders to continue their participation in future surveys.

6. New Business

Mr. Francis asked if Midwest ISO would also be included as part of the MOU along with IESO. Mr. Gonzales said the NYISO could consider that, but in the short term, the NYISO was seeking a bilateral agreement with IESO. In the long term, the NYISO would like to formalize a regional agreement with its neighbors.

Ms. Altobell announced the 2015 subcommittee chairs. Mr. Alan Ackerman (CES) will chair the By-Laws Subcommittee, Mr. Miller will chair the Budget and Priorities Working Group, and Mr. Rich DeJong (Iberdrola) would chair the Market Participant Audit Advisory Subcommittee.

Meeting adjourned at 12:30 p.m.