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To: Mike DeSocio, NYISO

From: Matthew Schwall, Director of Market Policy & Regulatory Affairs

Date: November 8, 2017

Re: IPPNY Comments on Integrating Public Policy

At the October 16, 2017 meeting of the Market Issues Working Group ("MIWG"), the NYISO presented a few high-level concepts for market products and changes to the existing market structure, and requested stakeholder thoughts and feedback on specific market design concepts that may be necessary to incent market participants to meet anticipated system needs in the context of New York State's public policy directive to satisfy 50% of New York's energy requirements with renewable generation by 2030.[1] IPPNY submits these comments in response to the NYISO's concepts and strongly recommends that the NYISO expeditiously and holistically pursue a series of market reforms necessary to ensure adequate generation is available to support future system operations and maintain reliability.

In late 2016, the NYISO announced its Integrating Public Policy ("IPP") project, which consisted of three Phases: (1) study whether incorporating a state policy defined cost of carbon in the wholesale market would improve the overall efficiency of the NYISO's energy and capacity markets; (2) study the impacts of New York State's decarbonization goals to add a high

[1] See *Market Assessment with 50% Renewable Generation* presented by Ethan Avallone and Zachary Stines at the October 16, 2017 meeting of the MIWG, ("October 16 MIWG presentation"). http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg/meeting_materials/2017-10-16/10%2016%202017%20IPP%20Market%20Structure%20Assessment%20FINAL.pdf.

penetration of low carbon or carbon-free resources on the current NYISO energy and capacity markets; and (3) determine whether the existing wholesale market construct is sufficient to sustain reliable operations, maintain necessary generation, and incent new generation in order to meet anticipated reliability needs.[2] The NYISO established at the outset that its Phase 1 and Phase 2 efforts would be used to define the framework for its Phase 3 efforts. In August 2017, the NYISO released the Brattle Group's report on pricing carbon in the wholesale market, completing its Phase 1 study work but just beginning the process of developing a proposal for incorporating a cost of carbon into the wholesale energy market.[3] Throughout 2017, the NYISO presented the results of Phase 2 to stakeholders and, in December of this year, plans to include those results in a Market Assessment Whitepaper that will provide recommendations for new market products or changes to the existing market structure that would best support the wholesale market goals of attracting and retaining resources that support New York's future reliability needs.[4]

First and foremost, IPPNY compliments the NYISO on the work that has been done to date and continues to strongly support the NYISO's efforts to expeditiously evaluate incorporating a cost of carbon into the energy market. At the same time, it is imperative for both market participants and the NYISO to understand what the future grid may look like with 50% renewables penetration, and Phase 2 has provided some eye-opening results. Informed by Phases 1 and 2, the Market Assessment Whitepaper will serve as the basis of that understanding and the justification for pursuing new market products or market changes deemed necessary to attract and retain generation services needed for reliability purposes. Importantly, as the NYISO embarks on Phase 3, it must do so in lockstep with Phases 1 and 2, as all three Phases of the NYISO's IPP project are intricately related. Just as it is important for market participants to

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[2] See *NYISO's Integrating Public Policy Project* presented by Nicole Bouchez at the January 31, 2017 MIWG meeting. http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg/meeting_materials/2017-01-31/NYISO%20Integrating%20Public%20Policy%20Project.pdf.

[3] On October 27, 2017, the NYISO and the New York Department of Public Service jointly held a stakeholder meeting to begin to consider the development of a carbon pricing proposal and to solicit important issues that must be addressed during that development.

[4] See *Market Assessment with 50% Renewable Generation* presented by Mike DeSocio at the October 3, 2017 MIWG meeting. As noted below, the NYISO has advised Market Participants that they will be given the opportunity to review and comment on sections of the Whitepaper before c complete draft is issued in December. http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg/meeting_materials/2017-10-03/MIWG%2020171003%20Market%20Assessment%20of%20Renewable%20Generation.pdf.

understand the impact of 50% renewables on the market, it is similarly important to understand how the resulting market enhancements align with existing market rules and public policy requirements.

The need for multiple market enhancements is obvious. The energy and capacity market results presented to stakeholders in Phase 2 paint a bleak and totally unsustainable picture for those resources that rely exclusively on market revenues to sustain operation. The impact to the energy markets of 50% renewables is to effectively drive Day-Ahead and Real Time Market average LBMPs to $0 for the majority of operating hours, primarily in Zones A-E but also, albeit to a lesser extent, in Zones F-K.[5] Regardless of retirement assumptions, these results are intuitively troubling. Capacity market prices fared no better. While ICAP reference points increased under the assumption that the Demand Curve peaking plant receives $0/kW-y for net Energy & Ancillary Services, the markets are very long and NYCA spot auction prices are $0/kW-month for both the winter and summer capability periods, and Zones G-J and J are $0/kW-month in the winter.[6] The study results also reveal that existing renewable generation in upstate is partially displaced by new renewable generation and that flexible units are observed ramping up and down more frequently in order to balance load, with the largest changes on shoulder days.[7]

Based on these results, it is clear that, absent new market products or enhancements, the NYISO's ability to reliably operate the electric system will be in jeopardy. Energy market design never contemplated 50% of resources offering in at or below $0 and the impact that would have on marginal clearing prices. Likewise, the capacity market was not designed to retain specific generators for their reliability services when ICAP prices are at $0. Therefore, it is critical for the NYISO to engage stakeholders now in detailed discussion regarding new market products or

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[5] See *Integrating Public Policy Phase 2: Reviewing Real Time Energy Market Simulation Results*, presented by Nicole Bouchez, Ph.D. at the September 25, 2017 meeting of the MIWG, at 37-44 ("September 25 MIWG presentation").
http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg/meeting_materials/2017-09-25/MIWG%2020170925%20results%20presentation.pdf.

[6] See *Integrating Public Policy: The ICAP Market – Final Findings and Sensitivities*, presented by Meghan Castellano and Nathaniel Gilbraith, Ph.D. at the August 22, 2017 ICAP Working Group, at 16-17.
http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_icapwg/meeting_materials/2017-08-22/agenda%204%20IPP-ICAP-final-results.pdf.

[7] September 25 MIWG presentation at 27-30 and 21-24.

enhancements it believes may be necessary to reliably operate the system and ensure the ongoing development of competitive markets.

For instance, the initial concepts, presented by the NYISO at the October 16 MIWG meeting to create a ramping product and separate products for regulation up and regulation down, are fully consistent with the reliability needs identified by the Phase 2 findings.[8] Study results indicate that, as more renewables are added to the system, net load becomes increasingly unpredictable on both peak and shoulder days, indicating a need for flexible ramping capability and an associated market product to retain and attract the proper resources.[9] Such a ramping product will be particularly important if the NYISO determines current LBMPs are insufficient to attract the level of ramping it needs. Likewise, creating separate products for regulation up and regulation down have the benefit of attracting resources that may be able to provide one product but not necessarily the other. Potomac Economics, the NYISO's independent Market Monitoring Unit, is supportive of such an approach.[10] It is also important for the NYISO to consider modifications, or enhancements to, offline fast start pricing and shortage pricing levels in order to ensure that resources needed to maintain the reliability of the future grid are incented to continue operating and receive adequate compensation through the most efficient mechanisms. In general, the NYISO should review how it prices all essential reliability services, such as frequency and voltage support, et al. These services are critical to maintaining system reliability and the market clearing prices must adequately reflect that value. The NYISO should proceed expeditiously to develop these products because many of them will provide important market signals both today and as we proceed into the future.

With respect to the capacity market concepts suggested by the NYISO, it is IPPNY's position, in general, that resource adequacy issues should first be addressed through energy market reforms. However, at the October 16 MIWG meeting, the NYISO stated that it has reached out to GE to discuss updating a study done years ago to evaluate adequate output

[8] October 16 MIWG presentation at 5-6.
[9] September 25 MIWG presentation at 12-15.
[10] At the October 16 MIWG, Pallas LeeVanSchaick of Potomac Economics commented over the phone that the MMU supports the concept of developing separate regulation up and regulation down products.

duration requirements. As additional renewables make peak load significantly more variable, it is necessary to reexamine the current 4-hour requirement for capacity resources so that such resources can offer the NYISO's additional flexibility in their offers. IPPNY supports this effort and looks forward to providing additional feedback when more information is available.

Most concerning to IPPNY is the impact that state public policies are having, and will continue to have, on NYISO markets. Phase I of the IPP project is intended to address some of these concerns by incorporating a price of carbon into the NYISO's dispatch to incent resources to build in locations where the resulting carbon emissions displacement would be greatest. While this is a significant and needed improvement to the current market structure, IPPNY remains concerned that, if a carbon adder does not incent the level of new entry that is necessary to meet the State's public policy goals, the State will continue to provide incentives outside of the market, distorting market price signals and harming existing resources that are needed to maintain reliability. In our neighboring markets, ISO-NE and PJM are developing bifurcated capacity auction proposals to address this very concern. Unfortunately, the NYISO is precluded from discussing such approaches because it lacks a forward capacity market. While the opponents of a forward capacity market design often cite to the NYISO's previous studies of the cost-benefits of a forward market and its past determination that a move to such a market was "not warranted,"[11] the context for a reexamination today is very different than the environment in which the previous studies took place, as evidenced by the very existence of the IPP project itself and the results of the NYISO's Phase 2 efforts. In light of the dramatic changes the market has experienced recently, past forward capacity market analyses are no longer valid. Thus, now is the time to revisit the issue of whether a forward capacity market should be adopted by the NYISO.

Finally, it has been requested in multiple stakeholder meetings that it would be mutually advantageous to the NYISO and stakeholders if sections of the Market Assessment Whitepaper could be issued in the interim so that stakeholders can continue to provide useful feedback for incorporation in the final product. At last week's meeting of the MIWG, the NYISO confirmed a

[11] See *NYISO Capacity Market: Evaluation of Options*, prepared by Analysis Group, (May, 2015), at ES-8. http://www.analysisgroup.com/uploadedfiles/content/insights/publishing/nyiso_capacity_market_evaluation_of_options.pdf.

subset of information would be released quickly.[12] IPPNY supports this action. Most importantly, because it is impossible to accurately predict future system conditions, consideration of new market products or enhancements must not end when new market measures are adopted. Rather, the issue of adequate compensation to resources needed to maintain reliability will, by necessity, be an ongoing conversation.

IPPNY appreciates this opportunity to comment.

[12] At the November 2 meeting of the MIWG, Mike DeSocio of the NYISO confirmed to stakeholders that the NYISO is currently working on releasing a subset of information.