UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

State Policies and Wholesale Markets	)	
Operated by ISO New England, Inc., New York	)	Docket No. AD17-11-000
Independent System Operator, Inc., and	)	
PJM Interconnection, L.L.C.	)	

COMMENTS OF BRADLEY C. JONES
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NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.

My name is Brad Jones. I serve as the President and Chief Executive Officer of the New York Independent System Operator, Inc. ("NYISO"). I have over 30 years of wide-ranging experience in the electric industry, including power system operations and planning and wholesale electricity markets. Prior to assuming my position at the NYISO, I served as Senior Vice President and Chief Operating Officer at the Electric Reliability Council of Texas ("ERCOT"), which is the system operator responsible for electric system operations across most of Texas. In this position, I was responsible for Operations, Grid Planning, and Commercial Operations. My comments address the interaction between New York State policies and the NYISO-administered wholesale electric markets.

NYISO Overview

The NYISO is an independent, not-for-profit organization that began operation in 1999. It is regulated as a public utility by the Federal Energy Regulatory Commission ("FERC") under the Federal Power Act and as an electric corporation by the New York State Public Service Commission ("PSC") under the New York State Public Service Law.

I would like to highlight three of our critical functions. First, the NYISO operates New York's bulk electric system in accordance with mandatory national, regional, and state reliability requirements. Second, the NYISO administers competitive wholesale markets enabling generators and other resources to sell power to utilities and other load serving entities which, in turn, supply it to New York consumers. Third, the NYISO conducts comprehensive system planning to maintain the long-term reliability of the State's bulk electric system. In that capacity, the NYISO participates as a non-voting member of the New York State Energy Planning Board.

NYISO's Support of New York State Policies and Objectives

Since 1999, the NYISO has actively supported a variety of New York State public policy initiatives and intends to continue that partnership in the future. For example, the NYISO has contributed to New York's leadership in renewable generation development through market design advancements and the deployment of sophisticated forecasting systems. In 2009, the

NYISO became the first grid operator to fully integrate wind generation resources into its economic dispatch system. The NYISO is currently working to develop a solar forecasting system that is expected to go live later this year.

Beginning in 2003, the NYISO participated in the development of the Regional Greenhouse Gas Initiative ("RGGI"), a regional cap-and-trade program. The NYISO successfully integrated RGGI carbon emission allowance prices into the NYISO-administered energy market as an element of generator offers. Through RGGI and other New York State initiatives that work in conjunction with the NYISO's wholesale energy market, New York has already reduced CO_2 emissions from its power sector by 41.6% below 2005 levels and annually generates approximately 53% of its electricity from non-emitting resources.

The State's Renewable Portfolio Standard ("RPS") program, implemented in 2004 by the New York State Energy Research and Development Authority ("NYSERDA"), provides renewable energy credit ("REC") contracts (discussed below) to competitively selected renewable generation facilities. The NYISO supports the RPS by providing a NYSERDA-administered generator attribute tracking system with energy generation, delivery and consumption information for entities that participate in the NYISO's markets.

The NYISO is also working with the PSC to make distribution-level markets compatible with wholesale markets pursuant to the Reforming the Energy Vision ("REV") initiative.

NYISO's Public Policy Transmission Planning Processes further support State policy initiatives by identifying transmission needs in New York and enabling selected projects that obtain siting approval under State law to recover their costs under NYISO's FERC-approved tariffs. The NYISO looks forward to continuing its historic collaboration with New York State to reduce carbon emissions under the newly-adopted Clean Energy Standard.

The New York State Public Service Commission's Clean Energy Standard

The PSC's Clean Energy Standard ("CES") supports New York State's ambitious goal of having 50% of all energy consumed in the State supplied by renewable resources by the year 2030 (referred to as "50x30").[1] During the rulemaking stage, the NYISO submitted comments to the PSC recommending, among other things, that CES initiatives be structured to be compatible with competitive markets to provide the most economically efficient solutions and avoid adverse, unintended market outcomes. In particular, the NYISO highlighted the need for a program to retain existing zero-emission nuclear generation as a bridge until a market-based mechanism to address State policy objectives can be explored.

The NYISO also expressed its intent to explore with its stakeholders and the PSC market mechanisms to internalize the social cost of carbon emissions within wholesale electricity prices. The ultimate goal of this effort is to examine potential mechanisms to retain nuclear generation

[1] In December 2015, New York State Governor Cuomo directed the Department of Public Service to develop a Clean Energy Standard and to present the Commission a framework for implementing the CES in June 2016. *See* https://www.governor.ny.gov/sites/governor.ny.gov/files/atoms/files/Renewable_Energy_Letter.pdf.

and to incent renewable development so that the CES objectives can be harmonized with, and pursued through, the wholesale markets.

The PSC's August 2016 CES Order, generally addressed NYISO's market-based concerns, and adopted, among other things, a "Zero Emissions Credit" program to retain certain nuclear units in New York.

Existing State Policies and Incentives

New York State has adopted several initiatives that provide payments to certain suppliers in addition to market revenues. These initiatives have proven compatible with NYISO's wholesale electric markets, *e.g.*, RECs administered through NYSERDA and RGGI allowances. These initiatives are compatible with the wholesale markets because they price attributes not otherwise included in wholesale electric market prices. Moreover, in the case of RECs, resources receiving State incentives continue to rely on market revenues and price signals which drive economically efficient siting and operational decisions.

The NYISO's competitive wholesale market design and State environmental initiatives have successfully promoted the development of renewable generation in New York. Since implementation of New York's RPS and REC program in 2004, installed wind capacity has increased in New York by more than 3,500 percent.[2] The amount of electricity generated from New York's wind resources in 2014 – 3,986 gigawatt-hours[3] – is enough to power more than 500,000 homes. And, as discussed above, the NYISO and electric generators in the State have successfully integrated RGGI carbon emission allowances into the NYISO-administered energy market as a marginal cost of generation.

The effect on wholesale energy prices of historically low natural gas prices has caused financial distress for nuclear units and, in many instances, threatened their viability. To address this, New York State recently implemented a Zero-Emissions Credit ("ZEC") program to retain certain nuclear generators within the State. The NYISO supports the retention of nuclear resources for both environmental and reliability reasons. The NYISO believes the ZEC program is a necessary bridge to retain nuclear generation until a market-based mechanism for valuing carbon can be explored.

It is important to understand that a generating unit that may appear uneconomic based on its electricity market revenues alone may nevertheless be viable if it could capture the economic value of its environmental attributes. The problem we face is that current wholesale market designs function well to send economically efficient market signals needed to maintain

[2] NYISO, *2015 Load & Capacity Data* at 62, available at: http://www.nyiso.com/public/webdocs/markets_operations/services/planning/Documents_and_Resources/Planning_Data_and_Reference_Docs/Data_and_Reference_Docs/2015%20Load%20and%20Capacity%20Data%20Report.pdf.

[3] *Id*. at 63.

reliability, but they do not value externalities such as environmental attributes which are at the heart of certain State policies.

I discuss below an effort underway by the Brattle Group ("Brattle") to explore potential modifications to NYISO's market design that would integrate the value of carbon into the wholesale energy price-setting process.

Wholesale Market Benefits Lost Due to Out-of-Market Actions

Ideally, a state policy should clearly identify the attribute that is valuable or necessary to achieving that policy but not being priced in the existing electricity markets (*e.g.*, reduced carbon emissions). This attribute should then be systematically valued and procured through a market mechanism across the entire generating fleet. Pricing or procurement that is specific to a unit type or fuel type creates the potential for distortions in the competitive electric market. The NYISO has reviewed and evaluated the ZEC program pursuant to its market mitigation obligations and determined, under a specific set of assumptions, and based on current market conditions, that it does not pose wholesale market power concerns. However, there are several potential concerns that may arise from out-of-market actions.

First, certain subsidies may cause units that are indeed uneconomic to remain in operation instead of retiring. This could artificially lower clearing prices, particularly in the capacity market, and adversely affect the economic signals necessary to attract and retain sufficient resources to satisfy resource adequacy requirements. Second, price suppression due to non-competitive forces may inadvertently influence otherwise economic units to retire early or, if needed for reliability, to enter into Reliability Must Run agreements until a market-based or regulated solution can be found. As the Commission has stated, RMR agreements should only be used as a last resort. Third, over-reliance on out-of-market subsidies will stifle not only competition but also innovation. Competition fosters innovation, which ultimately provides end use customers with the most reliable and economic solutions. Finally, if there is a proliferation of out-of-market subsidies, we may see the deterioration of wholesale market signals required for private investment and a return to some form of a regulated model, which history has already proven to be less efficient.

Preserving the Competitiveness and Efficiency of Wholesale Markets

The wholesale energy markets were designed, among other things, to drive the efficiency of the generating fleet through the introduction of competitive forces, and they have been a very successful means to accomplish that goal. The NYISO markets have successfully captured approximately $7 billion of fuel efficiency since their introduction in 1999. At the request of its stakeholders, the NYISO commissioned the Brattle Group ("Brattle") to explore whether New York State environmental policies may be pursued within the existing wholesale market structure at a reasonable cost to consumers. ISO/RTO markets were not designed to value environmental attributes, but they may be modified to capture and monetize the value of those attributes. The NYISO is in the initial stages of exploring that potential with the Brattle Group, our market participants, and New York State.

Brattle is investigating a method to incorporate the social cost of carbon into generation offers and reflect that cost in energy clearing prices. Generating units that emit carbon would incur a penalty based on their level of carbon emissions and the social cost attributed to carbon. The penalties collected by the NYISO would then be returned to customers in some equitable manner.

The NYISO intends to undertake a collaboration with stakeholders and New York State to examine the feasibility of modifying NYISO's market design to complement New York's ambitious environmental policies.

New York's efforts represent only that start of an initiative that must be addressed on a regional basis to be truly successful. To that end, the NYISO will continue a dialogue with its neighbors to explore solutions that may be compatible with PJM's and ISO-New England's markets.

The NYISO's Role in Ensuring Resource Adequacy

A fundamental premise underlying viable competitive electricity markets is to provide adequate revenues for generating resources needed to maintain system reliability. Revenue adequacy is provided through energy, capacity, and ancillary services markets. As infra-marginal energy revenues are diminished by low fuel prices and the entry of zero marginal cost renewable resources, ISOs/RTOs will likely be required to enhance ancillary services and capacity markets to ensure revenue adequacy and maintain system reliability.

The NYISO's wholesale capacity markets are one of the principal means to attract and retain enough supply to satisfy the New York State's resource adequacy requirements, which are expressed as an annual Installed Reserve Margin or "IRM." The IRM is adopted by the New York State Reliability Council based upon modeling performed by the NYISO and reviewed with stakeholders. The PSC and FERC approve the IRM annually, which is then translated into locational capacity requirements that are procured by Load Serving Entities through NYISO-administered auctions and bilateral arrangements. Capacity and enhanced ancillary services markets, can continue into the future, particularly if the NYISO-administered energy markets are modified to incorporate the value of carbon emissions.

Decisions about market entry and exit should be dictated by competitive market forces. An ideal end state would harmonize state public policies with wholesale electric markets in a manner that maintains reliability, is economically efficient, and respects federal and state jurisdictional boundaries. ISO/RTO markets were not designed to value environmental attributes, but we believe they could be modified to capture and monetize the value of those attributes and we will soon begin exploring that potential with the Brattle Group, our Market Participants, and New York State.

This concludes my prepared comments. Thank you for the opportunity to participate in this important debate.