



Evaluation of New York's Competitive Wholesale Electric Markets After the First Ten Years

INTRODUCTION

In connection with its ten-year anniversary, the NYISO engaged Dr. Susan Tierney of the Analysis Group to conduct an independent review of the first decade of New York's competitive wholesale electric markets. The purpose of this review was to evaluate the performance of the markets in New York in light of the understandings and expectations that gave rise to the restructuring of the state's wholesale electric industry. As part of that review, the NYISO sought an evaluation of its performance as an organization in executing its core responsibilities - to identify areas of strength and opportunities for improvement.

The NYISO is proud of what it has accomplished, together with its stakeholders, over the past ten years. We are committed to providing significant value to New York ratepayers, and we remain focused on continuous improvement in our operations. The NYISO has established itself as a leader in market design, governance, and planning. As we look to the future, the NYISO is in the process of implementing a number of measures to improve the transparency of our operations, responsiveness to consumers, and the efficiency of the markets we are entrusted to administer. We look forward to working with our regulators, market participants, elected officials, and other stakeholders over the next ten years in the spirit of continuous improvement to ensure that New York remains a leader in the wholesale electric industry.

In conducting her evaluation, Dr. Tierney reviewed various open source materials and conducted extensive, confidential interviews with a number of NYISO stakeholders. The input provided through those candid conversations proved to be particularly valuable. The NYISO would like to express its sincere thanks to Dr. Tierney and all of the stakeholders who participated in this process.

The Analysis Group Report identifies a number of issues for the NYISO and its stakeholders to consider as we look to the future. While not intended as a comprehensive response to the Analysis Group Report, we address a few of the key points here. Specifically, this document touches on:

- Electricity Prices in New York State
- Performance of the Competitive Markets
- End-Use Consumer Concerns
- NYISO as an Organization

The NYISO looks forward to working with its stakeholders over the next ten years, with a commitment to continuous improvement, to build upon our strengths and address areas for continued progress in maintaining the reliability of the bulk power system, planning for the future needs of the grid, acting as a sound and independent technical resource, and administering New York's competitive wholesale electric markets.

ELECTRICITY PRICES IN NEW YORK STATE

As noted in the Analysis Group Report, the restructuring initiative that led to the formation of the NYISO was driven by a number of related concerns. Perhaps most significant among these was a desire to lower electricity prices in New York while ensuring continued high standards for reliability. In restructuring New York's wholesale electric sector, policymakers also hoped to

harness competitive market forces to lower electricity prices through various improvements in operational efficiencies and the transfer of investment risks from the ratepayer to the shareholder. The objective was to create a market structure that would facilitate lower prices over time than would have been achieved in the absence of competition, while ensuring continued system reliability.

While New York ratepayers pay electric prices that are below the national average in terms of total dollars paid per household and as a percentage of income, they continue to pay among the highest prices in the nation on a KWh basis. This gives rise to understandable and legitimate questions as to whether one of the fundamental aims of restructuring is being met - to provide wholesale electric service at an overall lower cost than would have been the case absent restructuring.

As the Analysis Group Report notes, it is important to recognize that only a portion of the retail cost of electricity is determined by New York's wholesale electric markets. Other factors that are not a function of the performance of the wholesale electric markets, including commodity fuel prices, taxes and fees, stranded cost recovery, and the costs of aging infrastructure have significant impacts on the bottom line cost to end-use consumers. In a recent study, the Public Policy Institute of New York State found that New York's electric power industry is the most heavily taxed in the nation, stating that those taxes are "leaving ratepayers with ever-growing bills even when energy commodity prices fall."¹ Additionally, New York's mix of generation, consisting of a high percentage of gas and oil-fired units, is more expensive to run and more susceptible to fluctuations in the commodity prices of these fuels than regions with greater amounts of coal-fired generation.

Credible evidence indicates that New York's wholesale electric markets have functioned well to control and lower those costs that are subject to competitive pressures. Since the inception of New York's competitive electric markets, nearly 11,000 MW of generation, transmission, and demand-side resources have been brought online near major load centers, addressing reliability needs and yielding lower prices than otherwise would have been experienced absent these improvements. During this ten year period, competitive pressures have led to a 21% improvement in generator heat rates - a measure of increased generator fuel efficiency that provides significant economic and environmental benefits - and a 7.2% improvement in outage rates - a measure of increased generator availability that equates to approximately 2,400 MW of additional generating capacity on the system. This is strong evidence that competition in the wholesale electric sector has translated into meaningful savings to New York ratepayers. We firmly believe that the design and incentives of New York's competitive markets are the fundamental reasons that these benefits have been achieved. In contrast to the historic cost-of-service regime, under New York's competitive restructuring, resources in New York do not get paid unless they perform.

In addition to the economic incentives that New York's market design provides generation owners (described above), NYISO's planning processes should provide other benefits envisioned at the NYISO's inception. The NYISO's Comprehensive Reliability Planning Process (CRPP) is a unique "all resources" process that evaluates generation, transmission, and demand-side resources on an even playing field and favors market-based solutions to *shift the risk* of project development from consumers to developers. Several transmission projects have been proposed in response to the Reliability Needs Assessment (RNA) that are in various stages of development. Transmission

¹ "Short-Circuiting New York's Recovery: How Energy Taxes Contribute to High Electric Rates in New York," Steven A. Taylor, The Public Policy Institute of New York State, 2010, available at <http://www.ppinys.org> .

projects that have been placed into service over the past several years include the Cross Sound Cable, the Neptune Cable, Con Edison's M-29 line, and the Linden VFT.

Over the past ten years, new generation and demand-side resources have been added in areas where they were needed to meet demand and have replaced older, less efficient resources. And, some transmission projects have been brought online. But significant challenges still remain. For example, transmission capacity has not been added in the locations where it would have a significant impact on lowering prices (e.g., Central-East and Leeds-Pleasant Valley). As a result, the state's highly constrained transmission system continues to prevent New Yorkers from fully enjoying the benefits of relatively inexpensive resources in upstate New York and Canada.

The NYISO recently implemented an expanded economic planning process, the Congestion Analysis and Resource Integration Study ("CARIS") that will provide additional opportunities to address this need. In the first phase of CARIS, conducted last year, the NYISO identified the most congested locations on the New York transmission system and provided an analysis of potential solutions—including generation, transmission and demand response for consideration by market participants in the development of their business plans. In Phase II of CARIS, transmission developers will be able to propose specific projects for evaluation by the NYISO to determine whether they will provide sufficient benefits (measured in statewide production cost reduction as well as price reduction for loads) to be considered for cost recovery under the NYISO tariffs. In sum, the NYISO's planning processes should provide the vehicles for future economic benefits by continuing to shift the risk of new investment to private parties, by acknowledging the value of all resources - transmission, generation and demand response - and by enabling the transportation of existing efficient generation resources to areas now served by higher priced resources.

In the meantime, the NYISO has worked to extract additional efficiencies from the state's existing transmission system to capture the full benefit of existing resources and reduce costs to New York. The NYISO has advocated for the installation of reactive support by installing capacitors at strategic locations on the grid to improve system transfer capability and reduce electrical losses. Working together with the N.Y. Transmission Owners and the N.Y. Public Service Commission, the NYISO was awarded a grant from the Department of Energy of approximately \$37 million for the installation of "Smart Grid" devices—including capacitors—on the NY transmission system. It has been estimated that such improvements could reduce wholesale power costs by up to \$60 million per year.

PERFORMANCE OF THE COMPETITIVE MARKETS

The Analysis Group Report describes a widely-held view that overall New York's wholesale electric markets are very effective and, in many respects, the best in the nation. The NYISO is proud of this and recognizes that it is due in significant part to the sound principles of the original New York market design and the subsequent improvements that have been developed in close collaboration between the NYISO and its stakeholders. The Analysis Group Report also describes widely-held frustrations regarding (i) "seams" with neighboring markets that hamper greater regional market efficiencies and (ii) an inadequate response by the NYISO in the face of several market problems that have been encountered over time. We address these issues below.

Broader Regional Markets

The Analysis Group Report indicates that a number of stakeholders expressed interest in "broadening the markets" to expand the geographic scope of planning efforts, better align market

rules across regions, more accurately and efficiently price transactions across multiple regions, and gain administrative efficiencies.

The NYISO is aggressively engaged in efforts to identify and eliminate seams issues between neighboring markets that can create unnecessary barriers to achieving enhanced market and operational efficiencies. On January 12, 2010, the NYISO filed a plan with FERC to implement a set of projects between the NYISO and its neighboring Control Areas (PJM, ISO-NE, Hydro-Quebec, IESO, and MISO) to reduce "seams" and, as a consequence, reduce wholesale power costs. Each of the neighboring Control Areas filed comments with FERC in support of the NYISO initiative. Through this plan, the NYISO is developing with its neighbors coordinated suite of solutions to create a "Broader Regional Market." These measures will increase operational and reliability capabilities by allowing each of the system operators access to a larger pool of resources to address limitations within their own system, and will increase the capabilities of the energy markets to deliver the lowest cost power throughout the region.

Specifically, the ISOs are pursuing three market solutions to implement Buy-Through of Congestion, Market-to-Market Coordination and Interregional Transaction Coordination. First, the proposed *Buy-Through of Congestion* solution is designed to recover congestion costs caused by off-contract path impacts by allocating a more complete and accurate measure of the costs caused by regional transactions to the cost-causing transactions. Second, the *Market-to-Market Coordination* is designed to reduce the cost of addressing transmission congestion within a region, through a coordinated region-wide generation dispatch to minimize the cost of addressing transmission constraints. Third, *Interregional Transaction Coordination* is designed to reduce the risk/exposure to congestion costs experienced by entities that move power between regions, and will facilitate greater delivery of low cost power throughout the broader region.

Together, the Broader Regional Market solutions will reduce uplift costs associated with real-time event management and congestion management, improve capability to incorporate intermittent resources, and lower total system operating costs.

Identifying and Addressing Market Problems

The Analysis Group Report identifies concerns expressed by a number of market participants that the NYISO has taken too long to identify, report, and address market issues.

The NYISO is aware of these concerns and takes them very seriously. While it is not possible to completely eliminate errors from the administration of complex wholesale electric markets, fundamental confidence in the markets is essential to their integrity. The NYISO's first aim is to minimize errors to the greatest extent possible through a commitment to excellence in execution and continuous improvement. But the NYISO also understands the importance of addressing errors and market inefficiencies as swiftly and transparently as possible when they do occur. Over the past 18 months, the NYISO has developed several important measures to address these concerns that are described below. The NYISO will continue to work with stakeholders to evaluate the effectiveness of these measures.

Operations Performance & Analysis Group

The Operations Performance & Analysis Group was established in response to stakeholder concerns about the timeliness of the NYISO's actions in response to, and the transparency of, unusual or inefficient market outcomes and costs. Since the fall of 2008, the Operations Performance and Analysis Group has reviewed market results on a daily basis to identify the root-causes of uplift and other costs. Each morning, the Operations Performance & Analysis Group coordinates with the

Independent Market Advisor and internal market monitoring staff to review the analysis and findings. As part of the root-cause analysis, a review of the prior day's operational actions and relevant market settlement rules is undertaken to examine and where possible improve the efficiency of market results. In addition, the Operations Performance & Analysis Group reports to the Management Committee each month about uplift trends and drivers.

Protocols for Reporting Market Problems

The NYISO has recently made improvements to increase the transparency and accelerate the reporting of significant market problems. These new procedures have been incorporated in formal tariff provisions approved by FERC. The NYISO now reports the occurrence of a market problem to its stakeholders, the Federal Energy Regulatory Commission and its Market Monitoring Unit within five days. Market problems are those market design flaws, software implementation, modeling or data anomalies, or other economic inefficiencies, that have a material effect on the ISO-administered markets. Unless the issue involves potential gaming of market rules, requiring a confidential investigation, the NYISO describes the issue and its cause, the timeframe involved and economic impacts to the degree known. Within 30 days, the NYISO reports on its proposal to address the market problem. Should it require additional analysis, the NYISO reports quarterly on its efforts until the conclusion of the investigation. This new procedure was unanimously approved by the NYISO stakeholders in 2009.

Restructured Market Monitoring Unit

On January 1, 2010, in compliance with FERC's Order 719, Potomac Economics (an independent organization that provides market monitoring services to several ISOs and RTOs) became the NYISO's Market Monitoring Unit ("MMU"). On the same day, the NYISO also added new provisions to its tariffs that require its MMU to report both market violations (which include violations of the NYISO's tariffs and violations of FERC's regulations), and perceived market design flaws that can be remedied by rule or tariff changes, directly to FERC. Hence, there is now an outside monitoring organization that has both access to the NYISO's market data, and a direct line of communication to FERC.

Tariff Provision Regarding FERC's Market Manipulation Rules

On October 27, 2009, in response to stakeholder requests, the NYISO submitted tariff revisions to FERC that are designed to explicitly establish that a violation of FERC's regulations prohibiting electric energy market manipulation also violate the NYISO's tariffs. FERC has not yet ruled on the proposed tariff revisions.

Enhanced Generator Offer Mitigation

On September 4, the NYISO filed a proposal to implement a new mitigation measure in response to conduct it identified as an exercise of market power. The behavior in question, while not triggering the conduct and impact mitigation thresholds set forth in the Market Mitigation Measures, had the effect of increasing daily guarantee payments by 100% or more to three generators which were being committed for reliability. The NYISO is also working through the stakeholder process on a new mitigation measure that will apply to all generators in New York State when they are committed for reliability (there are already rules in place for New York City generators that are committed for reliability).

END USE CONSUMER CONCERNS

The Analysis Group Report describes a concern on the part of some stakeholders that the perspectives and interests of end-use consumers are not adequately represented at the NYISO. Some stakeholders expressed concerns over a focus on "the market" as an abstraction, divorced

from its original and ultimate purpose of facilitating production and transmission of electricity for the benefit of end-users in the most reliable and efficient manner possible. The report also conveys familiar complaints about the resource requirements for participating in an involved stakeholder governance process.

The NYISO understands that electricity is different from other commodities in many important respects, not least of which is the central importance of reliable and affordable electric service to nearly all aspects of modern life. While it is imperative that the NYISO remain independent in administering the wholesale electric markets in New York, this independence should not imply indifference to the impacts of the outcomes of those markets on end-use consumers. While the NYISO has always been attuned to these issues, and regularly works with various representatives of end-use consumers, we think there is room for continued progress in this area. To that end, the NYISO will soon implement the following measures:

- Engaging in outreach and educational activities intended to foster greater understanding and transparency of NYISO operations and decision making among government officials, consumer groups, and other affected parties.
- Exploring the creation of a funding mechanism for consumer advocacy groups to more meaningfully and effectively participate in the NYISO governance process.
- Implementing organizational changes within the NYISO to foster additional focus on end-use consumer issues and to improve the NYISO's interface with end-use consumer interests.

NYISO AS AN ORGANIZATION

The Analysis Group Report describes the NYISO's evolution during its first decade of operations. Now as the NYISO enters its second decade of operation it faces some familiar challenges and some new ones. The report indicates a consensus among stakeholders that the NYISO consistently excels in the operations arena. The NYISO is proud of this recognition and will continue to treat system operations and reliability as priorities of paramount importance. The report also describes a prevailing view among stakeholders that the NYISO has made important improvements to its business processes and systems (for example, in terms of error rates and response times), but that there is a need for continued progress. The NYISO shares this view and is committed to continued progress in service of organizational excellence.

The Analysis Group Report sets forth a number of observations and concerns about the public's perception of and confidence in the NYISO; an entity that serves various "public trust" functions and manages activities involving billions of dollars of "other people's money." The Analysis Group Report correctly points out that the NYISO now functions in an environment that is financially stressed, politically volatile, and uneasy about whether to trust markets. It emphasizes a need for the NYISO to engender greater confidence and credibility among its various constituencies. Among other things, some parties would like to see greater transparency in Board decision making, greater accountability, and greater sensitivity to consumer perspectives. The Analysis Group Report notes that although the NYISO must be independent, it is expected to act in a "judicious and sensitive, rather than a detached way."

The NYISO Board, management, and stakeholders participate in a "shared" governance structure that is unique among Regional Transmission Organizations and Independent System Operators. This decision making process requires the NYISO Board and its market participants to jointly

approve most tariff amendments, to jointly establish annual budgets, and to closely collaborate on the selection of new Directors and other important decisions. In New York, market participants do not merely play an advisory role. By design, and of necessity, there is a great deal of interaction between stakeholders and the NYISO Board and management. While disagreements are inevitable in the business of administering wholesale electricity markets, the NYISO has always placed a premium on keeping the lines of communication open and being responsive to its various constituencies.

While we believe our governance processes are fundamentally sound, we acknowledge the need for continuous improvement in this and all other facets of the business we are entrusted to operate. The NYISO, therefore, takes the observations, criticisms, and suggestions conveyed in the Analysis Group Report seriously and constructively. We are committed to taking steps to further develop the confidence of our stakeholders, maintain our credibility, foster accountability, and demonstrate sensitivity to consumer and other stakeholder concerns.

In order to support continued evolution and improvement in the area of governance, transparency, and accountability, the NYISO has already taken or will soon take the following steps:

- Reduced expenditures in response to the ongoing economic crisis - The NYISO reduced its budgeted spending in 2009 by approximately \$12 million to offset significant reductions in expected revenues resulting from reduced MWh throughput due in part to severe economic conditions.
- Publicly posting the Board of Director's meeting minutes.
- Publishing the NYISO's compensation philosophy and a description of its incentive compensation program on the NYISO website along with a description of the metrics affecting compensation.
- Publishing the NYISO's annual business plan and organizational structure.
- Implementing a mechanism to allocate NYISO administrative costs to non-physical market participants that previously paid no portion of the NYISO's operating expenses.
- Encouraging market participants to study and reconsider the appropriate allocation of NYISO operating costs among stakeholders - in accordance with a process developed by stakeholders, approved by the Board, and set forth in the NYISO's tariffs.

The foregoing represent part of an on-going effort to maintain confidence in the NYISO's Board and management, increase the transparency of the NYISO's decision making, and increase responsiveness to our various constituencies. This process presents a continuing challenge, but we are committed to its success.

The New York Independent System Operator, Inc.
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