

2015 – 2019 Strategic Plan

New York Independent System Operator



NYISO markets “deliver significant benefits by coordinating the commitment and dispatch of generation to ensure that resources are started and dispatched each day to meet the system’s demands at the lowest cost.”

***2013 State of the Market Report for the New York ISO Markets,
Potomac Economics, May, 2014***

INTRODUCTION

The New York Independent System Operator (NYISO), which began operating in 1999, is a not-for-profit corporation primarily regulated by the Federal Energy Regulatory Commission (FERC). The governance, structure and missions of the NYISO comply with the guiding principles in the FERC's open access regulations - Orders 888 and 2000. The NYISO is governed jointly by an independent Board of Directors and Market Participants representing transmission owners, generation owners, other electric power suppliers, end-use consumers, and public power/environmental sectors. In accordance with a rigorous code of conduct, NYISO Board members and staff are required to be independent from the interests of market participants.

The NYISO serves the public interest and provides benefit to consumers by fulfilling an array of essential responsibilities, which include:

- *Reliable operation of New York's bulk electricity grid,*
- *Fair and open administration of competitive wholesale electricity markets,*
- *Planning for the future of New York's power system, and*
- *Advancing the technological infrastructure of the electric system serving New York.*

On a minute-to-minute basis, the NYISO economically and reliably balances the electricity needs of consumers with an equal supply of energy from available generation and other resources. Private, investor-owned utilities and public power authorities own the 11,016 miles of bulk electricity transmission lines that comprise the electric grid in New York State. The NYISO controls and coordinates access to -- and the bulk power flow over -- these lines in accordance with the federal policy of open and non-discriminatory access to the grid. The NYISO works with transmission owners, the New York State Reliability Council (NYSRC), the Northeast Power Coordinating Council (NPCC), and the North American Electric Reliability Corporation (NERC) in meeting rigorous standards for the reliable planning and operation of the bulk electric power system.

In 2014 the NYISO opened a new primary power control center. This new control center, among the most technologically sophisticated in the world, improves operator visibility of wide-area and local grid conditions, enhances integration of new technologies, and provides many of the situational awareness displays and other tools needed to meet stricter federal requirements for the monitoring and control of the bulk power grid.

As market administrator, the NYISO conducts a continuous series of auctions, in which load-serving entities bid to purchase electric energy offered for sale by suppliers. Similarly, the NYISO administers markets to purchase balancing requirements and various operating reserves needed to maintain system reliability. The NYISO also operates markets that allow market participants to purchase the installed capacity needed to meet adequacy and therefore reliability requirements. Energy service companies and end-use consumers can provide demand response resources and compete with suppliers in several of these markets.

Pursuant to its tariff, the NYISO maintains credit requirements to see that all market participants enter into transactions with a reasonable assurance that they will be protected from a payment default. The NYISO's independent market monitor and internal market monitoring and performance group watch the markets for attempts at manipulation, identify potential market improvements, and report any violations of the tariffs to the FERC.

The NYISO's Comprehensive System Planning Process (CSPP) is a unique, "all source" planning process that evaluates transmission, generation and demand response on a comparable basis. It is the primary tool for the NYISO to inform transmission expansion and electric infrastructure investment decisions in the New York Control Area. Developed through its stakeholder governance process, the CSPP establishes that the NYISO will identify reliability and economic needs and administer a process whereby solutions are proposed, evaluated and implemented in order to maintain the reliability of the bulk electric power system. Pursuant to FERC Order 1000, the NYISO evolved its CSPP to evaluate transmission expansion investments driven by public policy requirements as well as those driven by reliability and economic needs. The CSPP assists state policymakers in identifying and evaluating

proposals to achieve various public policy objectives. The NYISO will use these processes to select the more efficient or cost effective transmission projects that will be eligible for cost allocation and cost recovery under its tariff.

The NYISO strives to achieve its strategic objectives with the guidance of government policy makers and regulators, and the direct involvement of market sector stakeholders. As it serves the greater interest of the state and the people of New York, the NYISO's efforts are most visible in the forum it provides to share ideas on how to resolve issues and solve problems. With hundreds of Market Participants, the NYISO engages an array of interests, including representatives from Public Power & Environmental Parties, End-Use Consumers, Transmission Owners, Generation Owners, and Other Suppliers. The governance structure includes three standing committees — the Management Committee, the Business Issues Committee, and the Operating Committee. Each committee oversees its own set of working groups and/or subcommittees. The NYISO's achievement of its objectives depends on the active involvement of participants in the shared governance committee process.



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VISION - Looking to the Future

The NYISO will be a leader in developing a broader regional strategy for accomplishing our mission, based on cooperative efforts among RTOs, to optimize system efficiency and preserve reliability. This will be achieved through the shared use of grid resources that improve our ability to respond to dynamic market and operating conditions across market borders.

Achieving this broader regional strategy will require a commitment among RTOs to:

- *Optimize the economic flow of electricity across borders;*
- *Coordinate planning processes that facilitate transmission investments in support of reliability, economic efficiency, and public policy activities;*
- *Deploy smart grid technologies that maintain system balance through the use of robust data, communications, and automated systems; and*
- *Develop a shared understanding of regional gas delivery constraints for power generation as well as a commitment to address them collaboratively.*

An effective broader regional strategy will enhance reliability and expand the benefits of competitive markets in local markets, while preserving the local market governance structures.

MISSION

The Mission of the New York Independent System Operator, in collaboration with its stakeholders, is to serve the public interest and provide benefit to consumers by:

- *Maintaining and enhancing regional reliability*
- *Operating open, fair and competitive wholesale electricity markets*
- *Planning the power system for the future*
- *Providing factual information to policy makers, stakeholders and investors in the power system*

GUIDING PRINCIPLES

- Continually strive to enable market and reliability requirements to complement each other
- Provide a market environment that attracts investment in energy infrastructure
- Institutionalize Excellence in Execution
- Maintain independence and objectivity on issues which affect our market
- Seek innovative solutions while strictly adhering to existing laws, regulation and tariff requirements
- Foster regulatory certainty and market transparency

CORE VALUES

The Core Values of the NYISO establish the foundation from which all our responsibilities and accountabilities are delivered:

- *Accountability – Taking responsibility to do what needs to be done*
- *Quality – Commitment to excellence in all our processes, systems and products*
- *Integrity – Commitment to honest and ethical actions*
- *Team Work – Working together, succeeding together, respecting each other*
- *Customer Focus – Listening, caring, delivering*
- *Innovation – Pursuing creative and sound solutions*
- *Enthusiasm – Having a passion for our work and our interaction with our customers, stakeholders and policy makers*

STRATEGIC OBJECTIVES

A Leader in Reliability

Promote resource adequacy and transmission security now and in the future.

Sustain and enhance reliable operation of the bulk electricity grid and the wholesale electricity markets.

A Leader in Market Design

Develop enhancements to the wholesale electricity markets that increase reliability and market efficiency and create value for consumers.

Foster a market environment conducive to new investments in the wholesale electricity markets that attracts and retains resources needed in the state.

Excellence in Execution

Sustain a culture that promotes and strives for flawless performance in all that we do and engenders customer confidence in our operations, markets, and planning.

Sustain and Enhance Robust Planning Processes

Strengthen planning capabilities to effectively implement the Comprehensive System Planning Process (CSPP), which includes reliability, economic, and public policy planning studies and other planning initiatives in New York.

Coordinate with Market Participants, State and Regional Planning Agencies and other key Stakeholders to complete studies and to analyze reliability, operations and market impacts of a broad range of energy-related federal and state level policy goals, including environmental, fuel diversity, energy efficiency and renewable integration.

A Leader in Technology Innovation

Work with Regulators and other Stakeholders to coordinate Smart Grid standards and protocols and implementation.

Develop innovative market products and information architecture for integrating renewable resources and other new technologies needed for reliable grid operations.

Authoritative Source of Information on Key Issues

Take a proactive leadership role in providing an independent, unbiased source of information on the operation of the bulk power system and wholesale market in New York, and identifying future needs by analyzing the reliability, environmental and cost attributes of policy and technology choices.

Conduct stakeholder outreach activities in leadership forums, national and international conferences, as well as professional and standard setting groups.

STRATEGIC INITIATIVES FOR 2015-2019

In order to achieve our strategic objectives, NYISO key initiatives between 2015 and 2019 include:

Expanded Gas-Electric Coordination

- Enhance NYISO operations and planning in an environment of expanded dependency on natural gas-fired generation, renewable generation, and retirements of less efficient generation
- Gas/Electric Initiatives
 - ♦ *Visualization Phase II: OFO Status Visualization*
 - ♦ *Maintenance Coordination*
 - ♦ *EIPC Gas-Electric Study*
- Develop and implement EIPC gas-electric study findings as appropriate
- Incorporate analysis of gas pipeline capabilities into economic, reliability, and public policy planning
- Develop market design for electric energy storage to address generator intermittency and gas pipeline contingencies
- Daily monitoring of gas nominations, oil inventories, and emissions limitations
- Increased cold-weather reserve requirements
- Winter fuel and emissions monitoring

Robust Planning: Eastern Interconnection Planning Collaborative, Transmission Expansion, and Public Policy

- Enhance inter-regional planning and support EIPC structure to include gas pipeline contingency analysis and evaluation of new EPA regulations
- Implement FERC Order 1000 while protecting competitive markets
- Provide technical support for the State's Energy Highway Initiative and new initiatives in System Planning
- Provide NYISO independent analysis to Market Participants, state or federal agencies, and standard setting entities
- Enhance reliability planning processes to account for:
 - ♦ *Resource adequacy and fuel availability*
 - ♦ *Transmission security issues*
 - ♦ *Potential retirements*
 - ♦ *Environmental compliance*

Energy and Capacity Market Enhancements

- Enhance buyer-side mitigation rules to ensure they do not represent a barrier to new entry
- Evaluate Forward Capacity Market and/or other Capacity Market Enhancements

- Develop market rules to address fuel assurance, including:
 - ♦ *Scarcity Pricing,*
 - ♦ *Shortage Pricing, and*
 - ♦ *EFORp (Pay for Performance)*
- Behind-the-meter net generation
- Constrained fuel supply bidding and optimization

Broader Regional Markets

- Assume a leadership role in working with neighboring RTO/ISOs to establish a broader regional market
- Continue work on remaining BRM projects
 - ♦ *ISO-NE CTS*
 - ♦ *HQ 5-Min Scheduling*
 - ♦ *IESO 15-Min Scheduling*
 - ♦ *Broader Regional Markets Ancillary Services*
 - ♦ *Investigate improved regional gas/electric coordination to include market products and improved transparency*

Technology and Smart Grid

- Implement a data delivery strategy to ensure timely reporting of correct data to stakeholders
- Enhance the centralized enterprise integration platform to ensure timely and accurate data transfers between applications (e.g. EMS/BMS)
- Evolve and strengthen the physical and cyber security mechanisms protecting the grid and markets from ever-changing threats
- Leverage modern information technology infrastructures and system designs to provide superior availability and performance
- Advance Smart Grid / PMU technologies (i.e. EIDSN, Cloud) to improve wide-area situational awareness and visualization
- Improve solution delivery processes to ensure quality and timely delivery of NYISO products in a cost-effective manner

Demand Response and Distributed Energy Resources

- Increase the effectiveness of Demand Response
 - ♦ *Performance obligation enhancements for demand response*
 - ♦ *SCR baseline enhancements*
- Facilitate efficient and reliable integration of DR/DERs into operations, markets, and planning
 - ♦ *Provide technical support to PSC's "REV" initiative*
 - ♦ *Communications standards and protocols for DR/DER*
 - ♦ *Install tools to integrate distributed solar output into load forecasting*
 - ♦ *Integrate DER into operations, markets, and planning*

COMMITMENT TO COLLABORATION

The NYISO strives to achieve its strategic objectives with the direct involvement of market stakeholders and the guidance of policy makers, regulators, and other stakeholders.

As it serves the greater interest of the state and the people of New York, the NYISO's efforts are most visible in the forum it provides to share ideas on how to solve problems and resolve issues.

With hundreds of Market Participants, the NYISO engages voices from all sectors of the electric industry. The NYISO's achievement of its objectives is directly assisted by the involvement of participants in the shared governance committee process. By maintaining this open process, the various elements of the NYISO's mission are understood by all who participate. This interdependent system and commitment to collaboration is an invaluable asset as the NYISO moves forward to address the challenges to come.



LONG TERM INCENTIVE GOALS

The NYISO's overall management strategy includes programs designed to provide competitive levels of compensation that advance the NYISO's long-term performance objectives, pay executives for their performance, and assist the NYISO in attracting, retaining, and motivating the highly skilled employees required to lead the organization.

Among the programs is a long-term incentive plan that provides the opportunity to award eligible employees who contribute materially to the achievement of certain NYISO objectives, established by the Board of Directors, that are tied to the implementation of the NYISO's corporate vision and strategic plan. The goals are established for three-year performance cycles. The 2013-2015 Long-Term Incentive Goals include:

- *Improving the operational coordination between the gas pipeline delivery system and the New York bulk electric system to preserve electric system reliability and maintain competitive and efficient markets;*
- *Assuming a pivotal role in upgrading and modernizing New York's transmission and generation infrastructure, and in ensuring that such efforts complement and support competitive wholesale power markets;*
- *Enhancing capacity markets as necessary, including the increased integration of demand response into real-time markets in a manner that is comparable to other "supply" resources, in order to maintain system reliability and operate efficient markets;*
- *Assuming a leadership role in establishing Broader Regional Markets that allow electricity to flow more readily across market borders to respond to real-time economic and reliability conditions on the grid;*
- *Facilitating the emergence of an automated transmission system that optimizes resource use for maximum system efficiency while continuously adapting to dynamic operational conditions spurred by increased penetration of renewable resources and increased load variability due to the emergence of smarter end-use technologies; and*
- *Improving project cost tracking capabilities that will provide us with the capability to assign costs for projects to the appropriate stakeholders based on cost-causation principals, if desired.*

NYISO BOARD OF DIRECTORS

Michael B. Bemis, Board Chair

Formerly, President of Exelon Power and President of Energy Delivery for the Exelon Corporation; Chief Executive of London Electricity; and Executive Vice President for Entergy Corporation.

Ave M. Bie

Partner in the law firm of Quarles & Brady and former Chair of the Wisconsin Public Service Commission.

Daniel C. Hill

Former Senior Vice President and Chief Information Officer of Exelon Corporation.

Robert A. Hiney

Former Executive Vice President for Power Generation of the New York Power Authority (NYPA).

Erland E. Kailbourne, Vice Chair

Chairman of the Board of Albany International, Inc. Former Chairman and CEO of Fleet National Bank of New York.

James V. Mahoney

President and CEO of Energy Market Solutions, Inc. and former President and CEO of DPL Inc., a regional energy and utility company.

Daniel B. More

Former Managing Director at Morgan Stanley, leading the firm's global efforts in Utility Mergers and Acquisitions.

Vikki L. Pryor

Principal and founder of Change Create Transform LLC, former President & CEO of SBLI USA Mutual Life, and former Board Member of Keyspan.

Thomas F. Ryan, Jr.

Former President and COO of the American Stock Exchange

Stephen G. Whitley

President and CEO – New York Independent System Operator

NYISO CORPORATE OFFICERS

Stephen G. Whitley

President and CEO

Rick Gonzales

Senior Vice President and Chief Operating Officer

Richard Dewey

Senior Vice President and Chief Information Officer

Rana Mukerji

Senior Vice President, Market Structures

Henry Chao

Vice President, System and Resource Planning

Jennifer Chatt

Vice President, Human Resources

Diane L. Egan

Board Secretary and Corporate Secretary

Robert E. Fernandez

General Counsel

Cheryl Hussey

Vice President and Chief Financial Officer

Emilie Nelson

Vice President, Market Operations

Thomas J. Rumsey

Vice President, External Affairs

Wesley Yeomans

Vice President, Operations

The New York Independent System Operator (NYISO) is a not-for-profit corporation responsible for operating the state's bulk electricity grid, administering New York's competitive wholesale electricity markets, conducting comprehensive long-term planning for the state's electric power system, and advancing the technological infrastructure of the electric system serving the Empire State.

PHONE 518.356.6000 | WWW.NYISO.COM



NEW YORK INDEPENDENT SYSTEM OPERATOR
10 Krey Boulevard, Rensselaer, NY 12144