

**UNITED STATES OF AMERICA**  
**BEFORE THE**  
**FEDERAL ENERGY REGULATORY COMMISSION**  
**Innovations and Efficiencies in Generator Interconnection**  
**Docket No. AD24-9-000**

**COMMENTS OF ZACHARY G. SMITH, SENIOR VICE PRESIDENT, SYSTEM AND  
RESOURCE PLANNING, NEW YORK INDEPENDENT SYSTEM OPERATOR, INC.**

**I. Introduction**

My name is Zachary G. Smith. I serve as the Senior Vice President of System and Resource Planning for the NYISO. My duties with the NYISO include the oversight and implementation of system planning and strategic initiatives for the New York State Transmission System. Planning responsibilities of the NYISO include ensuring a reliable electric grid for the future, identifying economic opportunities for transmission investment beneficial to ratepayers, and implementation of system upgrades to enable public policies. I also oversee the NYISO's interconnection processes through which renewable resources and other new generation technologies reliably connect to the New York State electric grid. In addition, I also represent the NYISO on interregional coordination committees.

On behalf of the NYISO, I would like to thank the Commission and Commission staff for organizing and conducting this important workshop.

**II. Panel 1 Questions**

**1. Can efficiencies be gained through closer integration of generator interconnection processes with transmission planning processes? If so, how? What considerations need to be taken into account? What are the advantages/disadvantages, including impacts on consumers, to closer integration of these processes?**

**Response:**

New York State's power system has been continuously evolving to adapt to policy and economic drivers. In 2019, New York State's Climate Leadership and Community Protection Act ("CLCPA") was signed into law, accelerating changes in electricity generation, transmission, and demand. Along with other state economic and clean energy policies, New York's energy landscape will continue to change rapidly. The evolving system requires continuous re-examining of how to efficiently and cost-effectively balance resources and demands.

The NYISO is committed to a carefully planned approach to enable a reliable transition of the power system. We are also committed to our role in meeting state and federal policy objectives.

Accounting for standards and rules promulgated by the Federal Energy Regulatory Commission's ("FERC" or "Commission"), the North American Electric Reliability Corporation ("NERC"), the Northeast Power Coordinating Council ("NPCC"), and the New York State Reliability Council ("NYSRC"), the NYISO has, for nearly 25 years, operated the New York power system to the strongest reliability standards in the nation. The challenge of providing safe, reliable, resilient, and affordable power, and enabling the energy transition driven by public policies, has compelled the NYISO to reimagine grid planning processes and rethink longstanding paradigms for measuring and managing grid performance. Grid planning has become a critical strategic capability, requiring a combination of technology, expertise, and understanding of economic trends.

The NYISO's mission of ensuring power system reliability and competitive markets for New York depends on effective planning processes. The NYISO's Comprehensive System Planning Process ("CSPP") includes forward-looking assessments, evaluations, and plans that are developed and relied upon by the NYISO to reliably serve forecasted New York demand, address transmission needs driven by public policies, and identify economic opportunities for an array of possible future system conditions.

The NYISO's CSPP focuses on the impacts of forecasted changes in supply and demand and the reliable operation of the power system. The CSPP has taken on even greater importance and complexity in recent years as the grid is impacted by a confluence of public policy mandates, advancing technology and more frequent extreme weather. As part of the CSPP, reliability assessments are conducted quarterly and biennially. By conducting both short-term and long-term assessments, NYISO planners continuously study the electric system to identify and address changes that pose a risk to reliability.

As public policies continue to shape the grid of the future, the need to invest in the transmission system has never been greater. The good news is that in New York State, a historic level of transmission investment is underway, with projects recently completed or under construction that will deliver more clean energy to consumers while enhancing grid reliability. Through the processes established under FERC Order No. 1000, the NYISO's Public Policy Transmission Planning Process has advanced three major projects in New York. The Empire State Line in Western New York was completed in 2022 and expanded the delivery of emissions free hydropower to consumers across the state. The AC Transmission Projects in the Mohawk-Hudson Valley primarily completed construction in 2023 to increase the power flowing from upstate generators to downstate consumers by more than 1,000 MW. Most recently, the Propel NY transmission project was selected for the Long Island Public Policy Transmission Need. The Propel NY project is expected to improve reliability of the Long Island transmission system and deliver at least 3,000 MW from offshore wind projects, thereby advancing the state closer to its goal of 9,000 MW of offshore wind capacity by 2035. Together, these projects represent the largest investment in transmission infrastructure in New York State in more than 30 years.

The NYISO also is in the early stages of addressing a public policy need for transmission investments in the New York City area as identified by the New York State Public Service

Commission (“NYPSC”). This effort calls for proposals to build transmission that will move nearly 4,800 MW of offshore wind energy directly into New York City.

The NYISO recently released the second installment of its System and Resource Outlook (the “Outlook”). The Outlook is the NYISO’s primary economic planning report that analyzes how changes in supply and demand will affect the grid of the future and what types of investments will be needed to enable achievement of state policy, principally the CLCPA. The Outlook examines a wide range of potential future system conditions and comparisons of possible pathways to a resource mix composed of increasing levels of clean energy resources. The Outlook is not intended to fully assess reliability, but instead flag future operational needs to facilitate a more reliable and decarbonized system in New York.

The Outlook examines ways in which the power grid may evolve over the next 20 years in response to energy and climate policy mandates. In combination with the Public Policy Transmission Planning Projects completed and underway, other transmission and distribution expansions either identified by the local utilities or approved by the NYPSC for development also demonstrate significant benefits. The Outlook results find these upgrades to be highly effective in increasing energy deliverability of resources and decreasing congestion on the lower voltage system. Renewable generation pockets that the 2021-2040 Outlook identified as high-risk are now shown to be at a reduced risk of renewable curtailment with these projects in the near term. Even with this level of bulk and local transmission expansion investment, which is the most substantial build out of the transmission system in the last 40 years, the Outlook identifies opportunities to expand the transmission system efficiently and cost-effectively to, among other things, achieve CLCPA mandates.

Through the NYISO’s interconnection process, major generation, transmission, and load projects are studied to assess the reliability impact they may have on the electric system. The interconnection process is coordinated by the NYISO but requires significant involvement by both the electric utilities and developers. Each party has an important role to play, and success of the process depends on coordination and timely delivery of information by all participants. Transparent and robust rules for reliably connecting to the grid provide essential information for developers. Working closely with developers and affected utilities, studies identify necessary system upgrades and estimate the costs to interconnect, allowing new resource developers to make informed investment decisions. Interconnection costs identified as necessary to maintain reliability are borne by developers and not consumers under the NYISO’s interconnection process.

There has been an unprecedented increase in the number of projects seeking to connect to the bulk power system since the passage of the CLCPA in 2019. As the grid evolves, it also requires careful coordination and thorough analysis to safely and reliably connect new resources to the system. In anticipation that state policies would drive an influx of new interconnection requests, the NYISO has worked with stakeholders to implement a comprehensive redesign of the interconnection study process since 2019, offering greater flexibility and expedited study options to developers. To make the interconnection study process more efficient and encourage the

development of renewable energy, the NYISO implemented reforms under three broad categories:

- Improved and more transparent communication with developers;
- Efficient administration and coordination between parties; and
- A revised scope and structure of the interconnection process to make the entire process more efficient.

In addition to these enhancements, the NYISO worked with stakeholders, asset owners, and developers in response to FERC Order No. 2023. The resulting reforms – the NYISO’s new “Standard Interconnection Procedures” – represent the most substantial enhancements to the NYISO’s interconnection process in two decades. These reforms will collectively drive substantial efficiencies and improvements in the NYISO’s interconnection process and are directly targeted at enabling the increasing number of projects seeking to interconnect in New York to do so in a reliable, efficient, transparent, and timely manner.

Even with these new rules and improvements in place, it remains true that multiple factors outside the scope of the NYISO’s control can impact whether a project elects to move forward with the interconnection process, including the status of siting and other regulatory matters, investment risks, and supply-chain concerns. These factors can result in developers electing to defer or drop out of the process, even after the final interconnection studies have been completed and interconnection costs have been allocated and accepted.

To further support the interconnection reforms implemented in May of this year, the NYISO has added engineers and project management staff to support existing engineers who are currently shouldering the increased workload. Additional staff will also help manage timelines and customer service functions. New technology is also being developed that will create additional transparency, enhanced information access and efficiencies in managing demands for applicants as well as NYISO staff.

Building from the components of the Comprehensive System Planning Process and Interconnection Planning reforms, there is potential for additional efficiencies to electric system investment planning processes for a more reliable, resilient, cost-effective power system that fulfills clean energy policy objectives.

**2. How might transmission providers more proactively, rather than reactively, identify zones where new transmission capacity could most efficiently accommodate proposed generating facilities?**

**Response:**

As noted, the recently published 2023- 2042 Outlook, conducted by the NYISO in collaboration with stakeholders and state agencies, provides a wide-ranging overview of potential resource development over the next 20 years, highlighting opportunities for transmission investment driven by economics and public policy in New York State. The 2023-2032 Comprehensive

Reliability Plan, which was published in November 2023, and the 2024 Reliability Needs Assessment, which is expected to be published by the end of 2024, leverage data from the current and prior Outlook to identify generation capacity and operation trends and related bulk power system reliability impacts as the grid evolves.

By simulating several possible future system configurations and forecasting the transmission constraints for each, the NYISO:

- Postulates possible resource mixes that achieve New York’s public policy mandates, while maintaining reserve margins, and capacity requirements;
- Identifies regions of New York where renewable or other resources may be unable to generate at their full capability due to transmission constraints;
- Quantifies the extent to which these transmission constraints limit delivery of renewable energy to consumers; and
- Highlights potential opportunities for transmission investment that may provide economic, policy, and/or operational benefits.

**3. What mechanisms may be appropriate for transmission providers to use to determine the cost responsibility for such proactively planned network upgrades? Is it appropriate for any such costs to be allocated to load and if so, why? If it is appropriate, how should such costs be allocated between load and interconnection customers both: a) in regions that use participant funding, i.e., where interconnection customers are directly assigned network upgrade costs and b) in regions that do not use participant funding, i.e., where load is assigned network upgrade costs? What are the advantages/disadvantages, including impacts on consumers, of varying approaches to cost responsibility?**

**Response:**

Leveraging elements of current cost consideration and allocation rules can inform future reforms. The underlying principle of cost allocation methodologies under the NYISO’s planning processes has been that beneficiaries should be allocated their reasonable share of the expense of needed investment.

Through the interconnection process, the NYISO seeks to balance the demands of open access to the electric system with grid reliability while protecting customers from undue costs. Under the process, the costs of equipment and upgrades required to connect projects are assigned to project developers, and in some cases, the local utility, not consumers. The interconnection process is required to identify the lowest cost solution to solve the reliability need.

As part of the Outlook study, the NYISO also conducts a benefit analysis for addressing identified system congestion. This includes the NYISO’s calculation of an energy deliverability metric, using the reference cases and/or scenarios. Energy deliverability quantifies the impact that transmission constraints have on the ability for generators to inject energy into the

transmission system. Among other things, the metric may be used to aid in the identification of renewable generation pockets on the transmission system for publication in the Outlook report.

To be eligible for cost allocation under the NYISO's Open Access Transmission Tariff ("OATT"), the NYISO's Public Policy Planning Process includes evaluation and selection of the more efficient or cost-effective Public Policy Transmission Project to satisfy a Public Policy Transmission Need. These consumer-focused protections are an essential part of the Public Policy Transmission Planning Process.

**4. Where the costs exceed estimates for such proactively planned network upgrades, what are some approaches transmission providers could use to address concerns regarding ensuring adequate funding? For any given approaches proposed to ensure adequate funding, would these mechanisms increase or decrease the time and/or costs required to interconnect new resources, and how would this impact interconnection customers?**

**Response:**

The NYISO's current Economic Planning procedures include rules for project cost overruns. Under provisions of the NYISO's OATT, a Developer is required to provide as part of the proposal for a Regulated Economic Transmission Project a firm price, as well as a risk profile to address project cost overruns. The risk profile will address at a minimum the following areas:

- The stage of project development and the level of accuracy of the project cost estimate;
- Required cost overruns sharing, if any, between the Developer and the Load Serving Entities ("LSEs") benefiting from the project;
- Required project cost increase sharing, if any, between the Developer and the LSEs benefiting from the project due to a force majeure; and
- Identification of conditions, if any, for canceling the project by the Developer including terms and conditions for allocating sunk costs and lost benefits.

A Developer may submit multiple risk profiles for the project. The project and each of its risk profiles will be voted on individually by the LSEs benefiting from the project as if each one was a separate project.

The NYISO's Public Policy Transmission Planning Process may also be informative. In determining which of the eligible proposed regulated Public Policy Transmission Projects is the more efficient or cost-effective solution to satisfy the Public Policy Transmission Need, the NYISO considers the Public Policy Transmission Project's total performance under all of the selection metrics in making its determination.

The NYISO may develop scenarios that modify assumptions to evaluate the proposed Public Policy Transmission Projects according to the selection metrics and the impact on NYISO wholesale electricity markets. The NYISO will consider and rank each proposed solution based on the quality of its satisfaction of the metrics. The metrics include capital costs including any

Cost Cap voluntarily submitted by Developer, a qualitative evaluation of any Cost Cap, cost per MW ratio, the expandability, operability and performance of the solution, availability of property rights, schedule for project completion and potential issues associated with delay.

The NYISO may consider, in consultation with stakeholders, other metrics in the context of the Public Policy Requirement, such as economic or emissions impacts, and/or additional metrics prescribed by the NYPSC. The NYISO may also rely on the independent consultant's analysis in evaluating the proposed project's satisfaction of each metric. In formulating the independent consultant's estimate for the total capital costs of a Public Policy Transmission Project, the NYISO and its independent consultant may add appropriate contingency percentages and escalation factors.

### **III. Conclusion**

The NYISO thanks the Commission and Commission staff for conducting this workshop.

Respectfully submitted,

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