New York ISO
Independent System Operator

Via Electronic Portal

August 16, 2023

Hon. Michelle L. Phillips
Secretary to the Commission
New York State Public Service Commission
Empire State Plaza
Agency Building 3
Albany, New York 12223-1350
Email: secretary@dps.ny.gov

Subject: CASE 15-E-0302 - Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard

Dear Secretary Phillips:

In response to the New York State Public Service Commission's *Order Initiating Process Regarding Zero Emissions Target* issued in the above captioned proceeding on May 18, 2023, the New York Independent System Operator, Inc. hereby submits comments for consideration.

Respectfully submitted,
/s/ James H. Sweeney
James H. Sweeney, Senior Attorney
New York Independent System Operator, Inc.
10 Krey Boulevard
Rensselaer, NY 12144
Tel: (518) 356-6000

CERTIFICATE OF SERVICE

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Rensselaer, NY this 16th day of August 2023.

/s/ Stephanie Amann

Stephanie Amann
New York Independent System Operator, Inc.
10 Krey Blvd.
Rensselaer, NY 12144
(518) 356-6242

STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

CASE 15-E-0302 - Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard

COMMENTS OF THE NEW YORK INDEPENDENT SYSTEM OPERATOR, INC. ON THE ORDER INITIATING PROCESS REGARDING ZERO EMISSIONS TARGET

Pursuant to the New York State Public Service Commission's ("PSC's" or "Commission's") Order Initiating Process Regarding Zero Emissions Target published May 18, 2023 ("Order"),[1] the New York Independent System Operator, Inc. ("NYISO") respectfully submits these comments in response to the input requested on options for addressing the gap between the capabilities of existing renewable energy technologies and future system reliability needs and the need for zero-emission resources, or what the NYISO generally refers to as dispatchable emission-free resources ("DEFRs").

The NYISO applauds the Commission's conclusion "that efforts to meet the CLCPA targets must include exploration of technologies that can support reliability once conventional fossil fuel generation has been removed from the system."[2] New zero-emission technologies, referred to as DEFRs throughout these comments, will be critical to reliable electric service as we transition to the Zero-Emissions by 2040 Target.[3] The process established by the Commission, with issuance of this Order, is critical to determining next steps to address this gap

[1] Case 15-E-0302, *Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard*, Order Initiating Process Regarding Zero Emissions Target, May 18, 2023; *see also*, Case 15-E-0302, *Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard*, Notice Extending Comment Period, June 28, 2023.

[2] *See* Order at pp. 11-12.

[3] *See* Order at p. 2 and pp. 11-12.

and to protect electric system reliability.[4] The NYISO looks forward to continuing to work with the PSC and DPS Staff on the efforts required to achieve the CLCPA objectives, while maintaining electric system reliability and the level of electric service that New Yorkers depend on.

The CLCPA is transforming New York's economy and, specifically, the electricity sector. The NYISO, through our mission to maintain and enhance power system reliability and operate open competitive wholesale electricity markets for New York, will provide steadfast support throughout this transformation. The CLCPA directs the Commission to establish, among other things, a program to ensure that (1) by 2030, at least 70% of electric load is served by renewable energy (70 by 2030 Target), and (2) by 2040, there are zero emissions associated with electrical demand in the State (Zero-Emission by 2040 Target). The timely and cost-effective development of DEFRs, with the attributes the electric system needs, will be critical to maintaining electric system reliability during the transformation and further into the future.

The NYISO's 2021-2040 System & Resource Outlook concluded that New York will need 27-45 GW of DEFRs to "provide sustained on-demand power and system stability"[5] after CLCPA requirements prohibit reliance on resources that emit greenhouse gases. This echoes the finding in a 2020 report, also commissioned by the NYISO, that "the variability of renewable resource output leads to circumstances where ... there are periods of time that our resource mix is insufficient to meet load in all Zones," thus creating the need for making "dispatchable and emissions-free resources" available to be connected to New York's grid.[6] As these studies

[4] *See* Order at p. 12.

[5] *See* 2021-2040 System and Resource Outlook (The Outlook), A Report of the New York Independent System Operator, September 22, 2022, at pp. 13-14. *See also* Order at p. 11.

[6] *See* Order at p. 11 and fn. 24.

demonstrate and as the Order correctly notes, increasing the supply of renewable generation will not, by itself, eliminate the risk of a future reliability shortfall in the downstate region.[7] Similarly, adding transmission is only a partial solution to the problem. However, the technologies needed to solve this problem, or address the identified gap, are not currently available and we do not know when such technologies will become available.[8]

The NYISO is committed to operating an electric system that provides reliable service 24 hours a day, 365 days a year, and to planning a reliable system for the future grid.[9] Any programs implemented to achieve success in the CLCPA must be compatible with the NYISO-administered wholesale electricity markets and keep the requirement to maintain the reliability of the electric system front and center. The Climate Action Council's Final Scoping Plan accurately notes, "[w]hile transitioning away from fossil fuel use, maintaining reliable access to power, whether through centralized or distributed energy sources, is crucial for maintaining good public health in our energy-dependent society."[10] Given the timeline and scope of the CLCPA mandates, wholesale markets are essential to maintain reliability and drive the necessary investment and innovation.

The NYISO offers comments on the petition to highlight the importance of developing sufficient flexible and dispatchable generation resources to comply with the CLCPA

[7] Several studies indicate that renewable energy resources may not be capable of meeting the full range of electric system reliability needs that will arise as fossil generation is replaced. These studies suggest that there is a gap between the capabilities of existing renewable energy technology and expected future system reliability requirements. *See* Order at p. 2.

[8] *See* Order at p. 11.

[9] The New York State Reliability Council ("NYSRC") conducts an annual probabilistic assessment to determine the Installed Reserve Margin ("IRM") required to maintain a "1-day-in-10-years" ("1-in-10") loss of load expectation ("LOLE"). The NYSRC rules and Northeast Power Coordinating Council ("NPCC") criteria define resource adequacy such that at any moment in time, the probability of the unplanned disconnection of firm electric load shall not exceed one occurrence in ten years, expressed as one day in ten years, or annually as maintaining a LOLE probability of 0.1.

[10] *See* New York State Climate Action Council Scoping Plan, Full Report December 2022, at p. 105.

requirements, and to encourage further discussion on the generation resource attributes that will be critical to maintaining electric system reliability.

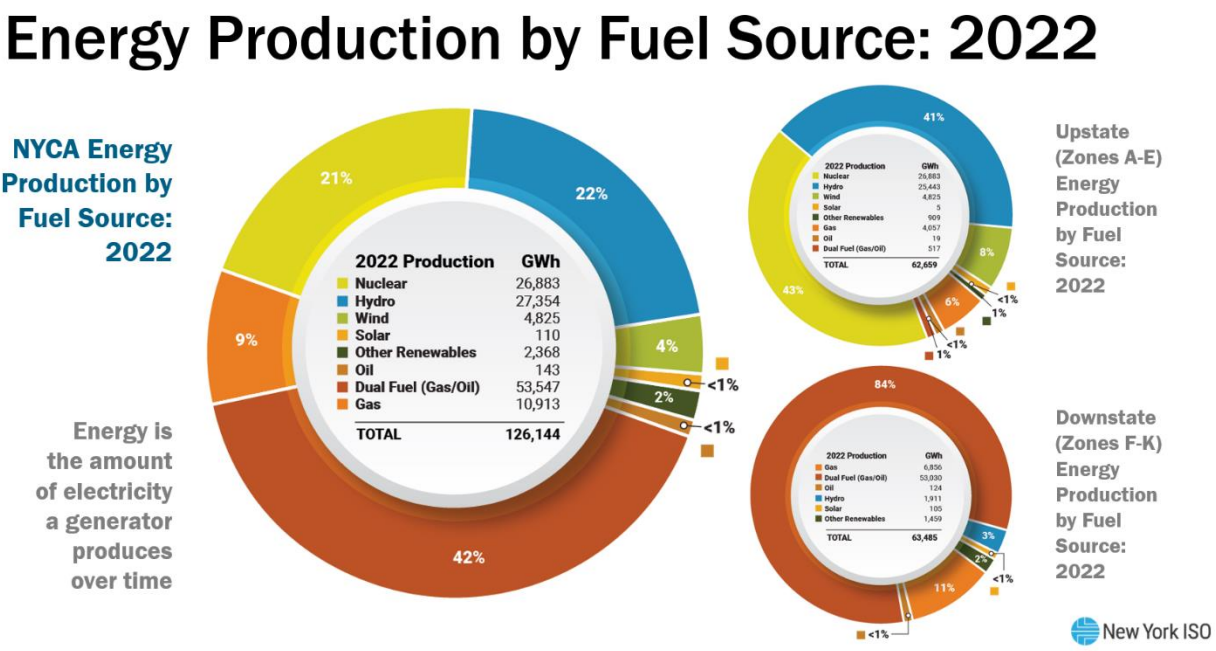
COMMENTS

A. The Electric System Relies on a Diverse Resource Mix to Maintain Reliable Service Today

New Yorkers have long enjoyed reliable electric service and will expect the same level of service to continue into the future. Reliable, dispatchable electric generation supports every aspect of New Yorkers' daily lives and is vital to the state's economy. Economic development within the state is driving the interconnection of large loads to the grid and increasing the demand for electricity. In the future, electric system reliability will become even more critical to everyone's daily life and general well-being as other sectors of the economy electrify. As transportation and building heat turn to the electric grid to drive the required economy-wide greenhouse gas emission reductions, people will become more dependent on reliable electric service for their health, welfare, and safety.

A diverse resource mix that integrates sufficient levels of predictable, reliable, and dispatchable generators promotes grid resilience and minimizes the risk of power disruptions. Today, natural gas-fired and other conventional generation (generally not zero-emission) provide much of the flexible, controllable energy and other attributes that are necessary to maintain reliability, as shown in Figure 1 below. The ability of these resources to start-up and deliver energy quickly, to operate for short or extended periods of time, and to change output quickly in response to system conditions, referred to as "ramping," are critical attributes needed by grid operators to maintain reliability.

Figure 1:



In addition to producing the minute-to-minute energy that consumers rely on, existing fossil-fueled generators also support overall electric system stability and minimize operational risk by providing black start service,[11] voltage support service,[12] inertia,[13] and fault ride through.[14] The need for these resource attributes can range from momentary to multi-day events. Without these attributes, the risk that the electric system cannot serve consumer demands or suffers operational issues increases. Blackouts, or electric service interruptions, of the bulk

[11] Black start restoration services are provided by generating units that are capable of starting without an outside electrical supply or are otherwise integral to the restoration of the NYS Transmission System after an outage.

[12] Voltage Support Service includes the ability to produce or absorb Reactive Power, and the ability to maintain a specific voltage level. Voltage Support Service is an essential ancillary service to maintain transmission voltages on the NYS Transmission System within acceptable limits.

[13] Inertia is energy that is stored in large rotating generators that stabilizes the power system during a fault and prevents power system frequency from declining outside acceptable bounds.

[14] Fault ride through is the capability of electric generators to remain connected to the grid in the event of a system disturbance.

electric system would risk public health, welfare, and safety.[15] Reliable operation of the electric system depends on fossil fuel-fired generation today, and will have to continue to do so until the reliability services provided by those resources are replaced by clean generation that possesses the necessary operating characteristics and other solutions (including energy conservation and active demand management).

The NYISO's Outlook modeled New York's grid based on projected 2040 demand and the requirement that electricity supply be zero-emitting. The study demonstrated that ready access to adequate quantities of flexible, long-duration, and controllable zero-emitting resources will be critical to meeting electricity needs and maintaining system reliability. While fossil-fueled generators provide flexible and long-duration energy today, these generators have been retiring faster than new resources have been added to the system since the passage of the CLCPA in 2019. Electric system margins have decreased to unprecedentedly low levels.[16] In fact, the NYISO's Short-Term Assessment of Reliability for 2023 Quarter 2 concluded that the New York City locality is deficient by as much as 446 MW for a duration of nine hours on the peak summer day under expected weather conditions, after accounting for forecasted economic growth and policy-driven increases in demand for electricity. The deficiency would be significantly greater if New York City experiences a heatwave or an extreme heatwave. The narrowing margins and the identified deficiency in New York City demonstrate that the addition of new resources, with the ability to provide necessary reliability services, will be required before additional emitting generation can shut down.

[15] Not only is the electric system going to be asked to serve more aspects of our daily lives, electric system resilience continues to increase in importance as extreme weather conditions place power systems across the nation at risk of not reliably serving electricity customers.

[16] These margins measure the amount of generating capacity in excess of the absolute minimum needed to maintain reliability.

By 2040, all existing fossil generators are expected to be retired to achieve the CLCPA target for a zero-emission grid. Significant quantities of long-duration, dispatchable, and zero-emission resources will be necessary to maintain reliability and meet the objectives of the CLCPA. A fleet of resources with the necessary attributes, similar to all of the services provided by the fossil fueled generation fleet, is not commercially available at this time but the successful development of these resources is critical to future grid reliability. The NYISO projects that up to one third of energy production, per year after 2040, may need to be provided by these resources that have yet to be developed and deployed. DEFRs may be needed most at times when weather conditions are at the extreme—during violent storms, extreme winter cold or extreme summer heat.

B. DEFRs Must Provide the Attributes the Electric System Requires

Significant quantities of DEFRs will be necessary to provide the attributes required for uninterrupted electric system reliability. As more wind, solar, and storage plants are connected to the grid, DEFRs must be added to the system to meet the minimum statewide and locational resource requirements for serving system demand. The intermittency and weather-dependency of renewable energy resources prevent these resources from meeting the full range of electric system reliability needs that will arise as fossil generation is replaced to achieve the zero-emission grid mandated by the CLCPA by 2040. The operational needs of dispatchable generation on the system will become more demanding as the state progresses towards policy goals. The integration of batteries will help store energy for later use on the grid, which will aid with the short duration and daily cycles of renewable resource output limitations. However, the scope of planned battery storage alone, given its current capabilities and technological

advancements will not meet system needs and fully support the reliable electric service that New Yorkers require.

To achieve an emission-free grid, DEFRs must be developed and deployed throughout New York to replace the various electrical attributes that are provided by fossil fueled generation today. A suite of DEFRs that can provide sustained on-demand power, system stability, and other essential reliability services will be required to maintain a reliable electric grid while meeting policy objectives. While the NYISO is not aware of a zero-emission resource with all of the necessary operational attributes, examples of DEFRs could include hydrogen, renewable natural gas, small modular nuclear reactors, or long-duration storage resources. No single DEFR, or single new technology, must satisfy all of the attributes needed to maintain reliability. Rather, a diverse mix of new DEFR technologies must collectively provide the services described below to the grid in order to maintain electric system reliability.

To supplement the wind, solar, and storage resource buildout and to satisfy the dispatchability needs of the electric system, DEFRs must be able to start and synchronize to the grid with little advanced notice. Resources that can start and synchronize in 10 minutes or less should be considered the ideal dispatchability category, and able to provide the greatest flexibility benefit to the system. The second-best dispatchability category would be resources that can start and synchronize within 30 minutes and the third best dispatchability category would be resources that require more than 30 minutes but can start and synchronize within 8 hours or less of the initial request to come online.[17] Once online, the resources must be able to

[17] Consistent with New York State Reliability Council ("NYSRC") reliability rules, the NYISO currently procures 2,620 MW of Operating Reserves statewide. Reliability rules require that 1,310 MW of this current total statewide reserve requirement (*i.e.*, an amount sufficient to replace loss of the current largest single contingency) be comprised of 10-minute reserves. One-half of the 10-minute reserves required statewide (*i.e.*, 655 MW) are further required to be comprised of 10-minute synchronized or spinning reserves. *See* NYSRC *Reliability Rules & Compliance Manual: Version 46* at Reliability Requirement E.1, available at: Reliability Rules & Compliance Manual.

produce energy throughout their operating range and must be capable of following economic and reliability instructions to increase and decrease output on a minute-to-minute basis, depending on system conditions. Fast ramping (up and down) throughout their operating range will be critical to quickly follow net load and intermittent resource output variations, which can require second-to-second adjustments.

Electric system reliability will also require the fleet of DEFRs to be flexible with regards to the frequency of starting up, shutting down, and cycling. These resources will be called on to balance the intermittency of renewable generation and to supply electricity when storage is depleted.[18] Balancing intermittency could mean starting up, operating for a short period, shutting down, and starting up again after a brief down time. This operational pattern is known as cycling and will be a key component of the DEFR fleet. When the overall electric system becomes more reliant on intermittent resources[19] and storage resources,[20] DEFRs will be called on to fill in the gaps. The flexibility of the DEFR fleet will determine the amount of energy that can be produced by renewable generation as electric supply and demand must be kept in balance on a second-by-second basis. In the case where a DEFR is needed to serve load early in the morning and later in the afternoon when solar PV generation is no longer producing, ideally the DEFR should be flexible enough to stop producing when the sun is shining and restart when the sun is setting. In the case of a less flexible DEFR that cannot cycle off mid-day, it will need to be kept

[18] While storage resources are a critical part of the future resource fleet, storage is only capable of being part of the solution. The electric system will require electricity production to reliably meet demand across a wide range of conditions, every hour of every day of the year. Battery storage resources can help to fill in short term reductions in renewable resources output, but extended periods of low- or zero-renewable resource output will rapidly deplete the short duration storage capabilities of existing battery technologies. The resource fleet must include generators that operate on storable fuels in addition to renewable resources and batteries.

[19] Resources that depend on wind or solar energy to produce electricity.

[20] Resources that rely on electricity to charge for later injection back onto the electric system.

online when the renewable generation is at peak and could ultimately result in the need to curtail the renewable production. In a more extreme example, if the NYISO does not have the ability to curtail production from behind the meter the renewable resources that do not participate in the wholesale markets, the lack of DEFR flexibility may ultimately limit the amount of such behind the meter resources that can be permitted to connect, as NYISO will not have the ability to curtail production from these resources in order to keep electric supply and demand in balance.

Beyond balancing, DEFRs must be able to start in a variety of other critical situations and to potentially operate continuously for extended periods of time.[21] DEFRs will be required to start and operate in harsh weather conditions, including the coldest winter days, the hottest summer days, and during violent storms. Once online, DEFRs may need to operate for extended periods of time (several days) during prolonged wind lulls, extreme cold snaps, heatwaves, or storms. DEFRs must have the capability to operate and a secure fuel supply to support continuous operation under all conditions, *e.g.*, at night, when there is no wind, when there is too much wind, when temps are below the shutoff point for land-based wind, etc. This requirement addresses longer periods of continuous operation than generation that operates to "fill in" or balance a temporary gap while waiting for intermittent resource output to resume. DEFRs will need to be capable of completely replacing intermittent generation and injections from storage resources for several consecutive days in some circumstances.

DEFRs will also need to provide other reliability services as fossil fuel fired generation retires. New resources will have to collectively provide a range of services, such as frequency response, regulation service, voltage support, governor response, fault ride through, high short

[21] For example, historical data indicates that offshore wind lulls could reduce power output from these resources for 24 hours or more approximately 30 times per year. Offshore wind lulls of 48 hours or more could be expected approximately 7 times per year.

circuit current, and system inertia. These services are critical to maintaining electric system reliability such that the power system remains operational and available to deliver the electricity consumers demand at the flick of a switch. Finally, in the event of a blackout or electric service interruption of the bulk electric system, DEFRs will need to support Black Start system restoration. As generators with onsite fuel oil supply retire, DEFRs could be called on to support statewide efforts to reenergize the electric system following a blackout. Some DEFRs may also be required to provide Black Start service to facilitate local system restoration after service interruptions.

C. Definition of Zero-Emission Resource

Zero-emission resource should be defined to allow as many technologies as possible to qualify. Importantly, DEFRs must possess the attributes discussed above and will have to fully participate in the NYISO-administered wholesale electricity markets. The competitive electricity markets must be allowed to make clear which operating attributes are needed, where they are needed, and when they are needed. Contracting for any of these attributes in advance could cause unintended reliability consequences and impose unnecessary costs on consumers.

D. NYISO Wholesale Electricity Market Fundamentals and the Interaction with DEFRs

Competitive wholesale electricity markets are an efficient and necessary element of achieving New York State's resource development and environmental goals. The wholesale electricity markets that the NYISO administers minimize total energy production costs to provide low-cost electricity to all New Yorkers based on the electricity suppliers that are available to reliably meet demand.

Wholesale electricity markets in New York are designed to meet the electricity needs of consumers in the most cost-efficient and reliable manner possible, even when the factors that

influence those costs, like fuel, materials, and labor, put upward pressure on prices. The NYISO uses a competitive auction structure to establish the wholesale cost of electricity supplied to the grid and to provide transparent signals to suppliers, consumers, developers, and policymakers of system needs. The NYISO-administered competitive wholesale electricity markets directly benefit customers by procuring electricity services to maintain grid reliability at least production cost.

Each day, the NYISO conducts wholesale electricity auctions for market participants to buy and sell electricity. These auctions ensure sufficient electricity is scheduled to match consumer demand, delivering reliable electricity with the least-cost mix of resources available. Suppliers with lower costs to provide electricity and reliability services offer into the market at lower prices. The NYISO calculates market prices by determining the expected demand and evaluating offers from suppliers. These offers are ranked by cost from lowest to highest, with the NYISO's market software selecting the least costly resources first, and then continuing to select supply resources until the total demand is met and reliability maintained.[22] This means that demand also influences prices — lower demand levels result in selecting resources lower in the cost-ranked stack of supplies. Higher demand levels mean higher cost resources need to be selected to meet demand reliably. This auction process results in all selected suppliers receiving the price set by the last supplier needed to meet demand — this is known as the marginal clearing price. These daily electricity auctions provide for minute-to-minute reliability, with market signals responding to changing conditions and continuously adjusting output levels of suppliers to match the needs of the grid.

[22] The selection of least-cost resources can be complicated by limitations on the transmission system's ability to deliver power. The NYISO incorporates the capabilities and limitations of the New York State Transmission System in developing its least production cost solution.

For these daily auctions to function efficiently, operators also need a longer-term view into what supply resources will be available to the grid. The NYISO achieves this certainty through its Installed Capacity (ICAP) market, which promotes reliability by compensating suppliers for committing to be available to the grid whenever they are needed. The NYISO conducts capacity market auctions on a seasonal and monthly basis to offer suppliers and developers transparent locational pricing signals that reward availability, performance, and each resource's contribution towards reliably serving electric load.

To allow the markets to minimize the cost of supply, all resource technologies that can support system needs, including DEFRs, renewable resources, storage resources, as well as any resources fueled by new technologies, and demand response must be encouraged to fully participate in the NYISO-administered wholesale electricity markets.[23] Efficient wholesale markets depend on competition among suppliers and transparent price signals that accurately reflect system needs and the costs of available suppliers. The price signals in the NYISO-administered markets provide the foundation for economically efficient generation, transmission, storage, and demand response investment decisions in locations where the resources are needed. Electric markets will continue to provide cost efficiencies and strong investment signals while shifting that investment risk away from the consumer.

The structure of the NYISO-administered competitive wholesale electricity markets is particularly advantageous for lower- or zero-emissions energy suppliers with lower fuel costs like wind, hydro, and nuclear because they are more likely to be selected to supply electricity any time they are capable of producing energy. This market design, supported by NYISO's

[23] Price responsive load can also engage with the wholesale market be reducing consumption during high demand, and therefore high price, periods, even if the load does not receive an actual payment for reducing load.

continuous efforts to improve the wholesale market signals to support the evolving grid needs, such as balancing intermittency, will incentivize the development of the DEFRs necessary to serve consumer demand and to maintain reliability. As new resources, including DEFRs, enter the market, competitive forces effectively push less-efficient, higher-cost resources, *e.g.*, emitting generators, out of the market. In this manner, wholesale competitive markets provide a structure for encouraging new resource development and continuous improvement in overall efficiency, which benefits consumers, maintains system reliability, and supports achievement of CLCPA policies.

E. Carbon Pricing in the NYISO-Administered Wholesale Electricity Markets

Aligning market signals with policy goals is critical to maintaining electric system reliability while also achieving public policy goals and requirements. Appropriate market signals could flow from a well-designed and timely-implemented New York Cap-and-Invest ("NYCI") program, as proposed by the Climate Action Council,[24] or an electricity-sector specific effort, like the NYISO's carbon pricing design.[25] The NYISO's carbon pricing proposal was previously developed with its stakeholders and in collaboration with New York State as a market-friendly mechanism to reflect the societal cost of carbon dioxide emissions in the NYISO-administered wholesale energy markets and could be implemented in a timely manner.

The NYISO's carbon pricing proposal would incorporate the cost of carbon dioxide emissions into the NYISO-administered wholesale energy markets using a state-determined cost of carbon dioxide emissions price in dollars per ton. Under this approach, the NYISO would

[24] *See* New York State Climate Action Council Scoping Plan, Full Report December 2022, at pp. 341-342. *See also* the NYS Department of Environmental Conservation's and the NYS Energy Research and Development Authority's discussion of and request for feedback related to New York's Cap-and-Invest Program, available at https://capandinvest.ny.gov/.

[25] NYISO's carbon pricing proposal could be utilized on its own, in conjunction with a NYCI program, or as a transitional mechanism while the NYCI program is developed.

expect the State to develop a cost of carbon dioxide emissions. Suppliers would then embed carbon charges in their energy offers (*i.e.*, a supplier's carbon dioxide emissions adder in $/MWh) and the NYISO's existing processes would incorporate the carbon price into the power system commitment, dispatch, and price formation.

As a result, the market-clearing price of energy would increase whenever carbon dioxide-emitting resources are on the margin, which is a regular occurrence today and will continue until a sufficient fleet of DEFRs is able to replace fossil fueled generation. All suppliers, including clean energy resources such as land-based wind and solar, offshore wind resources, ***DEFRs, and any new clean-energy technologies***, would receive the higher energy price, net of any carbon dioxide charges due on their emissions, if applicable. Pollution emitting resources would see a reduction in their revenues commensurate with the emissions rate of their facility. Lower- and non-emitting resources would benefit from higher net revenues, and the wholesale energy market would harness the power of competition to further encourage the investment and innovation needed to meet CLCPA mandates.

Applying a carbon charge only to internal (New York) resources would make them less competitive compared to resources located outside New York that are not affected by the CLCPA. To avoid creating such distortions, the NYISO's proposal would evaluate external transactions such that they compete with internal resources (and each other) as if the NYISO was not applying a carbon charge to internal suppliers (*i.e.*, on a status quo basis). Imports would earn the LBMP without the carbon effect, at the relevant border; similarly, exports would buy energy at the LBMP without the carbon effect. At the same time, an internal generator would be paid the LBMP but would also be required to pay a resource-specific carbon charge corresponding to its emissions. This would apply to all external transactions that flow in real

time, with no unit-specific or portfolio-specific exceptions for existing or new clean energy resources. Import and export schedules would continue to be determined as they are today, via the system optimization software, based on import and export bids. Many of the concepts included with the NYISO's carbon pricing design would also be applicable to a NYCI program that includes the electric sector.

The NYISO's carbon pricing design would support the development of resources critical to the transition envisioned by the CLCPA by providing a comparative disadvantage to carbon dioxide emitting resources, through lower net revenues, and an incentive to non-emitting new resources with lower variable operating costs. The NYISO's carbon pricing design could be implemented in a timely manner to further align the electricity markets with public policy mandates, including a NYCI program.

CONCLUSION

The NYISO appreciates the PSC's consideration of these comments and looks forward to working with the PSC, DPS Staff, and NYSERDA to protect electric system reliability for all New Yorkers throughout the transitions envisioned by the CLCPA.

Sincerely,

/s/ James H. Sweeney

James H. Sweeney
Senior Attorney
New York Independent System Operator, Inc.
10 Krey Boulevard
Rensselaer, NY 12144
Tel: (518) 356-6000
JSweeney@nyiso.com