



October 31, 2022

Via Electronic Service

Mr. Zachary Smith
Vice President, System & Resource Planning
New York Independent System Operator
10 Krey Boulevard
Rensselaer, NY 12144

**Re: New York Power Authority Response to NYISO Solicitation of Transmission Needs
Driven by Public Policy Requirements**

Dear Mr. Smith,

The New York Power Authority (“NYPA”) submits this filing in response to the New York Independent System Operator’s (“NYISO”) August 31, 2022, request for proposed transmission needs being driven by Public Policy Requirements (“PPRs”)¹ for the 2022-2023 Public Policy Transmission Planning cycle. There are several PPRs driving the need for new Bulk Power Transmission Facilities (“BPTF”) and upgrades to existing BPTF (“Transmission Needs”) within the New York Control Area and NYPA requests that NYISO forward to the New York State Public Service Commission (“PSC”) the Transmission Needs identified below.²

Executive Summary

Transmission Needs are being driven by a combination of new and continuing public policies, including; a) the Climate Leadership and Community Protection Act (“CLCPA”), b) the Accelerated Renewable Energy Growth and Community Benefit Act (“AREGBA”), c) New York State Department of Environmental Conservation’s (“NYSDEC’s”) regulation Subpart 227-3, Ozone Season Oxides of Nitrogen (NOx) Emission Limits for Simple Cycle and Regenerative Combustion Turbines (“Peaker Rule”), d) NYS Clean Energy Standard, e) Federal laws, including the Infrastructure Investment and Jobs Act of 2021 and the Inflation Reduction Act of 2022, and f) New York City’s Climate Mobilization Act/NYC Local Law 97. These Public Policy Requirements, individually and in combination, are shaping the transformation of New York’s power grid that will require new and upgraded BPTF in key regions of the state.

¹ A Public Policy Requirement is defined as a federal or New York State statute or regulation, including a Public Service Commission order adopting a rule or regulation subject to and in accordance with the State Administrative Procedure Act, any successor statute, or any duly enacted law or regulation passed by a local governmental entity in New York State, that may relate to transmission planning on the Bulk Power Transmission Facilities. OATT Section 31.1.1.

² Nothing in the instant submission should be constructed to suggest that the recommended Transmission Needs set forth herein are **not** eligible for Priority Transmission Project designation by the PSC.

Recent studies, including the NYISO’s 2021-2040 System & Resource Outlook (the “Outlook”)³, the Initial Report on the New York Power Grid Study (“Grid Study”),⁴ the Utility Transmission and Distribution Investment Working Group Report,⁵ and the Zero-Emissions Electric Grid in New York by 2040 (“Zero Emissions Study”)⁶ identify pockets of high curtailment risks for existing and future renewable generation resources necessary to meet New York’s clean energy and climate targets. Specifically, the most adversely impacted regions include: the Southern Tier, North Country and the Capital and Southeast New York.

Public Policy Requirements

a. New York State Climate Leadership and Community Protection Act

CLCPA constitutes a PPR by establishing transformative statutory electric generation and climate targets for New York. Those include : (1) a 40% reduction in GHG emissions from 1990 levels by 2030 and an 85% reduction by 2050; (2) by 2030, 70% of all electricity consumed be generated by renewable resources (“70 x 30”) and by 2040 a 100% emissions-free electric supply (“100 x 40”); and (3) the deployment of 6 Gigawatts (“GW”) of photovoltaic solar generation by 2025, 3 GW of energy storage resources by 2030, and at least 9 GW of offshore wind by 2035 (“CLCPA Targets”).⁷ The State recently increased the photovoltaic solar generation target to 10 GW.⁸ The CLCPA Targets continue to be one of the strongest climate and carbon-neutral programs in the nation and have set in motion an aggressive move to renewable generation that will require substantial investment in new transmission to avoid future curtailments on the system.

By way of example, NYISO’s comprehensive Outlook report assessed a range of future scenarios to understand the challenges and potential transmission system risk exposures in achieving the CLCPA Targets and other State policies.⁹ NYISO recognized that current contracted renewable generation does not satisfy the state’s policy targets and therefore conducted a “policy case” assessment. The Road to 2040, as NYISO dubbed its policy case analysis, contained three major components: (1) resource assessment via capacity expansion simulation, (2) transmission congestion assessment via production cost simulation, and (3) an evaluation of policy attainment.¹⁰ Several key takeaways related to Transmission Needs were identified by NYISO in the Road to 2040 assessment to meet the CLCPA Targets:¹¹

³ NYISO 2021-2040 System & resource Outlook, dated September 22, 2022.

⁴ NYPSC Case No. 20-E-0197, Proceeding on Motion of the Commission to Implement Transmission Planning Pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act, “Initial Report on The New York Power Grid Study”, filed by NYSDPS and NYSERDA (dated Jan. 19, 2021)(the “Grid Study”).

⁵ NYPSC Case No. 20-E-0197, “Utility Transmission & Distribution Investment Working Group Report” (dated Nov. 2, 2020).

⁶ Zero-Emissions Electric Grid in New York by 2040, NYSDPS, NYSERDA, prepared by Siemens Power Technologies, Inc, appendix E to Grid Study.

⁷ ECL § 75–0107(1); PSL § 66-p(2), (5).

⁸ See <https://www.governor.ny.gov/news/governor-hochul-announces-expanded-ny-sun-program-achieve-least-10-gigawatts-solar-energy-2030> (last visited October 10, 2022).

PSC Case No. 14-M-0094, Proceeding on Motion of the Commission to Consider a Clean Energy Fund, *Order Expanding NY-Sun Program* (April 14, 2022).

⁹ NYISO 2021-2040 System & Resource Outlook, dated September 22, 2022, at p. 43.

¹⁰ Id.

¹¹ Id at pp. 58 – 60.

- Total installed generation capacity to meet the states policy objectives is projected to range from 111 GW to 124 GW by 2040.
- Estimated 20 GWs of additional renewable generation will need to be in-service by 2030.
- A significant portion of projected renewable generation will be in upstate New York areas, which are geographically electrically distant from the major consumer hubs in downstate New York, while down state generation is being retired, driving the need for transmission expansion. The most urgent transmission needs identified are: (i) additional Long Island Offshore Wind Export; (ii) The Watertown/Tug Hill Plateau; and (iii) Southern Tier.

The PSC’s New York Power Grid Study also identified CLCPA Targets as a driver of Transmission Needs.¹² The Grid Study, citing to the Zero Emissions Study, noted that the projected development of more than 9,000 MW of offshore wind generation, 30,000 MW of land-based renewables, and approximately 15,000 MW of storage will be required to meet the CLCPA 100 x 40 target. Notably, the Grid Study determined that additional grid infrastructure investment will be required to achieve the most cost-effective outcomes. This unprecedented projection of renewable generation in such a short period of time compels the need to plan and develop new bulk transmission now.

b. Accelerated Renewable Energy Growth and Community Benefit Act

The Accelerated Renewable Energy Growth and Community Benefit Act (“AREGCBA”) does not specify electric generation and climate targets like CLCPA, which mandates shifting the State’s generation mix and reducing overall greenhouse gas emissions. Nevertheless, AREGCBA still constitutes a PPR that is driving the identification, planning and need for new transmission. Beyond the identification of priority transmission projects assigned to NYPA, AREGCBA calls upon the PSC to utilize NYISO’s Public Policy Transmission Process to fulfill transmission needs.¹³ The AREGCBA’s directive to the PSC and utilities to plan for the electric transmission infrastructure to meet the CLCPA Targets has also resulted in the identification of Areas of Concern related to Transmission Need.¹⁴ The PSC’s January 9, 2021, Order, *which itself falls within the definition of a PPR*, noted that many stakeholders identified a critical need for Phase 2 local transmission investments that overlap with several locations identified by the NYISO in the CARIS and 2022 Outlook reports, primarily in the Southern Tier, North Country and Long Island offshore wind import.¹⁵ Pursuant to AREGCBA and the PSC’s subsequent Order, stakeholders are developing a Coordinated Grid Planning Process (“CGPP”) which will likely be implemented during this current Public Policy Transmission Planning Process 2022-2023 cycle.¹⁶ As such, the Areas of Concern for local transmission investment demonstrates a need for transmission in those regions that should be evaluated under the NYISO’s 2022-2023 Public Policy Transmission Planning cycle to help ensure that the most cost-effective solutions are identified for the benefit of customers and the State.

¹² Initial Report on the New York Power Grid Study, dated January 19, 2021.

¹³ Chapter 58 (Part JJJ) of the laws of 2020, at Section 7(2).

¹⁴ NYSpsc Case 20-E-0197, Proceeding on Motion of the Commission to Implement Transmission Planning Pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act, PSC Order dated January 9, 2021.

¹⁵ Id at p.p. 34,35.

¹⁶ Id; See also, State Register, Volume XLIV, Issue 3, January 19, 2022, Proposed Coordinated Grid Planning Process Notice expressly states that utilities will work with NYISO to understand areas of overlap or conflict with the PPTPP and other NYISO transmission processes.

c. The Department of Environmental Conservation Peaker Rule.

The final Peaker Rule took effect on December 7, 2019¹⁷ and among other things, sets requirements to reduce emissions of smog-forming pollutants from peaking generation units. The Peaker Rule phases in compliance between 2023 and 2025 and is expected to impact approximately 3,300 MW of simple-cycle turbines located mainly in the lower Hudson Valley, New York City and Long Island. Compliance plans were submitted to the NYSDEC in 2020, with the NYISO conducting analysis of these plans in its Reliability Planning Process to determine whether the plans trigger reliability needs. In its draft 2022 reliability Needs Assessment (“RNA”), NYISO identified that approximately 1,600 MW of capability will be unavailable during the summer of 2025 based on the filed compliance plans.¹⁸ The Peaker Rule is also an important PPR that should be considered in NYISO’s Public Policy Transmission Need process as it is driving the need for additional transmission to import renewable generation during periods of high demand in the downstate New York Control Area zones, a demand that would have otherwise been met by Peaker facilities.

d. New York State Clean Energy Standard (“CES Order”)

The CES Order continues to drive renewable generation and the need for transmission through its various initiatives, including obligations on load serving entities to procure renewable credits generated or delivered in New York and the continued participation and leadership of New York State in the Regional Greenhouse Gas Initiative (“RGGI”).

The Renewable Energy Standard (“RES”) is a component of the state’s Clean Energy Standard and is an integral component to ensure the state achieves its ambitious clean energy goals and transition toward a low carbon energy system.¹⁹ NYSERDA’s 2021 RES solicitation pursuant to the Clean Energy Standard resulted in the award of renewable generation projects throughout the state, including the Capital Region, Central New York, Mohawk Valley, North Country, Southern Tier and Western New York.²⁰ Many of the larger 2021 awards were connected through recent bulk transmission projects --Smart Path and Smart Path Connect -- and would not have been feasible absent this needed investment in the bulk transmission system. On September 21, 2022, NYSERDA commenced the sixth annual Renewable Energy Standard request for proposals to procure approximately 4.5 million Tier 1 eligible Renewable Energy Credits (“RECs”) and additional transmission will help ensure these credits are available.

New York State continues to lead the 11-state block of RGGI states setting total emissions of CO₂ from electric generation facilities in the northeast region of the United States. The quarterly auctions for emission allowances continue to generate revenue that funds renewable generation programs throughout the state. These ongoing programs will continue to drive the need for renewable generation and a robust backbone bulk electrical system to connect the upstate renewable generation pockets²¹ to the downstate consumers.

¹⁷ 6 NYCRR Subpart 227-2.

¹⁸ Draft RNA, dated August 23, 2022, p. 13.

¹⁹ NYSERDA’s Website on Clean Energy Standard, last visited, October 7, 2022.

²⁰ NYSERDA’s Website on 2021 Solicitation, last visited, October 7, 2022.

²¹ Southern Tier Z1 and Z2, Central New York X3, are identified in NYISO’s Outlook report at p. 16 as areas in which high levels of curtailment will exist absent significant transmission investment.

e. Federal Infrastructure and Climate Change Laws

The following federal laws should also be considered PPRs. Although these laws do not require specific energy targets, these federal laws do provide an injection of federal tax dollars, robust tax incentives, loan programs and other mechanisms which will add to the impetus of CLCPA and AREGCBA to drive the conversion of generation to renewables as well as electrification of our economy, all of which are driving the need for increased transmission investment and development within the state.

1. Infrastructure Investment and Jobs Act of 2021.

On November 15, 2021, President Biden signed the Infrastructure Investment and Jobs Act, (the “IIJA”) that will invest one trillion dollars in the infrastructure of the United States.²² The IIJA makes a \$65 billion investment in clean energy technologies and resources and transmission infrastructure, anticipating the buildout of new transmission line for renewable energy. The law will also invest \$7.5 billion to build out a national network of EV chargers in the United States. Finally, the IIJA will invest over \$50 billion in resilience to withstand the impacts of climate change and cyber security attacks.²³

2. United States Inflation Reduction Act of 2022

On August 16, 2022, President Biden signed into law the Inflation Reduction Act of 2022 (the “IRA”).²⁴ The IRA includes \$369 billion in energy and climate change spending and contains several new or expanded sources of government support for the development of clean energy industry within the United States and a net-zero carbon economy by 2050. The IRA will spur renewable energy generations in numerous ways, including: (1) extension and expansion of existing investment and production tax credits for renewable, nuclear and other zero-emission generation; (2) a mechanism to sell tax credits for renewable energy; (3) tax credits for the domestic production of solar cells; (4) manufacturing tax credits for energy storage systems; (5) investment tax credits for industrial or manufacturing facilities to produce green energy merchandise; (6) direct loan programs for advanced technology vehicles; (7) consumer vehicle credits for electric vehicles; and (8) explicitly defining carbon dioxide produced by the burning of fossil fuels as an “air pollutant” and a “greenhouse gas” and granting the Environmental Protection Agency authority over programs to reduce emissions of greenhouse gases.²⁵

f. New York City Climate Mobilization Act/ Local Law 97

In 2019, New York City passed the Climate Mobilization Act (“CMA”) which comprises 11 laws that establish deadlines for compliance with energy standards and use requirements, as well as fines for property owners that do not comply with the law. A principal component of the CMA is Local Law 97, which establishes carbon emissions caps for buildings comprising 25,000 square feet or more. This law

²² Infrastructure Investment and Jobs Act, 135 Stat. 429, 117 P.L. 58 (November 15, 2021).

²³The Federal Energy Regulatory Commission has recognized the importance of planning for additional transmission infrastructure nationally, as evidenced by its call for ISOs/RTOs and other transmission planners to conduct robust 20-year forward transmission planning for a variety of drivers, including increased demand from the integration of renewable energy, electrification and enhancing transmission system resilience. See FERC Docket No. RM21-17-000, Building for the Future Through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection, *Notice of Proposed Rulemaking* (April 21, 2022).

²⁴ Inflation Reduction Act of 2022, Public Law 117-169 (August 16, 2022).

²⁵ The National Law Review, Volume XII, Number 280, October 7, 2022.

impacts most of New York City's condos, co-ops and rental buildings, requires a reduction of emissions of 40% by 2030 and 80% by 2050, and triggers steep fines for non-compliance. Local Law 97 will drive the electrification of buildings away from thermal generated resources requiring a heavier reliance on renewable generation. The law also recognizes that not all properties will be able to comply with the prescribed emissions cap and permits alternative pathways to compliance including purchasing RECs generated in New York City or contributing to the city grid, although the exact process for doing so has yet to be developed. The mandates in the CMA and Local Law 97 will further drive the need for additional transmission to deliver upstate and offshore renewable generation to New York City.

Transmission Needs

The transformation of the state's generation from fossil fuels to renewable energy sources, coupled with the age of the existing bulk transmission system, provides an opportunity to redesign the bulk transmission grid to be more flexible, resilient, and robust. Various studies and reports prepared over the past several years by NYISO (Outlook, Climate Change Phase 1 and Phase 2), NYSERDA/NYS DPS (Grid Study and Zero Emissions Report) and the Utilities (the Utility Transmission and Distribution Investment Working Group Report and Headroom report) have identified that the existing transmission system requires significant investment through systemic reinforcements and the construction of new transmission pathways at higher voltages in order to accommodate the expected vast increase in renewable energy resources and move away from fossil-fuel fired generation. Outlined below are the Transmission Needs being driven by the above-referenced PPRs which require transmission investment to alleviate existing and projected constraints.

a. Southern Tier

NYPA previously identified the need for additional bulk transmission investment in the Southern Tier to meet the state's energy policy Targets.²⁶ The transmission infrastructure in the Southern Tier remains as it did in 2020 and consists of just one 230 kV circuit extending from northwest to southeast; two 345 kV circuits at each end running north-south; two 345 kV circuits running across the top east-west, and a limited 115 kV system connecting it all together, with much of it already at operating limits. Since 2020, additional analyses have confirmed that additional pressure will be put on this area of the state for new bulk transmission to service new renewable generation that fits the region's geography and is needed to meet the CLCPA Targets. NYISO's recently published Outlook report projects high levels of transmission curtailment pockets in Z1 (Finger Lakes Region) and Z2 (Southern Tier Transmission Corridor). The Outlook showed multiple 115 kV lines in these pockets are most constrained. Even if the projected congestion on the 115 kV transmission lines is addressed to accommodate more renewable generation, the delivery of the renewable generation output will quickly become constrained by the limitations on the 230 kV circuit from Stolle Road-South Perry-Meyer-Hillside-Watercure. Moreover, based on the Outlook S2 Scenario, over 2,000 MW of renewables are anticipated to be directly interconnected to this 230 kV path by 2035, further compounding the limitations of the local systems in the Southern Tier. The March 8, 2022, Area of Concern Petition filed by the utility companies identified deliverability constraints in Pocket Z1 were most severe following contingency events that resulted in the interruption of the 230 kV path extending through the areas of concern to Watercure Road Substation. Expanding the bulk system, instead of putting patches on every individual 115 kV line that is impacted by the interruption of the 230 kV path, is

²⁶ NYPA's October 2, 2020, Response to NYISO's Solicitation of Transmission Needs Driven by PPRs.

more efficient or cost effective in addressing both near-term and long-term transmission needs, especially considering the sheer scale of renewable resources projected in this area within the next 20 years.

b. North Country – Watertown/Tug Hill Plateau

As with the Southern Tier, the Watertown/Tug Hill Plateau renewable generation pocket X3 was identified by the NYISO’s Outlook report as having significant limitations to meet the demand for transmission of renewable generation to downstate customers. Specifically, the Outlook report concludes that this area poses an urgent transmission need and recommends as follows,

“The 115kV network is expected to limit the availability of the already-contracted wind and solar generation in this area, and the limitation will become more severe when more renewable resources are interconnected. Additional transmission is necessary to provide the resources access to the bulk grid.”²⁷

Further complicated by the historical design and limitations of the existing local transmission system in this area – comprised of two long double circuit 115 kV lines traversing from north to south connected to a northern east to west 115 kV radial connector - developers have proposed over 2 GW of renewable projects. These projects will be largely undeliverable without significant transmission investment. To address these future needs, both local and bulk transmission solutions should be analyzed to determine which type of transmission solution, or combination, is the most cost-effective for the ratepayers. For example, local transmission upgrades to the existing 115kV circuits were recommended to increase transmission headroom as both Phase 1 and Phase 2 projects. However, during the comment period of the Grid Study report comments were filed stating that bulk transmission solutions would be cheaper and more cost-effective than upgrades outline in the Grid Study.²⁸ As such, further evaluation of transmission needs to unlock renewable energy potential in this region of the state to support the CLCPA Targets should be done, and bulk solutions should be solicited as part of NYISO’s 2022-2023 transmission planning cycle.

c. Capital and Southeast New York (“SENY”)

As a direct result of the 2020-2021 PPTPP solicitation, on August 12, 2021, NYISO issued the Long Island Offshore Wind Export Public Policy Transmission Need Project Solicitation (“2021 LI OSW Wind Export”) requesting solutions from qualified developers. On March 19, 2021, the PSC issued an order recognizing that the CLCPA Targets constitute a Public Policy Requirement driving a need for adding at least one bulk transmission intertie cable to increase the export capability that connects New York Control Area’s Zone K to Zones I and J to ensure at least 3 GW of offshore wind is delivered from Long Island to the rest of the state, together with necessary upgrades on Long Island. Nineteen proposals were submitted responding to the solicitation, and NYISO determined sixteen proposed solutions are viable and sufficient. NYISO is currently evaluating those solutions to select the more efficient or cost-effective transmission solution.²⁹ However, as the offshore wind market continues to mature with realized

²⁷ Id at p. 76.

²⁸ NYS PSC Case No. 20-E-0197, Comments by NextEra Energy Transmission New York Inc., in Response to SAPA I.D. No PSC-46-20-00008-P 0 Utility Transmission & Distribution Investment Working Group Report, at p. 3. dated January 20, 2021.

²⁹ NYISO’s Long Island Offshore Wind Export Public Policy Transmission Need Viability & Sufficiency Assessment, dated April 5, 2022, at p. 20.

opportunities (larger turbine outputs, lease area distances to shore, floating wind) to inject more than 9 GW of offshore wind into New York, additional interconnection points will be required. The Grid Study stated that New York State will need more than the 9 GW of offshore wind noted in CLCPA to meet other mandates, such as the 85% reduction in greenhouse gas emissions by 2050.³⁰

Additionally, as increased land-based renewable generation is developed in upstate New York there will be a need to modernize the current transmission system in the Capital and SENY regions to increase transmission capability and flexibility between New York City, Long Island and the lower Hudson Valley with the remainder of the New York Control Area. For example, the Outlook report identified that Central East Interface and Rotterdam 345/230 kV Transformer would be congested over 2,000 hours during Year 2035 and about 4,000 hours (~ 45% time) during Year 2040 in the Policy Cases.

These additional Transmission Needs connecting the Capital and SENY regions to the remainder of the New York Control Area are required to accommodate the shift to renewable generation from fossil fuel generation ensuring flexibility of the grid, including bidirectional capability and access to spinning reserves for power and voltage regulation and support. Based on the Power Grid study and the Outlook report identifying the long-term constraints of the transmission grid and decarbonization/offshore wind integration in the SENY area, the following additional Transmission Needs exist:

- Zone F: Transmission improvements on Central East interface and Rotterdam 345/230 kV
- Zones H/I/J: Upgrades at Millwood South and Dunwoodie South, transfer capability increases at Millwood South and Dunwoodie South interfaces of 13,000 MVA and 6,000 MVA respectively.
- Zones I/K: Dunwoodie – Shore Road, an upgrade cable rating to approximately 3,000 MVA, likely requiring two new 345kV cables in parallel and two new 345/138kV transformers is required.
- Zones E/G: Increase Coopers Corner – Middletown- Rock Tavern – Dolson Ave 345 kV line sections Long Term Emergency (LTE) rating to approximately to 3,000 MVA.
- Zone G: Increase Ladentown-Ramapo 345vV line LTE rating to approximately 2,500 MVA.

d. Renewable Energy Interconnection Hubs

Within the growth and expansion of the bulk transmission system, opportunities exist to streamline and expedite the interconnection of renewable energy through the creation of interconnection hubs, purpose built to allow the interconnection of large quantities of concentrated renewable energy. If adopted, the interconnection hubs could tie renewable energy siting and transmission reinforcements together, removing constraints and challenges in the current setup. Some key take-aways from this concept would include:

- Creation of renewable energy interconnection hubs would provide certainty to Developers that their projects would be deliverable and expedite the NYISO Interconnection Process.
- Subsequently, siting and design of the renewable energy interconnection hubs would allow for a planned bulk transmission assessment reducing the number of generation

³⁰ Citing to E3's *Pathways to Deep Decarbonization in New York State*, dated June 24, 2020, the Grid Study notes that as much as 15.5GW of offshore wind capacity will be required by 2050 (9.7 GW by 2040). The Grid Study also referenced that the more conservative Zero Emissions and Grid Evolution studies also project an offshore wind capacity need of 13.6 GW and 13.8 GW by 2040, respectively.

interconnection substations and providing further resilience to the bulk transmission system while reducing long-term operation and maintenance (O&M) costs.

Siting of renewable energy interconnection hubs should be considered for both the Southern Tier and Watertown/Tug Hill Plateau, where there is a high concentration of renewables proposed within a generally close geographic area. This study could be performed by mapping all known points of interconnection within these zones and identifying clusters within a reasonable, geographical, environmental and economically viable radius of each other.

Identifying renewable energy interconnection hub locations geographically could allow for expedited transmission development that would unlock existing and future renewable energy projects within constrained transmission zones. Like the Long Island Offshore Wind Public Policy Transmission Need, identifying the renewable energy interconnection hubs would enable stakeholders/developers an opportunity to reimagine the transmission grid and propose innovative, cost-effective solutions.

Benefits

The above-identified Transmission Needs will bring a plethora of benefits to the state and region from increased transmission reliability with updated circuits and technologies to local and state needed economic assistance. As discussed below, the PPRs, coupled with a cleaner, greener generation mix and transmission network, will spur the electrification of our transportation networks as well as our homes and businesses, help ensure federal incentives are directed to the state, and facilitate the state fulfilling its climate change PPRs.

a. Reliability - Transmission Security

The CLCPA Targets and other PPRs are weening the state from thermal generation and the transmission grid of today must evolve quickly by updating circuits and implementing new technologies to ensure future reliability.

b. Resilience

In addition to meeting minimum reliability standards, adding resilience to the power system to withstand the forces of climate change is also essential. As noted in the Climate Action Council Draft Scoping Plan, once in a century-strength storms now occur more frequently, and disruptions from catastrophic weather events are expected to increase as temperatures in New York and globally continue to rise.³¹ Additional transmission infrastructure built to meet resilience standards will make the bulk electric system more resilient to storms and speed the restoration of service following an interruption. Greater resilience is clearly a benefit of investment in new state-of-the-art transmission facilities.

c. Environmental

Several of the PPRs directly speak to the environmental benefits resulting from implementing the CLCPA Targets including zero emissions from generation by 2040 and an 85% reduction in greenhouse gas

³¹NYISO Climate Change Study Phase 1; <https://www.nyiso.com/documents/20142/16884550/NYISO-Climate-Impact-Study-Phase1-Report.pdf/4311bdd4-a389-afbe-9ee9-b6bf523b0a36>. (last visited on October 10, 2020).

emissions across all sectors by 2050. Additionally, a target of 22 million tons of carbon reduction through energy efficiency and electrification has been identified. To achieve these benefits, the State's transmission grid must ensure that the renewable generation of hydro, wind, and solar resources can flow freely across unconstrained circuits throughout the State. The Climate Action Council recognizes that the State's existing commitment to building out new green transmission "will help facilitate faster transitioning to zero-carbon emission resources and technologies contributing to air quality improvement and improved public health for New Yorkers, especially those living in environmental justice or disadvantaged communities."³²

d. Production Cost Savings

Additional transmission capacity would enable renewable generators to run without threat of curtailment, avoiding the need to run costlier and less efficient fossil fuel plants. Savings are also realized through reduced cycling of plants and avoidance of reliability-must-run conditions. Production Cost Savings benefits should capture the benefits of wholesale market competition and the benefits from relieving congestion.

e. Capacity Market

Increasing transmission capability on the bulk electric system will increase access to installed capacity by load serving entities that must procure such capacity to serve their customers. As such, increased transmission capability will tend to reduce installed capacity requirements on a statewide basis. Depending on the location and configuration of transmission additions from upstate to downstate, increased transmission capacity could also lower minimum locational capacity requirements in the Lower Hudson Valley (Zones I-J), New York City (Zone J) and Long Island (Zone K), thereby lowering capacity procurement requirements in these high-cost regions. Reducing capacity procurement costs benefits ratepayers by reducing electricity production costs that feed into their rates.

f. Fuel Diversity

New York State obtains electricity from a variety of sources including fossil fuel plants, nuclear, and renewable sources such as hydro, wind, and solar. Transmission expansion can provide increased access to power from this diverse portfolio of fuel sources and to import renewable energy from other control areas, yielding increased reliability, reduced price volatility and enhanced market efficiency. Although New York is well on its way to meeting the CLCPA Targets, the state will continue to rely on a certain percentage of thermal generation for the next 18 years to meet reliability and electrical needs as it ramps up its renewable generation mix. Investments in renewables to mitigate the potential risks of over-dependence on these carbon emitting generation sources is important, but only achievable if the diverse generation of solar, wind and hydro can be delivered to the load centers through an uncongested transmission network.

³² Climate Action Council, <https://climate.ny.gov/Our-Progress> (last visited on October 10, 2020).

g. Infrastructure Investment Risk Mitigation (Continued investment in new Renewable Generation)

The need for additional transmission in New York State is urgent. Many of the transmission facilities noted above are at or near capacity, with existing renewable generation facing curtailment. Limitations in deliverability and curtailment risk are main drivers in whether proposed renewable generation projects ever get constructed. Through the Infrastructure Investment and Jobs act and the Inflation Reduction Act, the federal government is pumping billions of dollars through tax incentives, direct funding, loans and other programs to develop renewable generation and green businesses to support the clean power revolution. Eliminating risks to developers and potentially lowering their interconnection costs is one way to ensure that New York catches the wave of investments that will be triggered by the IRA.

h. Local and State Economic Assistance

Economic development is already being realized and will be enhanced through investment in new transmission. Investment in new transmission will have an immediate impact in certain areas through construction and other support jobs. For example, in the Southern Tier, although the private sector jobs rose by 2.3 percent as of August 2022, losses were still greatest in key sectors such as mining and construction (approximately 200 jobs).³³ New businesses and expanding businesses will need reliable and renewable energy to capitalize on the funding, loans and incentives in the IIJA, IRA and other laws. New York must ensure a reliable transmission grid can services new businesses to ensure the state can continue to attract new business, such as the \$100 billion investment by Micron Technology, Inc's proposal to build one of the largest semiconductor facilities in Clay, New York.

Evaluation Criteria

NYISO's August 31, 2022, request requires submission of proposed criteria for the evaluation of transmission solutions. NYPA proposes the following criteria to be used in evaluating projects proffered to satisfy the proposed Transmission Needs:

- Ability to increase renewable generation development and decrease renewable curtailment to meet CLCPA Targets and other PPRs;
- Ability of proposed developers to deliver the recommended solution(s);
- Ability to utilize existing carbon-free generation resources to the maximum extent, including the Niagara Hydropower facility;
- Economic benefits, including reduction in Demand/Congestion and system-wide production costs;
- Contribution to meeting resource adequacy requirements;
- Contribution to increasing transmission security,
- Contribution to increasing bulk power system resilience, and

³³ NYS Department of Labor, <https://dol.ny.gov/labor-statistics-southern-tier-region>, (last visited October 10, 2022).

- Future expandability and NYISO flexible operation given increase of weather-dependent intermittent generation resources (More efficient as bulk project than local – e.g., integration across multiple service territories).

For the reasons set forth above, NYPA requests that NYISO submit to the PSC its proposal that the PSC establish as Transmission Needs pursuant to the Public Policy Transmission Planning Process the Southern Tier, the North Country, and Capital and SENY needs identified above.

Respectfully Submitted,

Peter M. Casper

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