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March 22, 2021

Hon. Michelle L. Phillips
Secretary
New York State Public Service Commission
Three Empire State Plaza
Albany, New York 12223-1350

**Re: 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**

Secretary Phillips:

Please find attached for filing in the above-referenced case the comments of Independent Power Producers of New York, Inc. (“IPPNY”) on the Initial Report on the New York Power Grid Study.

Respectfully submitted,

/s/ Matthew Schwall
Matthew Schwall
Director, Market Policy & Regulatory
Affairs
IPPNY

Cc: Service list

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**STATE OF NEW YORK
PUBLIC SERVICE COMMISSION**

Proceeding on Motion of the	)	Case 20-E-0197
Commission to Implement Transmission Planning	)	
Pursuant to the Accelerated Renewable Energy	)	
Growth and Community Benefit Act	)	

**COMMENTS OF INDEPENDENT POWER PRODUCERS OF NEW YORK ON
INITIAL REPORT ON NEW YORK POWER GRID STUDY**

Independent Power Producers of New York, Inc. (“IPPNY”)¹ submits these comments in response to the “Initial Report on the New York Power Grid Study” (the “Power Grid Study”) prepared for the New York Public Service Commission (the “Commission”) by New York Department of Public Service (“DPS”) Staff, New York State Energy Research and Development Authority (“NYSERDA”) Staff, the Brattle Group, and Pterra Consulting and filed in the above-referenced case.²

The primary purpose of the Power Grid Study is to summarize the results of three individual studies and provide recommendations to the Commission for planning the investments needed to meet the goals of the Climate Leadership and Community Protection Act (“CLCPA”). The three studies include: a study conducted by the Joint Utilities³ on local transmission and distribution (“T&D”) needs (“Utility Study”); a study of offshore and onshore bulk-power

¹ IPPNY is a trade association representing companies involved in the development of electric generating facilities and the generation, sale, and marketing of electric power in the State of New York. IPPNY member companies produce a majority of New York’s electricity utilizing almost every generation technology available today, such as wind, solar, hydro, energy storage, nuclear, natural gas, oil, and biomass. These comments represent the position of IPPNY as an organization, but not necessarily the views of any particular member with respect to any issue.

² Case 20-E-0197, Initial Report on the New York Power Grid Study (“Power Grid Study”).

³ The Joint Utilities include the New York utilities of Central Hudson Gas & Electric Corp. (“Central Hudson”), Consolidated Edison Company of New York, Inc., (ConEd), Long Island Power Authority (LIPA or LIPA/PSEG), Niagara Mohawk Power Corporation d/b/a National Grid (National Grid), New York State Electric & Gas Corporation and Rochester Gas and Electric Corporation (NYSEG and RG&E or AVANGRID), and Orange & Rockland Utilities, Inc. (Orange and Rockland or O&R).

transmission infrastructure scenarios (“OSW Study”); and a state-wide scenario-based study to analyze transmission, generation, and storage options for achieving 70% renewable generation by 2030 and a zero emissions grid by 2040 (“Zero-Emissions Study”). The Power Grid Study states that the Accelerated Renewable Energy Growth and Community Benefit Act directed the Commission to “advance the work of identifying T&D upgrades needed to *reliably and cost effectively* integrate the required renewables resources, and to establish planning processes to support cost-effective and timely infrastructure development (emphasis added).”⁴

The purpose of IPPNY’s comments is to highlight certain assumptions, findings and recommendations of the Zero-Emissions Study, including identification of power generation technologies and characteristics that will be necessary to *reliably and cost-effectively* integrate the resources envisioned by the CLCPA while maintaining long-term resource adequacy.

I. DISPATCHABLE, LONG-TERM LONG DURATION POWER GENERATION TECHNOLOGIES ARE NECESSARY TO ACHIEVE THE GOALS OF THE CLCPA.

The Power Grid Study makes a series of recommendations to the Commission which will be used to develop local T&D capital plans for each utility and to establish a bulk system investment program, and suggests that meeting the milestones of the CLCPA will, in addition to T&D investments, require investment in renewable generation, storage, energy efficiency measures, and electrification of the transportation and heating sectors.⁵ Notably absent from this front and center list of investments needed to meet the goals of the CLCPA is any mention of dispatchable, long-term long duration power generation technologies necessary to maintain electric system reliability during extended periods of low renewable energy availability.

⁴ Power Grid Study at pg. 1.

⁵ *Id.*

According to the Zero-Emission Study, “dispatchable capacity is needed by the market to maintain locational reserve margin requirements as electricity demand escalates and the effective load carrying capability of renewables declines.”⁶ The study’s findings suggest that 17-23 GW of thermal capacity powered using renewable natural gas persist in the market “due to economic factors driven by the assumption that current capacity market structures persist through 2040.”⁷ The study claims that it is difficult to “anticipate whether this level of thermal capacity will truly remain in 2040 if the units are operating at low-capacity factors.”⁸ The suggestion is that these units remain in the market because they are economic. Rather, thermal generation is *economic* because it is *reliable*.

It is critical that the Commission have an accurate and comprehensive understanding of the level of capacity of dispatchable, long-term long duration generation that will be necessary to cost-effectively and reliably meet the goals of the CLCPA. Two studies referenced by the Zero-Emission Study provided added clarity – the “Zero Emission Power System” study prepared by the Brattle Group on behalf of the New York Independent System Operator (“NYISO”) (the “Brattle Study”),⁹ and the “Pathways to Deep Decarbonization in New York State” study prepared by Energy & Environmental Economics (“E3”) on behalf of NYSERDA (the “E3 Study”).¹⁰ The Brattle Study found that new technologies will be needed to provide seasonal storage or zero-emission, dispatchable supply, and that the installed capacity of generators

⁶ Case 20-E-0197, Appendices A-E to Initial Power Grid Study, Appendix E (“Appendix E”), at E-24.

⁷ *Id.* and Power Grid Study at pg. 102.

⁸ *Id.*

⁹ See New York’s Evolution to a Zero Emission Power System: Modeling Operations and Investment through 2040 Including Alternative Scenarios, presented by the Brattle Group at the June 22, 2020, meeting of the Installed Capacity Working Group (the “Brattle Study”), available at <https://www.nyiso.com/documents/20142/13245925/Brattle%20New%20York%20Electric%20Grid%20Evolution%20Study%20-%20June%202020.pdf/69397029-ffed-6fa9-cff8-c49240eb6f9d>

¹⁰ See Pathways to Deep Decarbonization in New York State, prepared by E3 (June 24, 2020) (“E3 Study”).

utilizing zero-emissions fuel sources grows to more than 35 GW under base case assumptions.¹¹

In an alternative scenario where the power system relies solely on wind, solar, and short-duration storage without fossil-plants or replacement technologies that utilize zero-emission fuel, an additional 107 GW of renewable and storage capacity would be required to meet load in all hours with annual curtailments equaling 50% of generation.¹² The E3 Study found that New York can reliably meet growing electricity loads with 100% zero-emissions electricity by relying on a diverse mix of resources that includes existing and new combined cycles and combustion turbines as well as facilities with carbon capture and sequestration technologies.¹³ The study noted that high penetrations of intermittent renewables with firm, zero-emission resources – such as bioenergy, hydrogen, carbon capture and sequestration, and nuclear generation – reduce total electric system costs under zero-emissions targets, and that “research has shown that the magnitude of this cost reduction ranges from 10%-62%.”¹⁴

The Zero-Emissions Study is transparent in its limitations. It either holds constant certain assumptions such as the installed reserve margin and effective load carrying capability (“ELCC”), or does not consider the impact of various market and operational dynamics including but not limited to real-time operational challenges and constraints on the lower-voltage transmission system, which together serve to understate the level of curtailments of renewables as well as the amount of dispatchable, long-term long duration resources needed to maintain reliability cost-effectively. Such matters need significant additional attention and study prior to declaring that the goals of the CLCPA can be reliably met with transmission, renewable and short duration energy storage investments alone.

¹¹ The Brattle Study at pgs. 13 and 32.

¹² *Id.* at pg. 41.

¹³ E3 Study at pg. 33.

¹⁴ *Id.* at pg. 39.

**II. ADDITIONAL ANALYSIS IS NEEDED TO MORE ACCURATELY
DETERMINE THE LEVEL OF DISPATCHABLE LONG TERM LONG
DURATION POWER GENERATION NEEDED TO MAINTAIN RELIABILITY
AND TO ENSURE ENERGY DELIVERABILITY IS ACCURATELY ASSESSED
TO PREVENT FUTURE RENEWABLE CURTAILMENTS.**

In response to the Power Grid Study, DPS Staff submitted a series of questions for consideration by interested parties, including the following:

What studies should be pursued to better understand (1) future generation and flexibility (including storage technology) options that may be needed and available after 2035 to cost-effectively eliminate the residual emissions necessary to achieve a zero emissions grid by 2040, and (2) the extent to which these technologies will impact grid investment and operational needs? Which such further studies should be pursued most immediately?

Each of the Zero-Emissions Study, Brattle Study, and E3 Study include a version of DPS Staff's question that suggests a need for further study of the technology options for cost-effectively reducing power sector emissions to zero by 2040. IPPNY supports the need for such studies, including an ELCC study to better understand the capacity contribution of duration limited resources, e.g., intraday energy storage resources, as the power system becomes increasingly reliant upon intermittent renewables. An accurate and impartial determination of the capacity contribution and limitations of such resources as renewable penetration and load variability increases will provide a solid foundation upon which to more accurately determine the level of dispatchable long-term long duration generation that will be needed to meet the 2040 goal.

Furthermore, the Zero-Emission Study recommends a need for studies that focus on the operational implications of factors such as day-ahead renewable generation forecasting errors, real-time renewable generation uncertainties and associated intra-hour

system flexibility needs, the impacts of planned and unplanned transmission outages, and system performance under more challenging weather conditions (such as storms, heat waves, and cold snaps).¹⁵ IPPNY recommends that the Commission coordinate with the NYISO to conduct such additional studies.

Likewise, in the name of reliably and cost effectively integrating renewable development, IPPNY has previously underscored the importance of ensuring the energy deliverability of new renewable resources in solicitations before awards are made by taking into account existing and contracted renewable resources. Congestion and curtailment obviously have negative implications for the ability of renewable and alternative energy resources to operate efficiently and economically. Numerous transmission studies have revealed that congestion and curtailment will also jeopardize the State's ability to achieve its CLCPA mandates. Therefore, planning for congestion and curtailment is of paramount importance.

Taken together with the NYISO Public Policy Transmission Planning Process and New York Power Authority's ("NYPA") Priority Transmission Projects ("PTPs") process, IPPNY urges the Commission to coordinate efforts under these three components to develop a transmission plan with defined projects and associated time lines that will ensure deliverability of renewable energy to consumers across New York State as new renewable projects come on line. To do so effectively, the Commission must account for approved TO transmission plans, as well as Public Policy Requirements administered under the NYISO tariff and NYPA PTPs, and take into account existing and contracted projects when identifying congestion and curtailment issues. The Commission

¹⁵ Power Grid Study at pg. 10.

reinforced that point as recently as March 18, 2021 in its Public Policy Transmission Needs Order when it prescribed criteria to assist NYISO “in its solicitation and evaluation of proposed solutions to the identified Public Policy Transmission Needs,” including “transmission congestion, impacts on transfer limits; and, resource deliverability.”¹⁶

III. CONCLUSION

IPPNY supports the reliable and cost-effective transition of the electric power system to one that accomplishes the targets required by the CLCPA. Necessary to that transition is investment in transmission *and* new power generation technology infrastructure. The Power Grid Study covers various considerations necessary to make near-term transmission investments. However, additional focus is needed on the next generation of technologies necessary to maintain electric system reliability over the long-term so that the Commission may accurately determine whether transmission or generation investments are most beneficial to ratepayers in the long-term.

Respectfully submitted,

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¹⁶ Cases 20-E-0497 & 18-E-0623, *Order Addressing Public Policy Requirements for Transmission Planning Purposes* at pg. 24.