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VIA EMAIL – PublicPolicyPlanningMailbox@nyiso.com

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

Re: NYISO 2020-2021 PPR Transmission Planning Cycle
August 3, 2020 Request for Proposed Transmission Needs
Transource New York Response

Dear Mr. Smith:

NYISO Open Access Transmission Tariff ("OATT"), Attachment Y delineates the components of the NYISO's public policy planning process. In accordance therewith, the NYISO initiated this process's first step by issuing a notice on August 3, 2020 requesting that parties identify proposed transmission needs driven by Public Policy Requirements.[1] Transource New York ("Transource") hereby submits this response providing information that demonstrates that New York will not meet its climate change requirements absent significant transmission infrastructure investment and urges the New York Public Service Commission ("Commission") to designate a PPR and selection metrics as established herein.

The NYISO's Notice marks the third time this process has been initiated since the Commission implemented its ground-breaking CES Program and the first since New York State enacted its nation-leading CLCPA last year and Renewable Siting Act earlier this year.[2]

[1] *See* New York Independent System Operator, Inc., "NOTICE – Request for Proposed Transmission Needs Being Driven by Public Policy Requirements for the 2020-2021 Transmission Planning Cycle" (dated August 3, 2020).

[2] *See* NYPSC Case 15-E-0302, *Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard*, Order Adopting a Clean Energy Standard (issued and effective August 1, 2016) (hereinafter, "CES Proceeding" and "CES Order," respectively). The program adopted pursuant to the CES Order ("CES Program") contains multiple tiers and is designed, in part, to ensure the procurement of land-based and offshore wind renewable resources. (*See also*, New York Climate Leadership and Community Protection Act, S.B. 6599, 2019 Leg., 242nd Sess. (N.Y. 2019) (codified as Ch. 106, L. 2019) (hereinafter, "CLCPA"), Accelerated Renewable Energy Growth and Community Benefit Act, L.2020, ch. 58, Part JJJ (hereinafter, "Renewable Siting Act").) On the same date that the CLCPA was enacted, New York State announced the largest offshore generation awards in the nation in response to the OREC solicitation conducted under the CES Program.

Importantly, these laws seek to combat climate change by requiring the development of thousands of MWs of renewable energy on an accelerated schedule and defining associated new siting laws and expedited transmission planning requirements. To ensure the CLCPA's mandates can be met, it is critical that the Commission consider how it can best utilize the combination of this process with the priority transmission project process set forth in the Renewable Siting Act.

By way of background, on the same day that the NYISO issued its 2016 PPR Process, the Commission issued the CES Order to implement the 50 x 30 standard under the CES Program. The CES Program increased New York State's focus on restructuring the composition of its electric system to reduce carbon emissions. As reflected in the CES Review, the program to date has successfully led to a substantial increase in contracted renewable generation over the past four years.[3] Pertinent here, much of the newly contracted land-based generation is located in pockets in Upstate regions while the offshore wind generation component of this effort is entirely concentrated in southeastern New York, off the coast of New York City and Long Island.

Since the CES Program's inception in 2016, New York has taken a number of important further public policy actions to bolster its commitment to reversing the effects of climate change. Enacted last year, the CLCPA not only adopted renewable energy generation requirements by law, it accelerated these resource commitments and their associated time frame for completion by incorporating a 70 x 30 mandate. The CLCPA further requires the New York electric system to ultimately be carbon-free just ten years later, *i.e.*, by 2040. Thereafter, to ensure the CLCPA's resource commitment levels are met, New York enacted the Renewable Siting Act as part of this year's budget, designed to expedite renewable generation siting and provide the necessary mechanisms for the associated transmission to be constructed that is required to deliver this renewable energy across the New York system. Taken together, these laws provide the regulatory framework for New York to achieve its climate change initiatives.

However, while renewable energy development most assuredly has the potential to jump-start New York's economy as it reopens post-COVID,[4] extensive studies completed since 2016 demonstrate extensive transmission must also be built for this energy to be delivered to consumers. The evidence has been mounting for some time that the CES Program alone drove the need to

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[3] *See* NYPSC Case 15-E-0302, *supra*, "Renewable Energy Standard Program Impact Evaluation and Clean Energy Standard Triennial Review" (dated June 2020) (hereinafter, "CES Review").

[4] *See* Governor Andrew M. Cuomo, Press Release "Governor Cuomo Announces Largest Combined Solicitations For Renewable Energy Ever Issued in the U.S. To Combat Climate Change" (dated July 21, 2020) (emphasizing the thousands of jobs and billions of dollars in direct investment that renewable energy projects will bring to New York State will "help[] to jumpstart and drive economic growth as part of reopening and reimagining New York State's economy" and, thus, New York remains "laser-focused" on implementing its climate change initiatives and "lead[ing] the way with the most ambitious Green New Deal in the nation, creating a future fueled by clean, renewable energy sources."). Governor Cuomo has long been on record that New York seeks to build out the infrastructure necessary so that it may be the leader in offshore wind generation development on the East Coast and the State has taken a number of steps in that regard, including setting up financing structures to accommodate port development. To that end, the 2020 OREC solicitation issued by NYSERDA this summer requires developers to provide specific information concerning port development commitments. (*See* New York State Energy Research and Development Authority, "Purchase of Offshore Wind Renewable Energy Certificates, Request for Proposals ORECRFP20-1 (dated July 21, 2020) at 13-15.)

declare PPRs to address existing and future transmission constraints on the system. To now meet the CLCPA's more extensive resource commitments and accelerated pace, transmission projects indisputably must be identified in the near term to enable developers to effectively site these newly mandated levels of additional renewable resources. Thus, the CLCPA, as manifested in part through the State's ongoing CES implementation, must be identified as a PPR as expeditiously as possible.

I. Comments

A. Actions Taken By New York Since the 2018-2019 PPR Cycle Was Initiated Further Demonstrate the Need to Expeditiously Designate the CLCPA as a PPR To Resolve Significant Transmission Constraints That Will Otherwise Prevent the Delivery of Renewable Energy to New York Consumers and To Ensure Effective Orchestration Between the NYISO's PPR Process and Development of Priority Transmission Projects

As Transource and all other parties that responded to the NYISO's notice in the 2018 PPR Process universally established,[5] the Commission's directive in the CES Order in 2016 that 50% of all energy consumed in New York must come from renewable resources by 2030 provided ample basis for the Commission to declare its CES initiative a PPR in the 2018 PPR Proceeding.[6] The massive reconstitution of the State's electric system pursuant to the State's enactment of the CLCPA and the Renewable Siting Act, further developments in the CES Program and ongoing curtailments faced in today's system operations leave no question that there is a Public Policy Requirement that drives the need for transmission. Thus, the Commission should act as expeditiously as possible to review the proposed PPRs submitted in this proceeding and the bases therefor, designate the CLCPA a PPR and issue an order directing the NYISO to proceed with its viability and sufficiency evaluation accordingly subject to the selection metrics established *infra*.

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[5] *See. e.g.,* NYPSC Case 18-E-0623, *In the Matter of New York Independent System Operator, Inc.'s Proposed Public Policy Transmission Needs for Consideration for 2018*, "Comments of Transource Energy, LLC and Transource New York, LLC Addressing the New York Independent System Operator, Inc.'s 2018 PPR Process To Identify Public Policy Requirements That Drive the Need For Transmission in New York" (dated January 18, 2019) (hereinafter, "Transource 2018 PPR Comments"); NYPSC Case 18-E-0623, *supra*, "Comments of the City of New York" (dated January 23, 2019); NYPSC Case 18-E-0623, *supra*, "Comments of the New York Independent System Operator, Inc." (dated January 22, 2019).

[6] The NYISO has initiated its PPR process in August, 2016, August, 2018 and, most recently through the Notice, in August, 2020 in accordance with the requirements of OATT, Attachment Y. These efforts are referred to herein as the "2016 PPR Process," the "2018 PPR Process" and the "2020 PPR Process," respectively. Given that the 2016 PPR Process was initiated on the same day as the CES Order was issued, the Commission ultimately determined further work was required before additional PPRs were named and looked to the then about to be commenced 2018 PPR Process as an opportunity to assess the latest information on transmission congestion in certain regions and to quantify the benefits of the two PPR projects that had been previously ordered. (*See* NYPSC Case 16-E-0558, *In the Matter of New York Independent System Operator, Inc.'s Proposed Public Policy Transmission Needs for Consideration for 2016*, Order Addressing Public Policy Requirements for Transmission Planning Purposes (issued and effective March 16, 2018) (hereinafter, "2016 PPR Order") at 24-25.

Specifically, as noted *supra*, enacted last summer, the CLCPA substantially increased the amount of renewable energy that must serve New York consumers but retained the same time frame. Initially set at 50 x 30 in the CES Proceeding, the CLCPA now mandates renewable energy consumption must reach 70% by 2030. Equally important, the CLCPA also contains a number of technology-specific mandates. For example, by 2025, there must be 6,000 MW of solar energy on the system. This requirement is most likely to affect certain pockets of Upstate New York where land availability is adequate for these projects. The CLCPA likewise requires that, by 2035, there must be 9,000 MW of offshore wind generation on the system. This generation is almost certainly going to be sited off the shores of southeastern New York and interconnected into the already heavily constrained systems in New York City and on Long Island.[7] As addressed *infra*, recently completed NYISO studies demonstrate that there will be transmission constraints in the areas where the solar and offshore wind generation will be sited that will prevent the delivery of the energy generated by these projects. In addition, by 2040, the electric system in New York must be carbon-free. Given that a substantial portion of New York load is located in southeastern New York where there are limited options to develop renewable resources and there is excess renewable energy in the areas that can accommodate these projects, it is clear that investment in additional transmission must be made to have the necessary system infrastructure in place to serve these customers.[8]

As part of this year's budget process, the State further supported its ability to meet the CLCPA's mandates by enacting the Renewable Siting Act. In addition to structuring a new siting process limited to renewable resources to facilitate permitting these facilities, the Renewable Siting Act contains important provisions designed to facilitate transmission development. First, it directs that local distribution and bulk transmission studies must be completed before year end to define system needs. Second, while the Renewable Siting Act points to the role that the NYISO's PPR process may play in transmission development, it also acknowledges some transmission projects

[7] While the CES 2.0 White Paper suggests there is the potential for offshore wind generation to be developed in the Great Lakes and proposes the development of a feasibility study for these resources, the CES 2.0 White Paper acknowledges that this generation resource is unlikely to be cost competitive in either Tier 1 or OREC solicitations at this time and it would be located in the area of the State where the greatest proportion of renewable energy development relative to native load is already situated. (*See* NYPSC Case 15-E-0302, *supra*, "White Paper on Clean Energy Standard Procurements to Implement New York's Climate Leadership and Community Protection Act" (dated June 18, 2020) (hereinafter, "CES 2.0 White Paper") at 41-43.)

[8] The NYISO has confirmed the need for additional transmission capability to support both land-based renewable projects in Upstate New York and the offshore wind generation projects in southeastern New York. (*See* NYPSC 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*, "Comments of the New York Independent System Operator, Inc. on Petition Requesting Adoption of Criteria for Guiding Evaluation Whether a Bulk Transmission Investment Should Be Designated as a Priority Transmission Project" (dated September 14, 2020) (hereinafter, "Accelerated Transmission Planning Proceeding" and "NYISO Accelerated Transmission Proceeding Comments," respectively) at 3, 12 (characterizing the addition of transmission infrastructure as "essential to achieving New York State's climate change policy targets under the CLCPA and the [Renewable Siting Act].")

must proceed more expeditiously than can occur under this process.[9] It thus establishes that the New York Power Authority ("NYPA"), potentially together with private sector partners, will be charged with completing priority transmission projects.

Important developments have also taken place in the CES Proceeding itself. Specifically, in accordance with the CES Order, a triennial review was completed to assess the effectiveness of the CES Program to date. The CES Review confirms that substantial amounts of new renewable resources have been contracted beyond predefined procurement levels.[10] In addition, the CES Review further reports that New York has made a number of revisions to its procurement practices to increase the attractiveness of the New York market (*e.g.*, mandating annual solicitations on a known schedule) which have resulted in an increased number of siting applications and interconnection requests as well as more robust responses to NYSERDA solicitations for renewable energy projects. However, the CES Review also points to the fact that the actual development of these contracted projects has lagged behind. Were this lag to continue over time, it would produce a shortfall in supply compared to mandated REC demand.[11] The CES Review thus concludes that these delays reflect significant challenges that must be resolved by, *inter alia*, addressing siting and transmission-related needs.[12]

Likewise, to implement the CLCPA requirements and support the State's execution thereof, the New York State Energy Research and Development Authority ("NYSERDA") and the Staff of the New York State Department of Public Service ("DPS Staff") issued the CES 2.0 White Paper to define enhancements to the CES Program. Noting that "[t]he investment and procurement commitments for 70 by 30 are needed now in order [to] drive the availability of the quality and quantity of renewable resources required," the White Paper establishes that procurement of land-based and offshore wind projects must be completed by 2026 and 2027, respectively.[13] To effectively support NYSERDA's generation solicitations under the CES Program, determinations concerning the transmission projects that will address identified congestion points limiting the delivery of this energy to New York consumers must proceed expeditiously.[14] Indeed, while the

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[9] Concerns have previously been raised that the NYISO's past PPR efforts have taken too long to be completed. To that end, the NYISO has highlighted enhancements it has made to its PPR process based on the lessons learned in the WNY and AC PPR efforts and has committed in its filing made last month to complete its PPR process within 18 months of the Commission's designation of a PPR to the extent practicable. (*See* NYISO Accelerated Transmission Proceeding Comments at 9-10.)

[10] *See* CES Review at 16, 54.

[11] *Id*. at 16.

[12] *Id*. at 55.

[13] CES 2.0 White Paper at 3, 26, 38 (further establishing, "Achieving the 70 by 30 Target is a necessary and foundational precondition for achieving the 2040 Zero Emission Target.").

[14] *See*, *e.g.*, NYPSC Case 20-E-0197, *supra,* "Comments of Clean Energy Parties Concerning Petitions for Priority Transmission Project Designations" (dated September 14, 2020) (pointing to the need for over 100,000 GWh of renewable energy generation by 2030 based on current forecast levels and noting, "An earlier in-service date for a transmission investment will provide more certainty for developers, making it easier for them to obtain financing and move forward with their projects. Given the 3-4 years of necessary lead time for the development of renewable projects before they can become operational, the sooner the transmission investment in-service date, the faster these projects

CES 2.0 White Paper supports revisions to the NYSERDA solicitation materials directing each proposer to provide information concerning its respective project's energy deliverability and potential curtailments due to transmission constraints in the first instance, the NYISO's recent studies addressed *infra* make it abundantly clear that additional transmission capability must also be developed to support the renewable energy build-out of the system.[15] Equally importantly, the CES 2.0 White Paper acknowledges the potential for a transmission backbone approach to support offshore wind generation development and proposes the adoption of a new tier to account for New York City renewable energy needs that will undoubtedly include transmission components, including, potentially, offshore wind generation levels incremental to the 9,000 MW mandated by the CLCPA.[16]

Taken together, the State's actions over the past two years further bolster the need for the Commission to act under the PPR process by identifying the CLCPA as a PPR as expeditiously as possible. As it considers the specific criteria to be applied for this PPR, it should consider the Renewable Siting Act's directive for NYPA, potentially assisted by private sector partners, to proceed with those transmission projects that the Commission identifies as requiring more expeditious resolution. To that end, Transource urges the Commission to review the transmission studies produced in the Accelerated Transmission Planning Proceeding before year end, consider the proposals submitted in response to the Notice in the NYISO's 2020 PPR Process, consider the proposals submitted by NYPA and assess the proposed priority transmission project criteria submitted by DPS Staff in the Accelerated Transmission Planning Proceeding. Upon comprehensive review, the Commission should issue orders in both cases that identify the transmission projects that will be built under each of these programs to ensure renewable energy development proceeds most effectively.

B. Extensive Studies as Well as Actual System Operations Since 2018 Demonstrate a Growing Need To Expand Transmission Capability To Accommodate the Delivery of Renewable Energy Mandated by the CLCPA

As reflected in the comments filed in response to the NYISO's notice soliciting PPRs in the 2018 PPR Process, in 2017, the NYISO analyzed the potential to interconnect 2,400 MW of offshore wind generation, finding that while it appeared technically feasible from a thermal assessment perspective only, projects would be required to augment the system in accordance with

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can be built and interconnected, making it more likely that the state will meet the CLCPA's 2030 renewable energy mandate.").

[15] *Id*. at 29-30, 33 (proposing NYSERDA should be given authority to reject proposals outright that are not "presently viable" and noting the transmission studies required by the Renewable Siting Act "will provide helpful context for both developers and NYSERDA going forward."). As noted *supra*, the NYISO has established in Commission proceedings that transmission must be built for the New York system to be able to effectively deliver renewable energy to New York consumers statewide.

[16] *Id*. at 40-41(noting the State continues to study the potential for alternative transmission networks, including an examination of the current constraints on the system and an analysis of the onshore transmission upgrades needed for 9 GW of offshore wind generation to be sited in New York); *see also* CES 2.0 White Paper at 50-52.

the findings of the far more extensive studies conducted in the NYISO's interconnection study processes.[17] Indeed, based on the NYISO 2017 Offshore Study, PSEG Long Island responded to the NYISO's notice in the 2018 PPR Process by proposing that the then-prevailing offshore wind generation goal of 2,400 MW drove the need for transmission in southeastern New York and, in particular, on Long Island, a point LIPA again emphasized in its Commission Referral earlier this summer.[18] At that time, the NYISO also had just completed a study of the effects of a renewable energy build-out in which the NYISO tracked the assumptions used in the CES Proceeding and found four areas where significant transmission congestion either already existed or was projected in the future.[19] Likewise, NYISO operations reports issued at that time confirmed that renewable energy on renewable energy curtailments were already occurring on the New York system in these early stages of the CES Program's implementation.[20]

Critical to the Commission's assessment of whether to declare a PPR in this proceeding, the NYISO's more recent studies confirm these earlier results and reveal far more severe and frequent transmission constraints are likely to occur in the future. Indeed, given the much larger resource procurement requirements mandated by the CLCPA, these studies not surprisingly

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[17] *See* New York Independent System Operator, Inc., "Offshore Wind Injection Assessment" (presented at December 1, 2017 Electric System Planning meeting) (hereinafter, "2017 Offshore Study"), available at https://www.nyiso.com/documents/20142/1400973/OSW.pdf/c2ec9086-ea7b-f01c-66d6-ff4446a566fc. Transmission needs to deliver offshore wind generation into the New York system will be composed of two components: (i) ocean-based transfer; and (ii) land-based upgrades to deliver the energy from the landing point to the identified substation. The CES 2.0 White Paper establishes both aspects are being actively studied and points to, *inter alia*, the transmission studies that must be completed by year end in accordance with the requirements of the Renewable Siting Act as one source of expected analysis. (*See* CES 2.0 White Paper at 40-41.) The PPR process can be utilized for both components but, consistent with the structure successfully utilized for the AC PPR. The two should be designated as separate parts of a PPR to enhance competition and permit flexibility in designing transmission infrastructure solutions.

[18] *See* NYPSC Case 18-E-0623, *supra*, LIPA Referral of 2018 Determination (dated July 30, 2020) (hereinafter, "LIPA Referral"). In its response to the NYISO's notice in the 2018 PPR Process, Transource demonstrated that the CES Program should be designated a PPR. (*See* Transource 2018 PPR Comments, *passim*.) LIPA's proposed PPR addresses the offshore wind generation component of the CES Program specific to interconnections on Long Island, and thus, Transource supports LIPA's request for Commission action on its Referral as part of the 2018 PPR Proceeding. The 2018 PPR Proceeding has long satisfied all procedural requirements under SAPA and is ripe for Commission action at any time. Given the facts and circumstances detailed herein, expeditious action is warranted.

[19] *See* New York Independent System Operator, Inc., "Public Policy Transmission Needs Study – Transmission Constrained Renewable Generation Pockets" (presented at July 27, 2018 Electric System Planning meeting), available at https://www.nyiso.com/documents/20142/2176070/PPTN_genpockets_ESPWG_20180727.pdf/27ba1fee-59ed-6602-02ba-1cc7ad8ffa60. The 2018 analysis drew "bubbles" around certain areas of the State where constraints are an issue for the delivery of renewable energy to consumers identified as Pocket W (Western New York in the Niagara Rochester and Gardenville areas), Pocket X (NYISO Zone D – North Country), Pocket Y (Eastern New York in the Mohawk Valley and Hudson Valley corridors) and Pocket Z (Southern Tier).

[20] *See, e.g.,* New York Independent System Operator, Inc., "Operations Performance Metrics Monthly Report – August 2018" (issued September 11, 2018); New York Independent System Operator, Inc. "Operations Performance Metrics Monthly Report – December 2017 (issued January 10, 2018). Curtailments have routinely been required during both summer and winter periods.

demonstrate that system constraint issues have only grown more dire since the NYISO initiated the 2018 PPR Process in August, 2018.

Specifically, in its 2019 CARIS Report, the NYISO conducted a 70 x 30 scenario analysis to identify the potential system constraints that would be experienced as the CLCPA is implemented.[21] Building on its work in 2018, the NYISO "drilled down" on the expected impacts in the four "bubble" areas previously identified as evidencing significant constraints by identifying specific lines that are constrained and the degree of congestion on these lines. This scenario analysis provided important basic information outlining the type of constraints the system will face as the 70 x 30 mandate is implemented. It was constructed using the build-out assumptions that laid the foundation to assess system impacts in the CES Proceeding and incrementally adding more capacity to reach the 70 x 30 level. The location and size of the facilities assumed in the scenario were generally sound. For example, when compared against the proposed renewable projects that are nearing completion of the NYISO's interconnection process by participating in Class Year 2019,[22] there is a direct correlation between the study assumptions and real world developments. It is clear that -- absent a corresponding increase in transmission capability -- renewable energy on renewable energy curtailments will grow more severe and more frequent over time as more of these resources are added to the system. Critical to the specific technology requirements delineated in the CLCPA, both solar and offshore wind generation projects would face significant curtailments of the energy that can be delivered to New York consumers. However, as established in Point D below, to ensure the PPR efforts lead to the development of transmission infrastructure that most meaningfully and efficiently augments the existing system in the timeliest manner, the Commission should direct the NYISO to begin revamping the base case used in the CARIS report immediately to reflect the renewable projects that are most likely to be constructed as addressed below.

Moreover, as anticipated when the NYISO issued its 2017 Offshore Study limited to thermal analyses, subsequent NYISO studies have confirmed that offshore wind generation projects are likely to trigger substantial system upgrade requirements, a result that could reasonably have been expected given the size of the offshore wind generation projects and the limited options available to interconnect these facilities in New York City and Long Island. As

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[21] *See* New York Independent System Operator, Inc., "2019 CARIS Report – Congestion Assessment and Resource Integration Study" (dated July 20, 2020) (hereinafter, "2019 CARIS Report"), available at https://www.nyiso.com/documents/20142/2226108/2019-CARIS-Phase1-Report-Final.pdf/bcf0ab1a-eac2-0cc3-a2d6-6f374309e961?t=1595619194867.

[22] Class Year 2019 is currently composed of 78 projects, the vast majority of which are renewable resources. (*See* New York Independent System Operator, Inc., "Class Year 2019" (presented at September 25, 2020 Transmission Planning Advisory Subcommittee meeting), available at https://www.nyiso.com/documents/20142/15597382/02a_CY19_Slides_TPAS-IPFSWG_Sept25-Draft.pdf/3d2ebfcf-27fa-bd2d-8b0e-78689478ccbb. As reflected in the map of projects developed by the NYISO as part of its most recent Class Year 2019 presentation and attached hereto as Attachment A, these projects are almost all located in the areas that have long been identified as facing significant transmission constraint issues and are, thus, highly likely to face significant curtailment absent timely transmission upgrades. Thus, while the type of these projects (e.g., the amount of land-based wind projects versus the amount of front of the meter solar projects) and the specific number of MWs in each of these areas may ultimately differ, overall, the impacts identified have a firm basis and have provided important and timely context.

reflected in the preliminary deliverability results for Class Year 2019, both Empire Wind offshore wind generation projects are included in the groups of projects in New York City and on Long Island that have been identified by the NYISO as requiring significant upgrade facilities to permit their respective interconnection to the system.[23] Absent a defined transmission plan to support this component of the CLCPA, addressing the interconnection issues for offshore wind generation to be deliverable to New York consumers in southeastern New York on a "one-off" basis is only likely to become more complicated and require additional upgrades.

Finally, as established in the comments responding to the NYISO's solicitation in the 2018 PPR Process, NYISO Operating Committee reports were already identifying renewable generation on renewable generation curtailments in 2018.[24] While the levels vary day by day and month to month, renewable generation curtailments continue today.[25] As established in the NYISO's CARIS analyses, they will only become more severe as more renewable resources are added to the system.

Taken together, this evidence demonstrates that transmission upgrades are required to make renewable energy deliverable to New York consumers in accordance with the CLCPA's 70 x 30 mandate. Thus, swift Commission action is needed now to ensure the necessary transmission upgrades are completed expeditiously.

C. The NYISO PPR Process Delineates Cost Allocation and Cost Recovery Principles That Will Support Expeditiously Identifying and Developing Transmission Solutions

As a threshold matter, given the extent of transmission upgrades that will likely be required, cost quantification and allocation will be critical considerations. When the NYISO is assessing project viability and sufficiency and then ultimately choosing the more efficient and cost effective project to be awarded a PPR, the Commission should require the NYISO to confirm all costs of a

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[23] *See* New York Independent System Operator, Inc., "Class Year 2019 Studies – Preliminary Deliverability Analysis" (presented to May 21, 2020 Operating Committee meeting) at 18, 23 (identifying transmission upgrade in New York City to be addressed by a group of projects with an initial estimate of $300 million and a series of three additional transmission upgrades on Long Island to be addressed by a different group of projects with an initial estimate of $350 million collectively). This study is ongoing with complete results expected in December or January for the New York City and Long Island upgrades, respectively. Empire Wind's New York City project was one of the two projects that were the announced recipients of OREC contracts in NYSERDA's first OREC solicitation. (*See* New York Energy Research and Development Authority web site, "Governor Cuomo Executes the Nation's Largest Offshore Wind Agreement and Signs Historic Climate Change Leadership and Community Protection Act" (dated July 18, 2019), available at https://www.nyserda.ny.gov/About/Newsroom/2019-Announcements/2019-07-18-Governor-Cuomo-Executes-the-nations-largest-osw-agreements.)

[24] *See* n.20, *supra*.

[25] In its monthly Operations Reports to the Operating Committee, the NYISO presents graphs quantifying the total amount of curtailments by month and identifying the monthly energy curtailments by limiting constraints. (*See*, *e.g.*, New York Independent System Operator, Inc., "Operations Performance Metrics Monthly Report – August 2020 Report" (presented at September 17, 2020 Operating Committee meeting) at 10.)

proposed transmission project have been quantified.[26] The Commission should also address cost allocation considerations. The NYISO's PPR Process delineates a multi-step approach to define cost allocation and cost recovery for the regulated projects selected as the more efficient and cost effective solutions to identified PPRs. These rules are based on compliance with a set of cost allocation principles and expressly provide a mechanism for the Commission to identify the cost allocation methodology in its order identifying a PPR which would then be submitted to the Federal Energy Regulatory Commission.[27] In the absence of a designated methodology, OATT Attachment Y specifies the default cost allocation methodology for PPR projects is based upon a load ratio share methodology.[28]

Given that the CLCPA is designed to address climate change and thus benefit New Yorkers statewide, the PPR structure is particularly well-suited to ensure the costs for these projects are shared fairly. Thus, as the Commission assesses which needs to designate under the NYISO's PPR process and which needs are better addressed by NYPA as priority transmission projects, the Commission should carefully consider these cost allocation considerations and define allocation parameters for each PPR declared and each priority transmission project assigned to NYPA, including the cost allocation mechanisms that will apply when NYPA exercises its authority under the Renewable Siting Act to partner with private sector participants to complete a priority transmission project. Providing that information directly from the outset will spark competition among prospective developers and lead to more efficient solicitation processes and awards.

D. The PSC's PPR Designations Should Require the NYISO To Establish a Study Base Case Using Updated System Information and To Use Selection Metrics That Require Projects To Utilize Advanced Transmission Technologies To Cost Effectively Improve Transfer Capability, Streamline Siting and Limit Environmental Impacts

When the Commission implemented the CES Program, it correctly emphasized, "…it is important that the design and operation of the bulk electric system and wholesale markets be modernized, much like is being done at the distribution level."[29] OATT Attachment Y, Section 31.4.2.1 authorizes the Commission to identify criteria the NYISO must use when it completes its viability and sufficiency evaluation. The CLCPA is designed to combat climate change by advancing the State's progress to a more carbon-free future. To most effectively address the transmission needs driven by this broad-sweeping public policy requirement and bring a state of the art revitalized transmission system to New York, the Commission should tailor the CLCPA

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[26] To that end, the cost effectiveness of a project should be quantified on a per energy unit delivered ($/MWh) basis and must include an accurate assessment of all costs associated with the transmission infrastructure proposed.

[27] *See* NYISO OATT, Attachment Y, §§ 31.5.2.1, 31.5.5.4.1.

[28] *Id*., § 31.5.5.4.3.

[29] *See* CES Order at 75; *see also id*. at 3 (highlighting as major factors driving the implementation of the CES Program the related needs to "combat climate change and modernize the electric system to improve the efficiency, affordability, resiliency and sustainability of the system.")

PPR to ensure an updated system configuration is used in the NYISO's evaluation and solutions are chosen that utilize advanced transmission technologies.

First, to align with the State's ongoing REC and OREC contracting efforts and the CLCPA's mandates setting the 70 x 30 directive and requiring specific MW levels by technology, the Commission should direct the NYISO to evaluate projects under the CLCPA PPR using a base case based not only on its base case inclusion rules but also consideration of whether to include each project that previously has been awarded a REC or OREC contract. To anticipate the full build-out of the system under the CLCPA and to identify the location of additional new renewable resources, the NYISO should account for the status of projects on its interconnection queue and obtain feedback from NYSERDA and DPS Staff.[30] The NYISO should then be directed to review this information with Market Participants to finalize the base case.[31] This will ensure that transmission solutions are assessed using the most updated depiction of the existing system and likely system additions.[32] To jump-start this effort, the Commission should issue an order in its pending 2018 PPR Proceeding directing the NYISO to build the base case immediately.[33]

Second, based upon the Commission's PPR designations to date,[34] it is highly likely that project proponents will be required to utilize existing rights of way to the extent feasible to

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[30] For example, the NYISO should assess projects that have advanced to the point of meeting the eligibility requirements to participate in a Class Year.

[31] Taking this approach is consistent with the Commission's determination in it is 2016 PPR Order that transmission solutions must address the size and location of new renewable projects which, in turn, dictate the nature and extent of system upgrades required to ensure renewable generation is not curtailed. (*See* 2016 PPR Order at 25.)

[32] The CES 2.0 White Paper recommends REC and OREC solicitations must continue on an annual basis until 2026 and 2027, respectively, and must be designed to secure the substantially increased MW levels mandated by the CLCPA over this limited time frame. (*See* CES 2.0 White Paper at 26, 38-39.) While the 70 x 30 scenario analysis incorporated in the NYISO's CARIS report provided important information, the CARIS base case was frozen before the latest rounds of NYSERDA REC and OREC solicitations were announced, and thus, could not incorporate the most updated information. Likewise, the NYISO has completed a series of extensive revisions to its class year processes including the development of an expedited deliverability study process. These changes are designed to ensure proposed projects can complete the interconnection process more quickly. When selecting the more efficient and cost effective projects under the CLCPA PPR solicitation, it is critical for the NYISO to ensure the most updated information is utilized to complete the analyses.

[33] As noted *supra*, LIPA has filed a Referral with the Commission in the 2018 PPR Proceeding demonstrating that offshore wind generation development off the coast of Long Island under the CES Program constituted a PPR that drove the need for transmission action and requested Commission action on this discrete issue in that proceeding. Were the Commission to take the action LIPA has requested, the NYISO must develop the next PPR base case which it could then use as the basis for PPRs identified in the 2020 PPR Process. In its Accelerated Transmission Proceeding Comments, the NYISO committed to immediately work on base case development and other remaining steps in its process upon the designation of a PPR. (*See* NYISO Accelerated Transmission Proceeding Comments at 12.) These steps would further augment those efforts and more fully support ongoing renewable energy development under the CES Program thereby increasing the likelihood that the CLCPA mandates are achieved.

[34] *See, e.g.,* NYPSC Case 12-T-0502, *Proceeding on Motion of the Commission to Examine Alternating Current Transmission Upgrades*, Order Finding Transmission Needs Driven by Public Policy Requirements (issued and effective December 17, 2015) (hereinafter, "AC PPR Order") at Appendix B (explicitly proscribing the acquisition of new permanent transmission rights of way).

minimize environmental impacts and limit siting issues. Likewise, renewable resources can only be located in certain areas in New York State with the geographic characteristics to provide the necessary fuel and generation footprint (*e.g.*, sufficient land in open areas to site solar farms, offshore areas where leases have been awarded, in-land areas with sufficient wind characteristics). To most efficiently utilize these rights of way and augment transmission system capability effectively, the Commission must designate the requirement to utilize advanced transmission technology as a selection metric that must be applied by the NYISO in its viability and sufficiency evaluation. This selection metric should encompass specific criteria to most effectively integrate the large number of new renewable resources mandated by the CLCPA into the New York system, including the degree to which the proposed advanced transmission technology:

- Uses existing rights of way to increase transfer capability or to install higher voltage upgrades
- Streamlines siting and construction activities
- Increases system efficiency by reducing line losses
- Reduces visual impacts (*e.g.*, by utilizing shorter towers)
- Ameliorates environmental impacts (*e.g.*, by utilizing less intrusive towers)
- Reduces electromagnetic field impacts
- Avoids costly series compensation equipment and any issues or shortcomings associated with its operation over the long term
- Provides ongoing operational benefits (*e.g.*, by shortening maintenance outages to install new and replacement circuits)

Neighboring regions have incorporated advanced technologies into transmission upgrade projects. Specifically, by utilizing an advanced transmission technology known as BOLD® in several system rebuilds completed in Indiana, structures that were 30 percent shorter increased transfer capability in existing rights of way by nearly 60 percent and reduced EMF impacts.[35] Moreover, because this advanced transmission infrastructure design presents fewer visual and other environmental issues, projects are sited and developed more quickly.

In assessing each of the criterion identified herein, the NYISO should be directed to quantify the incremental benefits provided by the advanced technology and compare them against the benefits of traditional technology solutions. To accurately account for the significant benefit afforded by some advanced transmission technologies of increasing the existing transfer capability while continuing to utilize the same rights of way, the NYISO should be required to assess benefits on a $/MW basis. By incorporating this selection metric into the transmission solution phase of the NYISO's PPR solicitation process, the Commission will address the need to modernize New York's transmission system by ensuring it will be more versatile, flexible and well-tooled to

[35] Since 2016, American Electric Power has successfully energized more than 70 miles of BOLD® double-circuit 138 kV and 345 kV projects which have utilized both monopole and lattice designs. As of October 2020, an additional 20 miles of BOLD 138 kV double-circuit rebuild has begun construction in Indiana with an additional 40 miles of BOLD 345 kV under consideration in Texas. The performance of these installed systems has met or exceeded design criteria in all areas, including but not limited to, increased transfer capability, EMF reduction, system reliability, and reductions in line and system losses.

accommodate future system configurations as the State proceeds to its 2040 carbon-free electric system end state.

II. Conclusion

The CLCPA was enacted to combat climate change by dramatically reforming the composition of the New York electric system and includes mandates for the construction of substantially larger amounts of renewable resources within an accelerated time frame and a directive for New York's electric system to ultimately be carbon free by 2040. Based on the extensive studies conducted to date, the CLCPA's mandates can only be met however if there is correspondingly a significant build-out of the transmission system to support these new projects.

For the foregoing reasons, the Commission should thus issue an order as expeditiously as possible: (i) designating the CLCPA, as manifested in part by the ongoing implementation of the CES Program, as a PPR; (ii) defining the associated cost allocation mechanisms; and (iii) delineating the selection criteria set forth herein.

Very truly yours,

David E. Rupert

David E. Rupert
Director, Transmission Business Development
Transource New York, LLC

Attachment A

New York ISO
Independent System Operator
UNIT TYPE
Solar
DC
Wind
CC
ES
CC-NG
NG
Hydro
Methane
Diesel
Full CY Projects: 38
CRIS Only Projects: 40
Q565 Tayandenega Solar 20 MW St. Johnsville - Inghams 115 kV
Q682 Grissom Solar 20 MW Ephratah - Florida 115 kV
Q495 Mohawk Solar 98 MW St. Johnsville - Marshville 115 kV
Q619 East Point Solar 50 MW Sharon - Marshville 69 kV
Q564 Rock District Solar 20 MW Sharon - Cobleskill 69 kV
Q748 Grissom II Solar 20 MW Market Hill - Johnstown 69 kV
Q620 North Side Solar 180 MW Massena - Moses 230 kV
Q546 Roaring Brook Wind 78 MW Chase Lake 230 kV
Q531 Number 3 Wind 105.8 MW Taylorville - Boonville 115 kV
Q560 Deer River Wind 100 MW Black River - Lighthouse Hill 115 kV
Q734 ELP Ticonderoga Solar 20 MW Ticonderoga 115 kV - Republic Line 2
Fulton County Landfill 3.2 MW Ephratah - Amsterdam 69 kV
Q618 High River Solar 100 MW Stoner - Rotterdam 115 kV
Q638 Pattersonville 20 MW Rotterdam - Meco 115 kV
Q730 Easton Solar I 20 MW Mohican - Luther Forest 115 kV
Dahowa Hydroelectric 10.5 MW Cement Mountain 34.5 kV
Q731 Easton Solar II 20 MW Battenkill - Eastover 115 kV
Q735 ELP Stillwater Solar 20 MW Luther Forest - Mohican 115 kV
Q570 Albany County 1 20 MW
Q598 Albany County 2 20MW
Long Lane - Lafarge 115 kV
Hannacroix Solar 5 MW Coxsackie 13.8 kV
Steinway Place Energy Storage (LDG-01300) 18 MW North Queens 27 kV
Q458 CH Interconnection 1000 MW Astoria Annex Substation 345 kV
Q770 KCE NY 8a 20 MW South Cairo Substation 13.2 kV
Q698 Ravenswood Energy Storage 2 129 MW
Q697 Ravenswood Energy Storage 1 129 MW
Rainey - Farragut 345 kV
Q572 Greene County I 20 MW North Catskill - Coxsackie 69 kV
Q573 Greene County II 20 MW Coxsackie Substation 13.8kV
Q597 Greene County 3 20 MW North Catskill - Coxsackie 69 kV
Q668 North Bergen Liberty 1172 MW West 49th St 345 kV
Q644 Columbia County 1 60 MW Craryville 115 kV
Q737 Empire Wind 816 MW Gowanus Substation 345 kV
Blue Stone Solar 21 MW Saugerties 13.8 kV Feeder
Spring Creek Tower 3 MW BRDSVL42 - 27 kV
Stillwell Energy Storage 10 MW Benl 27 kV
King's Plaza 6 MW Feeders #4811/4814 26.4 kV
Q778 Gowanus Gas Turbin Facility Repowering 549 MW Gowanus Substation 345 kV
Q637 Flint Mine Solar 100 MW LaFarge - Pleasant Valley 115 kV, Feura Bush – North Catskill 115 kV
KCE NY 14 20 MW Stanchest. 13.8 kV
LDG-00182-83-84 10 MW Cuddebackville 34.5 kV
Groundvault Energy Storage (LDG-01304) 12.5 MW
Cleancar Energy Storage (LDG-01330) 15 MW
Farragut Road Energy Storage (LDG-01370) 5.5 MW
ConEd Project# LDG-01355 19.99 MW
ConEd Project# LDG-01360 35 MW Greenwood 27 kV
Q791 Danskammer Energy Center 84.4 MW Danskammer 115 kV
Q678 Calverton Solar Energy Center 22.9 MW Edwards Substation 138 kV
Q575 Little Pond Solar 20 MW Mongaup - Shoemaker 69 kV
KCE NY 18 20 MW South Goshen 69 kV
Q683 KCE NY 2 200 MW Coldenham Substation 115 kV
Eagle Energy Storage 20 MW Elmsford 13.8 kV
Q612 South Fork Wind 96 MW East Hampton 69 kV
Q756 Rising Solar II 20 MW Sugarloaf Substation 69 kV
O&R Project# LDG-00188 19.99 MW Hartley 69 kV
Q695 South Fork Wind Farm II 40 MW East Hampton 69 kV
Monsey 44-6 Monsey 44-3 Monsey 44-2 5 MW Monsey 138 kV
Q746 Peconic River Energy Storage 150 MW Brookhaven - Sills 138 kV
Q335 Riverhead Exp 36 MW Edwards Substation 138 kV
Q487 Far Rockaway Battery Storage 20 MW Far Rockaway Substation 69 kV
Q738 Empire Wind II 816 MW Ruland Rd. Substation 138 kV
Q276 Homer Solar Energy Center 90 MW Cortland - Fenner 115 kV
Q721 Excelsior Energy Center 280 MW N. Rochester-Niagara Falls 345 kV
Q571 Heritage Wind 200.1 MW Lockport - Mortimer 115 kV
Ontario Landfill 3.6 MW Haley - Hal 34.5 kV
Q720 North Light Energy Center 80 MW Border City - Station 168 115 kV
Q704 Bear Ridge Solar 100 MW Mountain-Lockport 115 kV (Lines 103 and 104)
Q804 KCE NY 10 20 MW Erie Substation 34.5 kV
Q594 NW Energy 60 MW Wethersfield Substation 230 kV
Q759 KCE NY 6 20 MW Gardenville - Bethlehem Steel Wind 115kV
Q629 Silver Lake Solar 24.9 MW South Perry 34.5 kV
Q596 Alle Catt II Wind 339.1 MW Stolle Rd - Five Mile Rd 345 kV
Q591 High Top Solar 20 MW South Perry 34.5 kV
Q595 SW Energy 100 MW Five Mile Rd Substation 115 kV
Q519 Canisteo Wind 290.7 MW Bennett 115 kV
Q617 Watkins Glen Solar 50 MW Bath - Montour Falls 115 kV
Q718 Cortland Energy Center 50 MW Cortland-SUNY Cortland 115 kV
Q775 Puckett Solar 20 MW Chenango Forks Substation 34.5 kV
Q768 Janis Solar 20 MW Willet 34.5kV
Q579 Bluestone Wind 124.2 MW Afton - Stilesville 115 kV
Q706 High Bridge Wind 100.8 MW E. Norwich - Jennison 115 kV
Lake Ontario
Lake Erie
OSWEGO-SYRACUSE
NEW YORK CITY
ATLANTIC OCEAN
For more detail of the OSWEGO-SYRACUSE AREA see inset to right.
For more detail of the NEW YORK CITY AREA see inset.
NEW YORK STATE ELECTRIC SYSTEM MAP
2018 WITH 5 YEARS LOOKOUT
LEGEND
New York Independent System Operator
GENERATING STATIONS
EXISTING PROPOSED
Hydro
Pumped Storage
Thermal
Nuclear
Combustion Turbine
Combined Cycle
Wind
Solar
TRANSMISSION LINES
OVERHEAD CIRCUITS
UNDERGROUND CIRCUITS
115 KV, 138 KV
230 KV
345 KV
500 KV
765 KV
DC Cable
ELECTRIC SERVICE AREAS
CENTRAL HUDSON GAS AND ELECTRIC CORPORATION
CONSOLIDATED EDISON CO. OF NEW YORK, INC.
LONG ISLAND POWER AUTHORITY
NEW YORK STATE ELECTRIC & GAS CORPORATION
NATIONAL GRID
ORANGE AND ROCKLAND UTILITIES, INC.
ROCHESTER GAS AND ELECTRIC CORPORATION
DUAL FRANCHISE AREA
BOUNDARIES
County
State Park
TRANSMISSION STATIONS
Transmission Station
Denotes Number of Transmission Circuits
UTM, Zone 18, NAD 83
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Mapping: Carto-Media, 2010
File: CM_6157_001_Electric_System_Map_100628.mxd