
Proceeding on Motion of the Commission
to Implement Transmission Planning Pursuant
to the Accelerated Renewable Energy Growth
and Community Benefit Act.

CASE 20-E-0197

Comments on Implementation of the Transmission Portions of the Accelerated Renewable Energy Growth and Community Benefit Act

Dated: February 28, 2023

Submitted By:

Alliance for Clean Energy New York, New York Offshore Wind Alliance, Advanced Energy United,
and the Natural Resources Defense Council

I. EXECUTIVE SUMMARY

The Alliance for Clean Energy New York, the New York Offshore Wind Alliance, Advanced Energy United, and the Natural Resources Defense Council together submit these Comments on the Public Service Commission's considerable transmission-related actions since passage of the Accelerated Renewable Energy Growth and Community Benefit Act.

Our organizations recognize and applaud the Commission for the significant time and attention it has devoted to transmission system analysis and planning, as required by the Accelerated Renewable Energy Growth and Community Benefit Act, starting with issuance of the Initial Grid Study. Through this study and the subsequent follow-up analyses and actions, the Commission has examined the needs of the New York grid through the lens of New York's ambitious clean energy and climate goals; pursuing grid planning based on the clean energy system we are striving for, rather than the fossil fuel-based electricity system that we have traditionally had. Building additional transmission to facilitate the cost-effective integration of renewable energy is key to

New York's effort to tackle the climate crisis, and we appreciate that the Commission has taken on this complex and daunting task.

Second, in section III of these Comments, our organizations review several of the recent Commission actions regarding transmission and reflect on their impact.

Third, we respectfully submit the **following five recommendations** to the Commission as it continues its work on transmission planning for New York's clean energy transition, which are discussed more fully in section IV of these Comments:

- 1) **Transmission deployment needs to be accelerated to meet CLCPA mandates.** Approved projects in the Areas of Concern need to be accelerated in time. And to bring forth and analyze necessary upgrades to the bulk transmission system, and to accelerate transmission deployment with a 'transmission first' philosophy, and to meet CLCPA mandates, we urge the Commission to declare a Public Policy Transmission Need (PPTN) for the North Country, the Southern Tier, and Downstate in Case 22-E-0633.
- 2) To continue efficient and effective progress in grid planning and investment, the Coordinated Grid Planning Process (CGPP) proposed by utilities should be timely approved by the Commission in Case 20-E-0197 with the following ten important modifications:
 - i. Reduce the CGPP cycle from proposed 3 years to 2 years and synchronize it with the NYISO System and Resource Outlook and PPTN cycles.
 - ii. Require the utilities to evaluate bulk power solutions.
 - iii. Require inclusion of generation development and electrification levels in the CGPP evaluation on par with the CLCPA targets.
 - iv. Use CGPP study results aligned with CLCPA targets to set avoided costs for distributed energy resources (DER) evaluation.
 - v. Coordinate the CGPP process with gas system planning as fossil resources are phased out and some of the load shifted to the electric system.
 - vi. Ensure that the CGPP process produces the information necessary to enable a holistic evaluation of social equity impacts of the alternative grid solutions.
 - vii. Allocate transmission capability created through offshore wind PPTN process for offshore wind resources.
 - viii. Conduct comprehensive review of meshed grid models and paradigm selection for offshore wind.
 - ix. Treat storage like a transmission asset in planning and further consider it as a dual use resource.
 - x. Implement grid enhancing technologies (GET) rapidly.

- 2) To improve efficiency and timeliness, the PPTN process should be further streamlined. Both the NYISO and the PSC portions of the PPTN process need to be improved to reduce the time it takes to make decisions, and there should be synchronization between NYSERDA solicitations and PPTN decisions for offshore wind resources.
- 3) To accelerate transmission investments in high-priority and strategic locations, the Priority Transmission Project process established for the New York Power Authority (NYPA) in the Accelerated Renewable Energy Growth and Community Benefit Act should be used more fully.
- 4) To explore innovative options to reduce customer rate impacts from transmission costs, the Commission should consider actions to:
 - i. Maximize benefits associated with the U.S DOE Grid Deployment Office's Grid Resilience and Innovation Partnerships Program.
 - ii. Evaluate the use of Green Bond issuance by the State to secure low-cost financing for transmission investments.
 - iii. Implement optimal deployment of bulk and local solutions to increase cost effectiveness of the projects.

These five recommendations are discussed in more detail in section IV of these Comments.

II. INTRODUCTION

In its January 4, 2023, *Notice Seeking Comments* in the above referenced proceeding, the New York State Public Service Commission ("Commission") sought comments to assist it in performing a review required by the Accelerated Renewable Energy Growth and Community Benefit Act¹ ("Accelerated Renewables Act" or "Act"). The Act directed the Commission to report on the actions it had taken to implement its provisions and their impacts on grid congestion and achievement of the clean energy targets established in the Climate Leadership and Community Protection Act² ("CLCPA").

The Alliance for Clean Energy New York ("ACE NY"), the New York Offshore Wind Alliance ("NYOWA"), Advanced Energy United ("United"), and the Natural Resources Defense Council ("NRDC") have developed these Comments in response to the *Notice Seeking Comments*.

¹ Chapter 58 (Part JJJ) of the laws of 2020.

² Chapter 106 of the laws of 2019.

ACE NY is a member-based organization with a mission of promoting the use of clean, renewable electricity technologies and energy efficiency in New York State to increase energy diversity and security, boost economic development, improve public health, and reduce air pollution. Our diverse membership includes companies engaged in the full range of clean energy technologies as well as consultants, academic and financial institutions, and not-for-profit organizations interested in our mission.

NYOWA is the New York Offshore Wind Alliance, which works to ensure the timely and responsible development of offshore wind in the Atlantic Ocean off New York State's coast, at a level necessary to contribute to New York's mandate for a 100% emissions-free grid by 2040. NYOWA advocates for policies that achieve offshore wind power development and protect coastal and marine ecosystems, and will strive to create in-State, quality, family-sustaining jobs, and reinvestment in New York's disadvantaged communities.

United is a national association of businesses that are making the energy we use secure, clean, and affordable. United works to accelerate the move to 100% clean energy and electrified transportation in the U.S. Advanced energy encompasses a broad range of products and services that constitute the best available technologies for meeting our energy needs today and tomorrow. These include energy efficiency, demand response, energy storage, solar, wind, hydro, nuclear, electric vehicles, and the smart grid. United represents more than 100 companies in the \$238 billion U.S. advanced energy industry, which employs 3.3 million U.S. workers, including 157,000 individuals in the Empire State.

NRDC is a national nonprofit environmental organization with hundreds of thousands of members and online activists, including members and activists in New York State. NRDC has a long-standing interest in environmental issues in New York, particularly with respect to energy policy.

ACE NY, NYOWA, United, and NRDC are referred to collectively in these comments as "we," or "our." Our detailed comments follow.

III. RECENT COMMISSION ACTIONS RELATED TO TRANSMISSION

The January 4th *Notice Seeking Comments* lists the proceedings³ the Commission initiated and the actions the Commission has taken in these dockets thus far. Before moving into this specific enumeration of Commission actions and their associated impact, we wish to acknowledge the high priority the Commission and the Department of Public Service staff have dedicated to this issue. We appreciate the recognition that planning and constructing upgrades to the transmission grid is necessary to facilitate the cost-effective integration of renewable energy in New York, as our State progresses to its 70% by 2030 mandate and further tackles the climate crisis. We recognize that the task ahead is formidable, but the Commission has made clear through its policies and resource commitments that it is prepared to meet the challenge head on.

The Commission has taken the following specific actions:

- The ARA required identification of **priority bulk power transmission** projects by the New York Power Authority (NYPA) and the Commission, to be pursued to accelerate deployment of transmission in the State to facilitate CLCPA goals. The Commission timely adopted criteria for qualifications to pursue priority projects.⁴ This was a positive step. NYPA proposed two priority projects and the Commission approved one. Thus, the NYPA Northern New York Project, which is an important no-regrets transmission project, is the only project that has qualified so far as a priority transmission project. As we note in recommendation #4 below, the Commission should adopt an even more aggressive stance to the development of transmission, and we believe more projects should be proposed by NYPA and be designated priority transmission projects by the Commission.
- The Commission directed utilities to identify reliability or asset condition transmission projects that contribute to meeting CLCPA goals (**Phase 1 Projects**)⁵ and authorized development of certain of these local transmission projects. This is also a very positive step. The proposed Phase 1 projects by utilities are primarily needed for reliability and safety reasons. We note that some of the Phase 1 Projects are prerequisite to Areas of Concern (AOC) upgrades, but they do not necessarily increase the headroom for renewable resources by a significant magnitude.

³ New York Public Service Commission, *Order on Transmission Planning Pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act*, May 14, 2020, Case 20-E-0197.

⁴ *Id.*, Order on Priority Transmission Projects (issued October 15, 2020).

⁵ *Id.*, Order on Phase 1 Local T&D Project Proposals (issued February 11, 2021).

- The Commission declared a **Public Policy Transmission Need** (PPTN) for offshore wind downstate⁶. Our organizations applaud the Commission's action in this regard. We urge the Commission and the New York Independent System Operator (NYISO) to move expeditiously to project selection, as this declaration was made nearly two years ago. This will be an important investment that will help accommodate some, but not all offshore wind resources needed to meet both the CLCPA requirement for 9,000 megawatts (MW) and the Climate Action Council's Final Scoping Plan analysis for future offshore wind needs. Therefore, we recommend that, in the current PPTN cycle, the Commission designate additional PPTN for integration of more offshore wind resources downstate and for land-based resources upstate in support of CLCPA targets.
- The Commission directed electric utilities to develop and propose a **new coordinated grid planning process** (CGPP) and **propose transmission projects for Areas of Concern** (AOC) identified in NYISO studies. We applaud the development of the CGPP initiative, and the stakeholder process pursued to seek stakeholder input in improving the initial CGPP filed by the utilities. We do note that the CGPP process has been delayed so much that the new planning process, which still needs approval by the Commission, will not begin to be used until later in 2023. Further, our organizations supported the approval of the Areas of Concern projects recently approved by the Commission, and we appreciate that action. As ACE NY noted in its Comments on AOC proposals, all the AOC projects proposed by utilities are local transmission solutions. Thus, while helpful, they are not necessarily optimized with consideration of bulk power solutions at the same time. Further, the inputs used in the studies for renewable resources and distributed energy resources (DER) penetration are very conservative, leading to minimal transmission expansion whereas the transmission need is much larger. Finally, even these proposed projects have proposed in-service dates farther out in time and significantly lag the necessary development of renewable generation resources, thus not fully solving for congestion concerns for several years to come. In short, the AOC projects are quite positive, but not sufficient to fully meet the CLCPA mandates on time.
- We applaud the Commission sponsoring the complex Power Grid Study and requiring the New York State Energy Research and Development Authority (NYSERDA) to collaborate with other state agencies to develop a comprehensive analysis of constraints to the offshore and overland routing of **cable corridors** in support of the integration of OSW and to take steps to preserve the option of a **mesh offshore grid** in the future. The Commission and other involved state agencies should move expeditiously to identify policies and

⁶ New York Public Service Commission, *Order Addressing Public Policy Requirements for Transmission Planning Purposes*, March 19, 2021, Cases 20-E-0497 and 18-E-0623.

programs that support the delineation of offshore wind cable corridors that are cost-effective, technically viable, and avoid or minimize the associated environmental and equity constraints. Additionally, the Commission should work with NYSERDA, NYISO, relevant federal agencies, project developers and other stakeholders to address the technical, regulatory, operational, and commercial considerations that arise in transitioning to a meshed grid.

- Other actions taken by the Commission include headroom methodology development, cost allocation and recovery determination, and pursuit of advanced technologies. These are necessary prerequisites for a robust development of transmission, and we fully support the Commission doing so. We also acknowledge the enormous amount of time and resources committed by the Department of Public Service (DPS) staff in carrying out all these initiatives and being accessible to address stakeholder concerns through this journey.

IV. RECOMMENDATIONS

Our organizations respectfully submit the following five recommendations regarding transmission planning and policy making in this proceeding:

1. TRANSMISSION DEPLOYMENT NEEDS TO BE ACCELERATED TO MEET CLCPA MANDATES.

Transmission deployment is lagging the development of renewable generation resources. Further transmission also needs to be built to address the retirement of older fossil generation units and to serve load growth resulting from the electrification of the heating and transportation sectors. The speed of transmission deployment in the State needs to be accelerated. If not, renewable energy projects will be delayed, leading to the State not complying with the CLCPA mandates. Further, with increased uncertainty associated with transmission availability and concomitant potential for curtailment of renewable generation resources and/or low energy market prices for the renewable generators, the renewable developers will increase their renewable energy credit ("REC") bids, leading to increased costs to NYSERDA, and thereby to ratepayers. To illustrate the risk, it is noteworthy that several of the approved and proposed utility transmission projects in

Phase 1, the Areas of Concern, and Phase 2 envision in-service dates well into the next decade. Phase 2 projects aimed at facilitating renewable generation are not even fully defined. This is despite numerous studies by planning and transmission entities showing the need for a substantial number of upgrades across multiple areas of the grid, and legislation passed in 2020 calling for prioritization of transmission investments required for the state to meet its CLCPA targets.

Recently, in the context of offshore wind development, the NJ Board of Public Utilities (“NJ BPU”) noted that, “The Board finds that this “transmission-first” approach to offshore wind, undertaken in partnership with its regional grid operator, PJM Interconnection LLC (“PJM”), will lower costs, reduce the chance of delays in offshore wind projects, and minimize community and environmental impacts.”⁷ The focus of the NJ BPU is to plan transmission so that it is in place as new renewable offshore wind (“OSW”) generation comes online. The same “transmission first” approach is applicable for both OSW and land based renewable resources in New York.

The “transmission first” development, specifically aimed at the cost-effective integration of renewable resources, will likely mitigate risk premiums associated with transmission interconnection uncertainty within developers’ REC bids. These risk premiums are necessitated by the uncertainty surrounding the developers’ ultimate cost obligation and local transmission owners’ (“TOs”) construction timeframes for system upgrades revealed through interconnection cost studies undertaken by the TOs and the NYISO. Because the construction cost estimates are typically only solidified by the TO and NYISO with a larger unknown around the number of participants in the Class Year Facilities Study accepting their cost allocations *after* REC bids are submitted, developers must hedge against the possibility of higher than anticipated costs. Further, as discussed before, the potential for curtailment and low energy prices for the renewable generators can be addressed through transmission development, leading to lower REC bids and savings for customers. Finally, financing cannot be secured for successful completion of renewable generation projects if curtailment and congestion risks are material enough. We recommend that the Commission also consider this philosophy of transmission-first, which is in line with the Accelerated Renewables Act requiring the state to prioritize transmission investments needed for CLCPA targets to be met on time.

The following are illustrations of how delays in transmission deployment in New York are affecting the development of renewable energy projects today and in the future:

⁷ New Jersey Board of Public Utilities Order in Docket QO20100630: “In the Matter of Declaring Transmission to Support Offshore Wind a Public Policy of The State Of New Jersey,” (hereinafter “NJ SAA Order”), issued October 26, 2022.

Current Example 1: Watertown/Oswego/Porter Region

The most recent 2021 Class Year Study was completed on January 11, 2023. Five projects participated in the study (see table below) in the Watertown/Oswego/Porter Region. Of these projects, two had previously received NYSERDA contracts. The other three projects are eligible to participate in the current 2022 NYSERDA Tier 1 REC procurement or future procurements.

NYISO Queue #	Project Name	MW (AC)	NYSERDA Contract
Q774	Tracey Solar	119	2020 Award
Q864	NY38 Solar	120	2019 Award
Q881	New Bremen Solar	100	
Q882	Riverside Solar	100	
Q953	Sugar Maple Solar	125	

The results of the 2021 Class Year Study indicated that only a portion of each project would be deliverable as outlined in Figure 1⁸.

Figure 1: CY21 ROS Byway Assessment – Deliverable MWs

Project	Available Deliverable MW (in UCAP)	EFORD	Deliverable MW (in UCAP)	Deliverable CRIS MW
Q774	120	0.524	26.1	55
Q864		0.524	26.1	55
Q881		0.524	18.1	38
Q882		0.524	26.1	55
Q953		0.524	23.4	49.1

For all five projects to be fully deliverable, a System Deliverability Upgrade (SDU) was proposed consisting of rebuilding 25 miles of the Taylorville – Boonville Lines 5 and 6, which is estimated to cost \$200M (+/-50%)⁹. Developers either needed to accept their allocation of the \$200M SDU or their projects will not receive CRIS rights and likely experience high levels of curtailment.

⁸ Table 19 from Class Year 2021 Facilities Study System Upgrade Facilities (SUF) and System Deliverability Upgrade (SDU) Report, issued October 17, 2022

⁹ Class Year 2021 Facilities Study System Upgrade Facilities (SUF) and System Deliverability Upgrade (SDU) Report, issued October 17, 2022

Ultimately, 4 of the 5 projects rejected their cost allocation and only one project (Q864) accepted its cost allocation¹⁰. Since the other 4 projects dropped out of the class year study, the SDU analysis was rerun and determined to no longer be required for Q864. Although Q864 appears to be moving forward, the Taylorville – Boonville transmission constraint has likely led to 444 MW of late-stage projects to not proceed to construction (of which 120 MW had been contracted with NYSERDA).

As part of its AOC proposal, National Grid included a project which would specifically alleviate this constraint (W04 Taylorville – Boonville 115 kV Line Update). National Grid has estimated the cost to be ~\$254M and will have an estimated ready for load date of 1/17/2029.¹¹

Until the Taylorville – Boonville Lines 5 and 6 project is completed, in concert with the other AOC projects proposed by National Grid, it is unlikely any significant renewable generation will be able to be added to the 115 kV system in this region. Not including the projects discussed above, there are over 1,200 MW of queued wind and solar proposed in this area to interconnect to the local transmission system (<230 kV).¹² Of this, 170 MW has been contracted with NYSERDA and not yet been through the Class Year Study process. Until the underlying transmission constraint is resolved, any projects in this area that proceed through the Class Year Study are expected to receive similar SDUs that were identified in the 2021 Class Year Study. This will more than likely lead to the cancellation of the majority of these projects.

Similar situations are expected to occur throughout New York State on other projects proposed as part of the AOC upgrades. The generation is currently ready to be built and more is waiting in the NYISO queue, however, the transmission system will continue to limit the amount of generation that can come online until transmission upgrades occur. It is imperative that we accelerate the schedule of projects like the Taylorville – Boonville Lines 5 and 6 project to avoid future renewables projects from being cancelled.

Current Example 2: Southern Tier and Watertown Areas of Concern

Several of the AOC upgrades in the Watertown and Southern Tier Areas of Concern have in-service dates currently scheduled through 2030, meaning contracted renewable projects in these areas are at risk of experiencing significant congestion and curtailment until all upgrades are in place.

¹⁰ Class Year 2021 Notice of Results of Initial Decision Period and Initiation of Second Round, November 24, 2022.

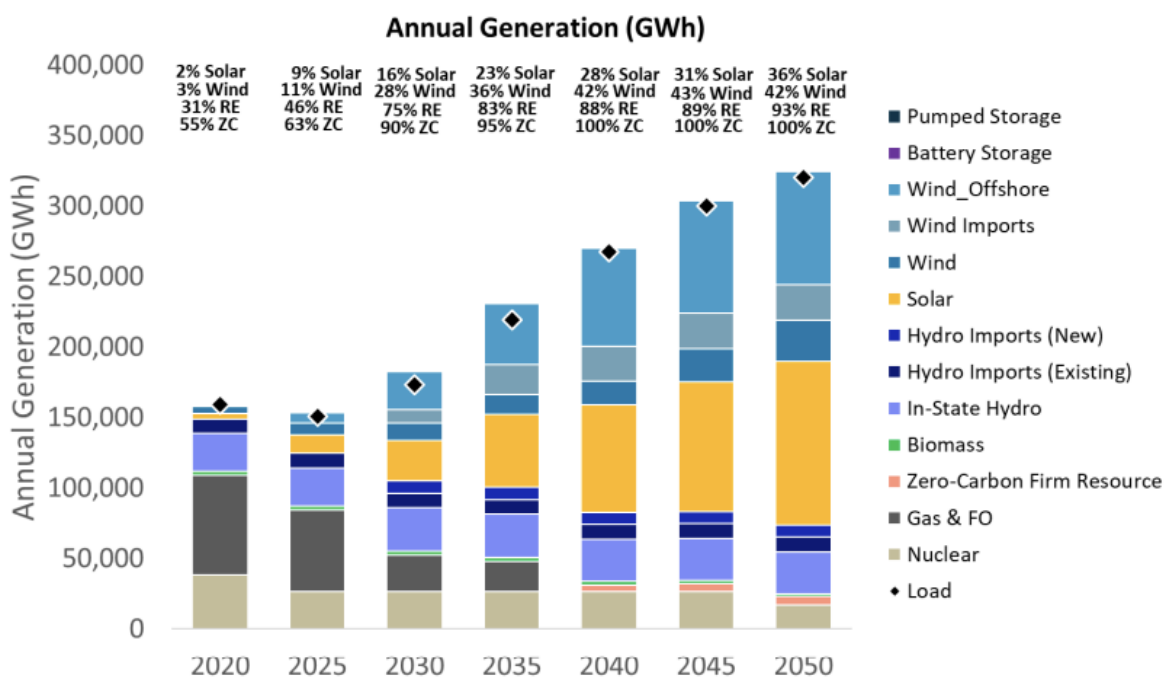
¹¹ *Petition of Central Hudson Gas & Electric Corporation, New York State Electric & Gas Corporation, Niagara Mohawk Power Corporation D/B/A National Grid, and Rochester Gas And Electric Corporation Identifying Area Of Concern Needs And Recommended Solutions*, March 8, 2022, Case 20-E-0197.

¹² Wind and Solar proposed on 115 kV in St. Lawrence, Jefferson, Lewis, and Oswego Counties - NYISO Interconnection Queue, dated October 2022.

Indeed, multiple grid facilities were shown to experience significant overloads in the local utilities' studies which, absent acceleration of upgrades, would lead to these facilities experiencing severe curtailment and congestion in the market. Furthermore, such overloads would only get worse if additional generation (beyond what was assumed in the study) projects including distributed energy resources come online through 2030 in these pockets.

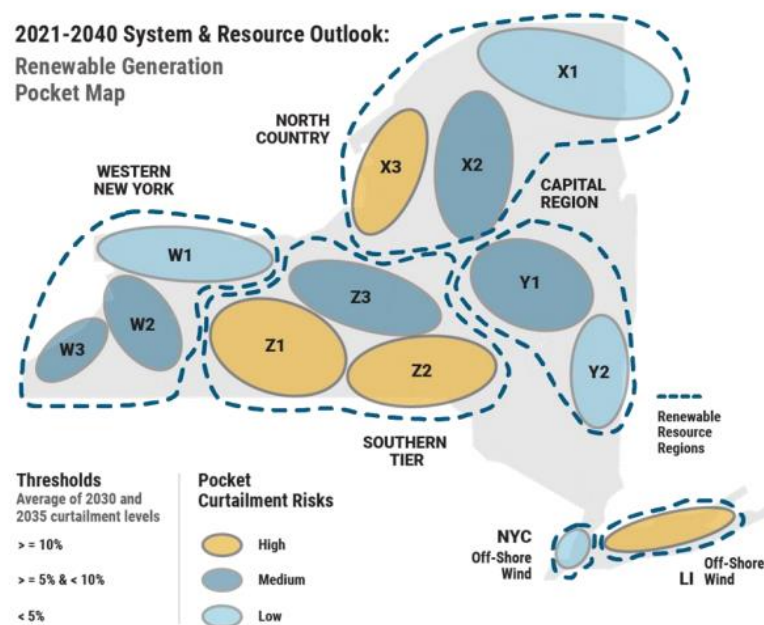
Future Example 1

Looking forward, the contribution of renewable energy generation in the State energy resource mix is expected to multiply several times from current levels, as shown in the chart below¹³. This would necessitate concomitant transmission deployment in a timely fashion. While the exact location and timing of the renewable resource may not be fully known today, through effective planning, the PSC and the NYISO can mitigate the risk of stranded transmission. Besides unlocking immediate areas of concern for contracted and advanced CLCPA resources to reach the grid, transmission investments act as signal for future generation siting in a way that optimizes the grid's existing and future headroom capacity.



¹³ See Appendix G in the Climate Scoping Plan at <https://climate.ny.gov/-/media/project/climate/files/NYS-Climate-Action-Council-Final-Scoping-Plan-2022.pdf>

Furthermore, the NYISO *2021-2040 System and Resource Outlook* finds that the introduction of large amounts of renewable generation will exacerbate existing deliverability challenges, resulting in growing levels of resource curtailment across several areas. For instance, in the North Country,¹⁴ the *Outlook* states, “The Watertown/Tug Hill Plateau renewable generation pocket (X3): the 115 kV 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.”¹⁵ Figures 31-36 in the *Outlook* depict the amount of renewable energy that may be curtailed in the Contracts and Policy Case Scenarios 1 and 2, for the years and 2030 and 2035.¹⁶ For example, under the Policy Case Scenario 2, solar resources can be curtailed by about 20% and 40% respectively for years 2030 and 2035 in pocket X3. The *Outlook* also designated the Southern Tier and Finger Lakes areas as highly vulnerable to curtailment of renewable resources (e.g., up to 25% curtailment for wind resources in pocket Z1 and up to 19% curtailment for solar resources in pocket Z3).¹⁷ Additional pockets were identified with low or medium risk, however, without timely investments in grid upgrades, these areas may well turn into high-curtailment risk areas.



¹⁴ NYISO, *2021-2040 System & Resource Outlook (Draft Report)*, available at <
https://www.nyiso.com/documents/20142/32663964/2021-2040_System_Resource_Outlook_Report_DRAFT_v15_ESPWG_Clean.pdf/99fb4cbf-ed93-f32e-9acfecb6a0cf4841>
(August 8, 2022) at 6.

¹⁵ Id., page 65.

¹⁶ Id., pages 73-78.

¹⁷ Outlook at Page 78.

To illustrate the need for more transmission, an example from MISO studies¹⁸ is presented below showing the need for increased transmission as a function of renewable energy development. The chart below highlights that high renewable penetration levels can only be achieved with higher levels of transmission capacity expansion.

Figure UC-3 shows the incremental complexity of all installed technology in the North, Central, and South MISO subregions. At 10% and 20% milestones, the integration complexity is even distributed across the regions. Between 30% and 40%, there is a significant increase in complexity in the North region, driven by an even combination of energy adequacy, steady state, and dynamic stability needs. At 50%, the incremental complexity is more evenly distributed between the North and Central regions. However, the largest percentage increase shifts to the Central region, driven primarily by energy adequacy and dynamic stability issues.

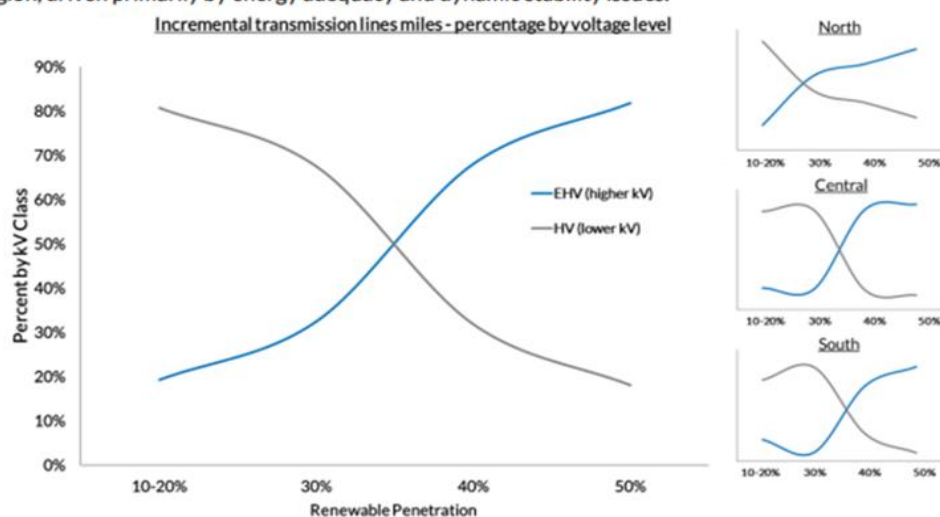


Figure UC-4: Ratio of incremental High Voltage (230 kV and below) and Extra High Voltage (345 kV and above) transmission at each renewable penetration level

At a minimum, we recommend that the Commission immediately declare PPTNs in the North Country and the Southern Tier upstate¹⁹ and in downstate for offshore wind,²⁰ as discussed in the ACE NY and NYOWA filing with the Commission on February 21, 2023 in Case 22-E-0633. These recommendations are consistent with the viewpoint expressed by the NYISO in the same matter;

¹⁸ <https://cdn.misoenergy.org/RIIA%20Summary%20Report520051.pdf>

¹⁹ “Comments on Proposed Transmission Needs Driven by Public Policy Requirements Submitted by the NYISO November 7, 2022, submitted by The Alliance for Clean Energy New York and Advanced Energy United” <https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={83B5555B-E84B-431E-9D04-9419119F202C}>

²⁰ Comments of ACENY and NYOWA: “Proposed Public Policy Transmission Needs”: <https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={8E66BC54-7AA4-44E6-B3C1-84548216AB0C}>

namely, "the NYISO supports the Commission identifying a Public Policy Transmission Need to supply offshore wind energy to New York City to maximize the efficient use of existing constrained cable corridors for the benefit of ratepayers. The NYISO further supports the Commission identifying Public Policy Transmission Needs to address transmission-constrained renewable generation pockets in upstate New York."²¹

2. THE PROPOSED CGPP PROCESS NEEDS TO BE ADOPTED WITH MODIFICATIONS.

Our organizations urge the Commission to approve of the CGPP proposed by the utilities in a timely manner, but with the ten following important modifications:

- a) **Reduce the CGPP Cycle from proposed 3 years to 2 years.** The utilities' proposed revised CGPP, filed December 27, 2022, envisions a two-year study process for the TOs and an additional year for the Commission to make decisions. This could and should be shortened to 18 months for the TO study process and a 6-month decision making process for the Commission. Three years is too long of a cycle and will delay implementation of renewable energy projects. As seen with the AOC project proposals, many upgrades in-service dates span over many years, with congestion relief not fully achieved until all upgrades are in place; timely identification of future needs is thus required to bring upgrades into service before material congestion and curtailment of CLCPA resources happen. If the CGPP was a two-year process, the NYISO *Outlook* could be completed at the same time as the CGPP study, and then NYISO's PPTN process could evaluate whether there are any bulk solutions that are more effective than the local solutions identified in the CGPP.
- b) **Require the development of bulk power solutions.** In developing transmission solutions, the TOs currently focus their attention on proposing local transmission projects, as they have an obligation to do so. The NYISO identifies potential congested paths as part of its planning process but does not propose or recommend solutions. It appears that there is no obligation on any entity in the State to propose bulk power solutions unless a PPTN is triggered. As has been acknowledged by many parties in various comments before the Commission, bulk power

²¹Docket No 22-E-0633, Comments of New York Independent System Operator, Inc. <<https://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={8684E18D-65FE-4D87-8474-2D5004DEAA6B}>>, submitted February 21, 2023, at 16.

solutions need to be considered alongside local transmission solutions to identify the optimal mix between local and bulk power solutions. If exclusively local solutions are pursued as proposed in AOC by the TOs, the solutions may not be optimal, and consumers ultimately could be paying a higher cost than necessary.

This gap in the planning process needs to be fixed. For example, the NYISO could, based on their studies, file their bulk power solution PPTN recommendations with the PSC for their consideration when its *Outlook* study is completed. In other words, NYISO, as the planning entity responsible for bulk transmission expansion, should accompany its current *Outlook* study with specific recommendations for PPTN needs and submit them to the Commission. Additionally, the PSC could require the TOs to consider, evaluate and propose bulk power projects as part of the CGPP study process for both inter and intra-zone constraints identified in the CCGP assessments. The bulk power projects in either case could still be subjected to a PPTN process or proposed via NYPA authority.

Furthermore, bulk solutions could be proposed for both inter and intra-zonal constraints. The December 2022 CGPP proposal offers an opportunity for a bulk solution to be proposed for consideration only between zones and not within a zone. Utilities should be allowed to propose bulk solutions for local constraints, if either bulk-only or a combination of bulk and local grid upgrades would be more robust and cost efficient for the system. Even within the CGPP process, NYISO or a third-party evaluator should assess the different solutions with a bulk component, including against proposed local solutions to preserve integrity and confidentiality of solutions which could be proposed by utilities as well as independent transmission companies. As per the December 2022 CGPP proposal, utilities are to compare local projects with “any viable and sufficient bulk projects that are identified from PPTN process,” which can reduce the scope of solutions proposed and identified to begin with, given general concerns with the subjectivity embedded in the proposed CGPP design.

- c) **Require inclusion of generation and electrification levels in the CGPP evaluation on par with the achievement of CLCPA targets.** Given that the CGPP is proposed to identify upgrades required for meeting CLCPA targets, the renewable build out should be on par with the electrification necessary to achieve these targets and aligned as much as possible or as appropriate with the NYISO *Resources and System Outlook* Policy Scenarios. Furthermore, as recognized in the December 2022 CGPP proposal, distributed resources are a big component of the future clean energy mix and need to be properly accounted for within the CGPP process for an integrated distribution and local transmission planning. DER deployment has accelerated and any mismatch between the transmission capacity of the local system and the cumulative flows from both DER and large-scale renewables on that system would result in the

curtailment of large-scale renewables, since DERs cannot be curtailed. Given lower lead times for DER development compared to lead time of grid upgrades and large-scale renewables, stress analyses should be conducted to determine the appropriate amount of DER resources and identify both local and distribution upgrade needs in a timely fashion.

d) Use CGPP study results aligned with CLCPA targets to set avoided costs for DER evaluation.

Comprehensive, time-varying avoided costs are critical in regions with clean energy policies and high renewable penetration, because the value of avoided energy, capacity, and emissions vary significantly with time. Aligning the CGPP study with achievement of CLCPA targets will internalize the cost of policy compliance in a manner that can help establish more accurate and comprehensive avoided costs for DER cost effectiveness evaluation. Using CGPP study outputs aligned with the achievement of CLCPA targets to set time-varying avoided costs enables DER solutions to be considered on an even playing field with local and bulk transmission solutions and hedges against costly overreliance on transmission upgrades to achieve CLCPA targets because as grid upgrade costs increase, so do the avoided cost that justify increased DERs penetration to optimally compliment traditional infrastructure solutions.

e) CGPP process should coordinate with gas system planning. The clean energy transitions of the utility gas system and electric system are inextricably linked and thus should be planned together. According to the Climate Scoping Plan, “All the information before the Climate Action Council indicates that achievement of the emission limits will entail a substantial reduction of fossil natural gas use and strategic downsizing and decarbonization of the gas system.”²² The Plan’s integration analysis identified the vast majority of current fossil natural gas customers (residential, commercial, and industrial) will transition to electricity by 2050 and identified fossil natural gas use reductions statewide by at least 33% by 2030 and by 57% by 2035.²³ The Scoping Plan thus calls for a well-planned and strategic downsizing of the gas system.²⁴ The transition of the gas system has significant, location-specific implications for electric grid upgrades that require electric and gas system planning to be closely coordinated.

The Commission should require that the CPGG consider electric and gas consumption, technology options, prices, and sales in an integrated manner.²⁵ Each gas utility has a different

²² New York State Climate Scoping Plan, Page 350.

²³ *Id.*

²⁴ *Id.*

²⁵ Asa Hopkins, PhD, Alice Napoleon, Kenji Takahashi, *Gas Regulation for a Decarbonized New York: Recommendations for Updating New York Gas Utility Regulation*, Synapse Energy Economics, June 29, 2020. <https://documents.dps.ny.gov/public/MatterManagement/MatterFilingItem.aspx?FilingSeq=248440&MatterSeq=62227>.

relationship with the electric utility or utilities that serve its customers. In some cases, the utilities are part of the same corporate entity, in other cases not. The GCPP should incorporate and reflect each utility's situation and demonstrate how the utilities are working together.²⁶

- f) **Ensure CGPP produces information to evaluate social equity impacts.** The CGPP should include a process to produce the information necessary to enable a holistic evaluation of equity impacts of the alternative grid solutions identified through capacity expansion modeling. Many equity impacts are difficult to accurately capture in a quantitative model based primarily on metrics like dollar values and greenhouse gas emissions. Given the complexity of the larger capacity expansion model, using imprecise or speculative quantitative metrics of social equity goals could be ineffective or even counterproductive. But even where they do not fit well within the model, equity impacts of potential grid solutions should be measured quantitatively in a way that is fair and objectively quantifiable to inform the best solutions for achieving state policy. Whenever possible, the equity impacts need to be evaluated early in the process; timely consideration allows greater input and can help avoid potential late-stage conflicts. The modeling and quantitative equity information should then inform a holistic discussion of the alternative viable solutions for their equity contributions and characteristics. Moreover, from a procedural standpoint, having a separate, social equity-focused stage of review can allow for greater transparency as to how that review is conducted. Having a social equity-focused review stage where community groups and advocates can voice their priorities would best facilitate the full consideration of the different needs and opinions that could inform siting of these projects.
- g) **Allocation of Transmission Capability Created through PPTN Process.** We recommend that the Commission coordinate with the NYISO to ensure that a mechanism is in place to lawfully reserve the transmission headroom created via the offshore wind related PPTN process to offshore wind resources meeting the identified public policy need. For example, should the Commission designate a PPTN enhancing the capability to integrate offshore wind into Zones J or K in the current biennial cycle, this capability should be expressly reserved for the intended use. Providing priority access to these facilities, consistent with the express purpose of the PPTN, will further the realization of public policy objectives, and ensure that ratepayer funds are going towards their desired outcome.

FERC has recently approved a transmission capacity reservation scheme under state/RTO implementation of FERC Order 1000.²⁷ Specifically, the New Jersey State Agreement Approach ("SAA") provides that NJ BPU has the right to assign the "SAA Capability" created by an SAA

²⁶ *Id.*

²⁷ Federal Energy Regulatory Commission, *Order Accepting Agreement*, April 14, 2022, FERC Docket No. ER22-902-000 ("SAA Order").

project to offshore wind generators or other public policy resources chosen in NJ BPU's ongoing solicitation process ("NJ BPU-designated generators"), consistent with the NJ BPU solicitation schedule. In summary terms, the SAA Agreement provides that:

- SAA Capability is created through the SAA transmission projects, which are studied in the regular PJM transmission planning process (RTEP).
- NJ BPU will assign this SAA Capability to awarded OSW projects no later than two years from a solicitation award date and before their System Impact Study.
- All SAA Capability must be initially assigned to OSW generators no later than two years from the last solicitation award date.
- This SAA Capability can become Capacity Interconnection Rights for the individual projects during that study.
- OSW projects may still be responsible for other upgrades beyond the SAA. These will be identified in the System Impact Study.²⁸

In approving the SAA Agreement, FERC found the distinction between NJ BPU-designated generators and other potential future users of the SAA project to not be unduly discriminatory or preferential. FERC reasoned that:

the SAA Project implements New Jersey's public policy, would not have been planned but for NJ BPU's decision to pursue the State Agreement Approach, and will be paid for by New Jersey customers. [footnote omitted] NJ BPU's designation of certain generators to receive the immediate benefit of the state's investment in the SAA Project is sufficient to distinguish them from other generators for purposes of the SAA Agreement. Other generators are not similarly situated to those designated by New Jersey because only the latter address New Jersey's Public Policy Requirements under the State Agreement Approach.²⁹

In a similar vein, ACE NY, NYOWA, United and NRDC would recommend that, for future offshore wind PPTN designations, the Commission ensure that it (or its designee) retains the ability to assign headroom to projects awarded contracts under NYSERDA Tier I and OSW solicitations.³⁰

h) For Offshore Wind, Address Comprehensive Review of Meshed Grid Models and Paradigm Selection. There has been considerable regulatory focus on the future of offshore grid design,

²⁸ PJM Planning Committee, [State Agreement Approach and New Jersey Offshore Wind](#), Feb. 8, 2022.

²⁹ SAA Order at 19.

³⁰ On February 20, 2022 NYOWA submitted comments in Docket 20-E-0197 urging PPTN designation for transmission investments supporting interconnection of a minimum of 6,000 MW into and out of Zones J and K. In those comments, we offered that an awardee under the current ORECRFP-22-1 offshore wind solicitation retain the prerogative to identify a newly-established POI that may be established via the PPTN process.

not only in New York, but in other neighboring states³¹ and regions³² and at the national level.³³ As discussed more fully below, NYOWA supports the Commission's recent adoption of a "meshed grid ready" optionality, beginning with the recently closed NYSERDA OREC-RFP22-1, as a prudent and measured step to preserve the potential benefits of transitioning to a more networked offshore system. Such investments could potentially support a more dynamic and integrated grid topology and future OSW market growth.

However, authorization of the interties that would integrate adjoining windfarms and ultimately move to a meshed grid network must be preceded by resolution of the attendant operational, economic, contractual, technical, and tariff-related considerations. Resolution of these myriad considerations are, in turn, dependent upon a threshold determination of the optimal model design. As highlighted in a recent Brattle Group report, *The Benefit and Urgency of Offshore Wind Transmission Planning*:

The optimal choices for transmission technology, offshore network configuration, and the design of meshed or backbone offshore links, in particular the offshore hubs/substations, are still uncertain... Without a selected network design and the further development of standards that ensure of interoperability of technology between different equipment manufacturers, shared or backbone offshore facilities face additional challenges compared to current radial approaches.³⁴

In its January 2022 review of the OSW-related elements of the Power Grid Study, the Commission revisited once again its commitment to the development of offshore wind transmission through radial configuration,³⁵ wherein each windfarm is directly connected to an onshore point of interconnection. ("POI") or POIs via independent high voltage export cables. The Power Grid Study offered a qualitative review of the costs and benefits of transitioning to a meshed network design, which would consist of multiple offshore wind farms connected to a shared offshore grid, which would in turn be connected to multiple interconnection points.

³¹ Cf. footnote 7, NJ SAA Order

³² Regional Transmission Initiative, Notice of Request for Information and Scoping Meeting, <https://newenglandenergyvision.files.wordpress.com/2022/09/transmission-rfi-notice-of-proceeding-and-scoping-revised.pdf>, September 1, 2022.

³³ Federal Energy Regulatory Commission, *Building for the Future through Electric Regional Transmission Planning and Cost Allocation and Generator Interconnection*, Notice of Proposed Rulemaking, 179 FERC ¶ 61,028 (2022)

³⁴ Brattle Group, [The Benefit and Urgency of Offshore Wind Transmission Planning: Reducing the Cost and Barriers to Achieving U.S. Clean Energy Goals](#), January 2023, at 57-8.

³⁵ OSW Framework Order, Page 54-8.

The Commission recited several potential benefits of a meshed grid design gleaned from the Power Grid Study and subsequent NYSERDA sponsored analysis of the meshed grid concept, including greater flexibility and adaptability to future wind energy area (“WEA”) designation; mitigation of generation tie line outages; reduced congestion; ability to direct generation to areas with the highest zonal value; and enhanced resiliency of the onshore grid. Additionally, the Commission noted that a meshed grid could be conceived more regionally, encompassing OSW generation serving New England and New Jersey, which could offer additional reliability and efficiency gains. Against these benefits, the Commission posited the greater cost and complexity that would accompany implementation of a meshed grid.

Noting however the lack of a full and comprehensive evaluation of the costs, benefits and challenges of a network grid, the Commission nonetheless directed several “no regrets” measures to preserve the optionality of implementing a meshed grid system in the future.

First, the Commission directed NYSERDA to require all bids in future solicitations to include incremental “mesh ready” design features that would provide for the optionality of implementing a meshed system in the future, should such a configuration be in the public interest. Second, the Commission further directed NYSERDA to build this optionality into future contracts, given the potential for future implementation of a meshed grid configuration, and the delivery to multiple load zones. As previously note, both directives have been implemented with ORECRFP 22-1.³⁶

Third, Staff is directed to work with NYSERDA in conducting a review of the “costs, benefits, and challenges” of a meshed grid offshore transmission network.³⁷ Moreover, the Commission listed several elements of the review, though noted that this list should not be considered as exhaustive:

While we will not prescribe the precise scope of such studies here, the Commission will need information on such diverse topics as: design elements and key determinants that would help New York State identify potential beneficial regional mesh connections and possible inter-regional networked transmission connections; recommendations for overcoming technical, regulatory, and other challenges to the development of an offshore system; whether such a project could enhance innovation opportunities for the benefit of ratepayers; and operational determinants to promote the efficient function of a regional mesh transmission system.³⁸

³⁶ Purchase of Offshore Wind Renewable Energy Certificates, Request for Proposals ORECRFP22-1 at §4.3.1; and Appendix I, Standard Form Offshore Wind Renewable Energy Certificate Purchase and Sale Agreement.

³⁷ OSW Order at 12-3.

³⁸ Id. at 13.

We are not clear on the status of the above-described studies, which, we agree will be critical to resolving uncertainties around the desired design of New York’s offshore grid. Nor has the Commission established a date certain for when these studies are to be completed. While we support the direction, we would offer the following process suggestions.

First, the offshore grid analysis should be completed in conjunction with the expected release of NYSERDA’s Offshore Wind Master Plan 2.0, which will explore opportunities for OSW development in the deeper ocean environment, and presumably include expanded and extended OSW deployment targets to meet New York’s CLCPA decarbonization goals for 2040 and 2050. This will facilitate a more holistic and integrated planning effort bringing together Wind Energy Area identification, generation, and offshore transmission.

Second, the Commission should establish a stakeholder working group to further delve into the matters presented in the Staff/NYSERDA comparative analysis of benefits, costs and challenges associated with alternative development paradigms. This review will help inform the Commission’s threshold determination of whether and how to pivot away from traditional radial design.

Third, as noted, there are a number of important details on how the meshed grid construct would be integrated with the regulatory and operational structure designed to support the onshore grid and as currently overseen by the NYISO. These issues are most readily and efficiently addressed once an optimal model design has been designated. We would urge the Commission to work with the NYISO and NYSERDA to identify a forum and process for advancing these more detailed considerations.

Fourth, the Commission should take into consideration any meshed grid relevant findings coming out of the Atlantic Offshore Wind Transmission Study³⁹ being led by the National Renewable Energy Labs. This two-year study, is currently on schedule for release by October 31, 2023, and focuses on the following core tasks:

- Evaluate coordinated transmission solutions to enable offshore wind deployment along the U.S. Atlantic Coast, addressing gaps in previous analyses;
- Compare different transmission technologies and topologies, quantify costs, assess reliability and resilience, and evaluate key environmental and ocean co-use issues; and
- Produce timely results to inform decision making and offer feasible solutions, data, and models that may benefit stakeholders in their own planning processes.

³⁹ <https://www.nrel.gov/wind/atlantic-offshore-wind-transmission-study.html>.

- i) **Storage should be treated like a transmission asset in planning.** Storage is a unique asset that can provide least-cost reliability and a market solution in wholesale markets.⁴⁰ This is due to its unique capability to provide transmission and generation services (dual-use storage) to the interconnecting system. The deployment of storage is relatively much faster than transmission lines which take 5 to 10 years considering siting, permits, procurement, and installation of equipment. As a dual-use resource, storage is a fast-responding resource which can play a key role in mitigating the reliability impacts and supporting operations.

Specifically, storage assets are modular and flexible, highly responsive, efficient, compact, comparatively easy to site, and cost-effective (example: applicant proposed utility energy storage as a transmission asset to improve efficiency and operations).⁴¹ In many cases, energy storage can optimize transmission buildout or more efficiently meet transmission needs where a traditional transmission solution may not be possible or may be exceedingly difficult given local conditions. However, in the current deliverability assessment, storage is considered as generation only for the purposes of interconnection studies, meaning that the benefits of dual use resources are unaccounted for.

One probable reason for the exclusion of dual use energy storage resources in the current deliverability assessment is that ISOs have historically focused on the resolution of issues only after they are considered immediate, resulting in almost every reliability-related need being solved by the incumbent TO. In keeping with the state's proactive, holistic grid planning approach, it is important that storage resources are evaluated along side other transmission technologies. ISO-NE recently adopted a Storage as a Transmission Only Asset (SATO) proposal, which seeks to address system needs identified through regional planning processes. It addresses a barrier to participation by storage in ISO-NE by allowing for its participation as a transmission asset when identified as the best-fit solution as determined by an evaluation that puts storage resources on par with traditional transmission assets.⁴² In other words, this framework allows for the consideration of electric storage facilities as regulated transmission solutions to address system needs alongside traditional wires-based solutions.⁴³

The benefits of such a framework can be seen in markets both across the U.S. and internationally, where the ability of storage to meet identified transmission needs while providing significant cost

⁴⁰ WECC published the following white paper proposing the dual-use storage in their region.
<https://www.wecc.org/Administrative/Energy%20Storage%20Services%20White%20Paper.pdf>

⁴¹ See (7- See, e.g., *Western Grid Development, LLC* 130 FERC ¶ 61,056 (2010)

⁴² See AEE comments on ISO NE "Revisions to Enable the Treatment of Storage As Transmission-Only Assets"

⁴³ See ISO-NE SATOA Filing Transmittal Letter in ER23-739-000, at 25.

savings, as compared to wires solutions, is evident. For example, in its 2020 transmission expansion plan, the Midcontinent Independent System Operator (“MISO”) selected a \$8.1 million, 2.5MW/5 MWh battery to “improve customer reliability,” that project was more cost-effective than the alternative of rebuilding double 115 kV transmission lines for \$11.3 million.⁴⁴

Given the unique characteristics of energy storage resources compared to traditional energy generation or load resources, new market rules and changes to the ISO’s existing energy storage optimization models may be needed to fully integrate these resources into the market, to leverage the flexibility of these resources to maintain grid reliability, and to maximize their use and effectiveness to achieve clean energy goals.⁴⁵

Demonstrative of what these new market rules may look like, in California, the Independent System Operator (“CAISO”) has created an Energy Storage and Distributed Energy Resources (ESDER) program to maximize the utility of energy storage resources given the state’s growing need for grid flexibility and reliability.⁴⁶ The ESDER program led to the development of a framework that allows energy storage resources to both provide transmission services and participate in the wholesale market. Specifically, these resources can bid into day-ahead and real-time energy markets, provide ancillary services, reduce congestion, delivery capacity, and increase system reliability. To mitigate the market power risks associated with the delivery of multiple services, CAISO has established rules and tariffs that specify how and when storage resources can receive compensation. Under this framework, transmission services are treated separately from energy sales; for instance, any energy sales the resource makes are compensated through CAISO’s market tariff, and any transmission services are compensated through the transmission tariff. To ensure that the value generated by this variety of services is rewarded fairly, CAISO created a bidding and clearing process specific to energy storage resources.⁴⁷

These Multiple-Use Applications (“MUAs”), as they are referred to in California, are intended to “enable energy storage systems to stack incremental value and revenue streams by delivering multiple services to the wholesale market, distribution grid, transmission system, resource adequacy requirements, and customers in whatever procurement venue they participate.”⁴⁸ To develop this MUA framework, the California Public Utility Commission (“CPUC”) solicited stakeholder input on energy storage configurations that provide multiple transmission and distribution services, regulatory issues that would need to be resolved to enable multiple-use applications, existing or possible future interconnection requirements that would enable such

⁴⁴ See Quanta Technology, “Storage as Transmission Asset Market Study” (January 2023), *available at* https://cdn.ymaws.com/ny-best.org/resource/resmgr/reports/SA_T_A_White_Paper_Final_01092.pdf

⁴⁵ https://cdn.ymaws.com/ny-best.org/resource/resmgr/reports/SATA_White_Paper_Final_01092.pdf

⁴⁶ <https://stakeholdercenter.caiso.com/StakeholderInitiatives/Energy-storage-and-distributed-energy-resources>

⁴⁷ <http://www.caiso.com/participate/Pages/Storage/Default.aspx>

⁴⁸ <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M206/K462/206462341.pdf; Page 9>

configurations, alternative dispatch coordination and prioritization procedures, and more. This in turn led to the development of a series of eleven rules for MUAs.⁴⁹ CAISO continues to explore enhancements to their compensation of these resources and has recently issued a proposal outlining strategies that have the potential to help storage scheduling coordinators better manage energy storage state of charge.

In keeping with New York's commitment to leading the nation in the integration and deployment of clean energy resources, the Commission should draw on the work done in CAISO and initiate a working group or task force to explore the possibility of creating a comparable MUA framework in New York.⁵⁰

j) **Grid Enhancing Technologies Should be Implemented.** The PSC should place greater emphasis on the integration of grid enhancing technologies (GETs), including but not limited to high-capacity advanced conductors, power flow controllers, and dynamic line ratings in its grid planning processes. These technologies can help integrate significant renewable resources by using capacity on existing transmission lines while needed new transmission is being built. As examples of the benefits that GETs provide, line ratings (DLR) and advanced power flow control (APFC) devices offer transmission providers the opportunity to do more with existing or proposed infrastructure. These technologies provide customers with more efficient and cost-effective solutions while maximizing limited rights-of-way and potentially avoiding or minimizing environmental and property impacts that can bog down siting and permitting proceedings. APFCs also have diverse applications due to their modularity, redeployment capabilities, substation placement flexibility, their capacitive and inductive capabilities, and their cost effectiveness relative to other solutions. Many DLR systems are also modular and can be utilized for the period that the DLR is beneficial before being redeployed on another line or network area. A line that meets DLR requirements today can later be re-conducted or complemented by the construction of additional transmission lines to permanently increase capacity. Advanced conductors, such as carbon core conductors (TS carbon core conductors and ACCC), can increase a line rating by approximately two-fold without the need to replace structures or acquire a new right of way.⁵¹ In this way, DLRs and advanced conductors can complement transmission enhancements and expansion. Ultimately, GETs like APFC and DLR provide an opportunity for enhanced grid efficiency by helping to minimize curtailments of zero marginal cost resources, like wind and solar, while minimizing congestion costs borne by consumers. APFC and DLR further provide an opportunity for enhanced grid efficiency by

⁴⁹ Decision 18-01-003: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M206/K462/206462341.pdf>

⁵⁰ <http://www.caiso.com/InitiativeDocuments/FinalProposal-EnergyStorageEnhancements.pdf>

⁵¹ ACCC conductor carbon/glass fiber core embedded in epoxy matrix: <https://ctcglobal.com/accc-conductor/>
TS Conductor | The Future of Energy Delivery: <https://tsconductor.com/>

helping to mitigate curtailment and congestion caused by ambient conditions such as wind, which helps avoid transmission losses at times of high resource demand.

Published in February 2021, a Brattle Group study further illustrated the potential of GETs for both grid reliability and the energy transition.⁵² Using the Southwest Power Pool (SPP) grid as a case study, researchers quantified the combined benefits of APFCs, DLRs, and topology optimization (which automatically identifies reconfigurations to re-route power flow around congested or overloaded facilities while also meeting reliability criteria) for the integration of renewable resources, with an emphasis on added capacity, economic impacts, and carbon emissions reductions. The study found that GETs enable the integration of over twice the amount of additional renewables as compared to the baseline scenario (2,580 MW in the base case and 5,250 MW in the GETs case). Further, the GETs scenario yields an estimated annual production cost savings of \$175 million, assuming a conservative \$20/MWh savings for 8,776 GWh of energy. Finally, the GETs scenario was associated with the creation of roughly 12,000 jobs, and a reduction of over 3 million tons of carbon per year.

The PSC should therefore prioritize evaluation of the myriad benefits of these advanced technologies and give preference to transmission proposals or scenarios that incorporate these GETs as part of a comprehensive transmission plan.

Our organizations urge the Commission to timely approve of the CGPP, with these ten important modifications (a – j), so that the utilities and other stakeholders can begin to implement the CGPP as soon as possible.

3. THE PPTN PROCESS NEEDS TO BE FURTHER STREAMLINED.

New York has taken the lead and successfully implemented the PPTN process that resulted in producing three sets of transmission projects (Western NY Empire State Line, AC Transmission Segments A&B from upstate to downstate and LI PPTN) so far. The NYISO also deserves credit for streamlining its PPTN process based on the lessons learned from the earlier PPTN iterations. However, there is definitely more room for improvement. The delay in declaring PPTNs in long-known areas of concern (AOC) is the leading cause of delay to get the bulk transmission system to where it needs to be to meet the state's clean energy mandates.

⁵² Brattle Report: Unlocking the Queue with Grid Enhancing Technologies:
https://watt-transmission.org/wp-content/uploads/2021/02/Brattle___Unlocking-the-Queue-with-Grid-Enhancing-Technologies___Final-Report_Public-Version.pdf90.pdf

For example, under the current **NYISO PPTN process**, winning projects need to be selected within a 13-month period from the submittal date of the bids.⁵³ The current schedule for the LI PPTN appears to take at least 21 months.⁵⁴ Opportunities to streamline the process should continue to be explored to meet the intent of the 13-month period.

Further, there are no specific timelines for action to be taken by the **PSC PPTN process**. For example, there is no timeline for when the PSC must make a decision once the NYISO submits the public policy need proposals it receives every two years. The Commission should strive to act on the PPTN need filings within 4-6 months after receiving them from the NYISO.

Our organizations also recommend that there be **synchronization between NYSERDA solicitation and PPTN decisions**. At times, responses to solicitations for renewable energy projects from NYSERDA are due before decisions on winning PPTN projects are finalized in the PPTN process. If the PPTN results are available, then responding to the NYSERDA solicitation would be more effective and efficient. To be clear, we are not suggesting a pause in NYSERDA procurements, but rather an acceleration of transmission project commitments. Going forward, it is vital that New York institute a more streamlined and coordinated approach to the development of transmission solutions to support the state's OSW goals. At a minimum, this would mean that the selection of any future project(s) through an OSW PPTN should be made prior to the release of any subsequent OREC solicitation. Doing so would give developers greater confidence in the availability of transmission, and greater certainty around project timelines and deliverability. Significant costs associated with project execution risks would be removed from bids, as greater certainty over system headroom and paths to interconnection are known when bids are submitted.

Improved coordination of the PPTN and OREC solicitation processes can significantly de-risk future OSW construction.⁵⁵ A state commitment to a "transmission first" strategy will limit developers' exposure to unanticipated costs for local and bulk transmission system upgrades as these cost estimates are refined and provide OSW developers greater confidence in their construction timelines and energy deliverability.

This will lower the risk of project attrition and provides policymakers with greater confidence that the projected benefits of the New York OSW program will be

⁵³ NYISO Manual 36: Public Policy Transmission Planning Process Manual Issued: June 2020, Table 1.

⁵⁴ For the LI PPTN, bids were submitted on October 12, 2021, and the NYISO Board decision may occur in the summer. Assuming the Board decision occurs in the middle of July, the total duration would be 21 months.

⁵⁵ OREC awards that are contingent on PPTN transmission projects may need to provide for the indemnification of OSW generation developers should the PPTN transmission project become delayed.

realized.⁵⁶ Awarding projects through a PPTN cycle prior to subsequent OREC solicitations will require a streamlining of the current PPTN approach. Given the long lead time of OSW and the urgency of the climate crisis, ACE NY and NYOWA believe that this rethinking of the PPTN cycle is critical to the success of the industry in New York. Without it, projects will face an increasingly challenging and uncertain interconnection landscape which will only compound the problem in the years to come.

4. FULLY UTILIZE THE NYPA PRIORITY TRANSMISSION PROJECT PROCESS

Amongst other options, one pathway to the acceleration of New York's transmission development efforts is the utilization of the authority granted to NYPA through Accelerated Renewable Energy Growth and Community Benefit Act to propose priority projects to the Commission for approval and development. This Act empowers NYPA, in collaboration with other parties as it deems appropriate, to develop bulk transmission projects found by the Commission to be critical to the achievement of CLCPA targets. NYPA may take on the development of the project itself or jointly with other parties. This authority is granted to NYPA with the intention that it develop projects in its existing right of way, and for projects partially or entirely outside of its jurisdiction, NYPA may partner with private sector participants through a competitive bidding process so long as such a project does not include generation lead lines or the repair, replacement, or upgrade of its own transmission assets. Upon receipt of such proposals, the PSC should expeditiously consider and approve projects that contribute to the development of CLCPA goals. Specifically, the PSC should prioritize the evaluation and approval of priority projects that address the areas of highest need on the bulk transmission system as identified by NYISO in its *System Outlook* or projects that could create headroom for renewable power project development in strategic locations or zones where there are current constraints that prohibit project development, but that would otherwise be amenable to wind or solar power project siting. We urge NYPA and the Commission to work together to proactively identify such locations, propose such projects, and apply the criteria that the Commission has adopted in this proceeding.

5. REDUCING CUSTOMER RATE IMPACTS FROM TRANSMISSION COSTS

While further transmission development to facilitate renewable generation is clearly required, all possible steps to reduce the rate impacts on customers should be pursued. Some suggestions are provided below for the Commission's consideration.

⁵⁶ New York's five contracted offshore wind projects will support 6,800 jobs statewide and yield over \$12 billion in economic activity. <https://www.nyserda.ny.gov/All-Programs/Offshore-Wind/Focus-Areas/NY-Offshore-Wind-Projects>. These numbers will naturally grow as New York expands its portfolio under ORECRFP22-1.

- a) **Maximizing benefits associated with the U.S Department of Energy’s (DOE) Grid Deployment Office’s (GDO) Grid Resilience and Innovation Partnerships (GRIP) Program.** The PSC should make proactive and coordinated efforts to maximize access to funding and support from the U.S. Department of Energy (DOE) through programs and grants made available by the Infrastructure Investment and Jobs Act (IIJA), which provides significant federal support to help states upgrade, expand, modernize, and increase the resilience of their transmission systems and grid infrastructure. This support includes both formula funding and competitive grants, with opportunities for states, local governments, public utility commissions, microgrid owners, utilities, transmission owners and operators, and more to apply. New York will need to prioritize planning and stakeholder engagement to maximize the potential of these programs for decarbonization, equity, and economic opportunity. Specifically, federal funding dedicated to the build out of transmission infrastructure is available through several programs. Section 50151 of the Inflation Reduction Act (“IRA”), for Transmission Facility Financing, would appropriate \$2 billion through 2030 for a direct loan program for specific transmission projects. Eligibility for this funding is contingent upon a project being located in a National Interest Electric Transmission Corridor (NIETC), which the DOE has the power to designate if the project/location meets certain criteria. These criteria include the promotion of energy security and the facilitation of renewable generation interconnection. While no NIETCs currently exist,⁵⁷ DOE has suggested that it will designate NIETCs for lines that the developer has already identified as presenting a meaningful investment opportunity, facilitating transmission expansion based on economic opportunity. This NIETC framework additionally opens the door to DOE’s preemption of FERC’s siting authority, as the authorizing statute establishes that FERC may issue construction permits on a DOE-designated NIETC, and FERC’s criteria for the issuance of such permits aligns closely with DOE’s for the Transmission Facility Financing funding.⁵⁸

Section 50152 of the IRA, for Grants to Facilitate the Siting of Interstate Electricity Transmission Lines, would appropriate \$760 million through 2029 for grants designed to facilitate the siting of on and offshore transmission lines. Essentially this section grants siting authorities with funding for transmission project studies, evaluation of alternative siting corridors, negotiations with project backers and opponents, participation in federal and state regulatory proceedings, and the promotion of economic development efforts in impacted communities. Eligibility for these grants is contingent upon the siting authorities’ issuance of a decision on a project within two years.

⁵⁷ It should be noted that in the past, the DOE has identified certain transmission corridors in New York as NIETC corridors. (Cite)

⁵⁸ See <https://www.niskanencenter.org/an-energy-department-power-play-could-reshape-the-electric-grid/>

Section 50153 of the IRA, for Interregional and Offshore Wind Electricity Transmission Planning, Modeling and Analysis, would appropriate \$100 million through 2031 for expenses related to the convening of stakeholders and the analysis of interregional transmission development (for on and offshore resources). This pocket of funding is especially relevant to New York given its involvement in the novel State Agreement Approach with New Jersey and would contribute to the state's ability to bring offshore wind online in collaboration with neighboring states in a cost-effective and mutually beneficial manner.

We commend the collaborative long-term transmission planning efforts that led up to the development of the most recent Coordinated Grid Planning Process proposal and believe that the plans and information resulting from these efforts form a strong foundation for New York to be successful in securing access to DOE funding and support. Finally, while we urge New York to move expeditiously toward the submission DOE proposals, we emphasize the importance of presenting DOE with a clear and coordinated proposal that builds on existing regional plans and identified needs. This is more important than the speed of submission. New York has the benefit of already having started the process of coordinated regional long-term planning; seeing existing efforts through and leveraging them in applications for funding and support will be to the state's advantage.

- b) **Securing Low-Cost Financing.** In the past, the State used what could be termed as "green bonds" to raise low-cost capital towards environmentally driven investments. These were channeled through NYSERDA to utilities. The State should again explore the use of green bonds to help reduce financing costs for transmission investments that are driven by CLCPA goals.
- c) **Optimal deployment of bulk of local solutions to increase cost effectiveness of the projects.** As discussed before, the consideration and implementation of bulk power solutions along with local solutions would likely reduce overall transmission costs.

V. CONCLUSION

ACE NY, NYOWA, United, and NRDC appreciate the opportunity to respond to the January 4th *Notice Seeking Comments* issued in this proceeding. In these Comments, we have attempted to (1) recognize and appreciate the significant efforts of the Commission and its Staff in implementing the transmission portions of the Accelerated Renewable Energy Growth and Community Benefit Act; (2) provide the perspective of our collective organizations on the recent actions taken by the

Commission with respect to transmission, and (3) make recommendations to respond to the significant transmission system needs that we see.

Through the Accelerated Renewable Energy Growth and Community Benefit Act, the Legislature gave the Commission the very challenging and complex task of identifying the comprehensive needs of New York's power grid in the context of the clean energy mandates of the CLCPA. And further, to meet those needs through grid investments. The Commission has assertively taken on that task and met the requirements of the law - so far. As our recommendations have attempted to illustrate, though much work has been done, much more is needed. We recognize we are asking the Commission to be even more bold in planning and achieving the electricity grid that New York needs to fully achieve a 70% renewable grid by 2030, a 100% emissions-free grid by 2040, and an emissions-free grid that meets increased power demand in 2050.

Our specific near-term recommendations are to declare several PPTNs so as to have a full suite of informed options to meet the identified needs; approve of the CGPP with ten specific modifications; improve and streamline the PPTN process; utilize the NYPA priority transmission project option more fully; and explore some cost-saving opportunities, especially with the Department of Energy.

Lastly, we recognize that this will be an ongoing and iterative process, and our organizations look forward to working with the Commission in this proceeding to achieve the grid of the future in New York.