STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

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

JOINT UTILITIES' COMMENTS ON THE INITIAL REPORT ON THE NEW YORK POWER GRID STUDY

On January 19, 2021, the Department of Public Service Staff (DPS Staff) issued the Initial Report on the New York Power Grid Study[1] in the above-captioned Transmission Planning Proceeding. The Initial Report contains recommendations from DPS Staff and the New York State Energy Research and Development Authority (NYSERDA) to the Public Service Commission (Commission) concerning three component studies that, together, comprise the Power Grid Study (PGS): (1) the Utility Transmission and Distribution Investment Working Group Report (the Utilities' Report);[2] (2) the Offshore Wind Integration Study: Final Report (OSW Integration Study);[3] and (3) the Zero-Emissions Electric Grid in New York by 2040 (the

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1 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* (Transmission Planning Proceeding), Initial Report on the New York Power Grid Study (January 19, 2021) (Initial Report).

2 Transmission Planning Proceeding, Utility Transmission and Distribution Investment Working Group Report (November 2, 2020) (Utilities' Report).

3 Tabrizi, Michael, Manos Obessis, and Steven MacLeod. Offshore Wind Integration Study: Final Report, prepared by DNVGL, PowerGEM, and WSP Global for NYSERDA and NY DPS (January 2021). The OSW Integration Study appears as Appendix D of the Initial Report.

Zero Emissions Study).[4] These comments from the Joint Utilities[5] respond to the Initial Report's recommendations primarily as those relate to local transmission and distribution (LT&D) planning and investment that will be necessary to achieve the milestones required under New York's Climate Leadership and Community Protection Act (CLCPA).[6] These aspects of the Initial Report are based on proposals contained in the Utilities' Report.

The Joint Utilities agree with most aspects of DPS Staff's Initial Report and particularly emphasize the Initial Report's conclusion that LT&D investment is needed to meet the State's near-term clean energy mandates.[7] DPS Staff, NYSERDA, and the New York Independent System Operator, Inc. (NYISO) participated in the Utility Working Groups in developing the Utilities' Report. Further, the Joint Utilities support continuing collaboration among these parties, including to focus on how best to expedite high-priority Phase 2 projects[8] when such acceleration is practicable. The Utilities disagree, however, with the Initial Report's suggestion that Phase 2 projects will not be needed until 2030. Rather, Phase 2 project development should continue in the interim to lay the groundwork for other projects, such as electrification and

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4 Jay Boggs and Ben Stravinsky. Zero-Emissions Electric Grid in New York by 2040, prepared by Siemens Power Technologies for NYSERDA (January 2021). The Zero Emissions Study appears as Appendix E of the Initial Report.

5 The Joint Utilities are Central Hudson Gas & Electric Corporation (Central Hudson); Consolidated Edison Company of New York, Inc. (Con Edison); Niagara Mohawk Power Corporation d/b/a National Grid (National Grid); New York State Electric & Gas Corporation (NYSEG); Orange & Rockland Utilities, Inc. (O&R); and Rochester Gas and Electric Corporation (RG&E) (collectively, Joint Utilities). Throughout this document, when referring to a single or generic company the term "utility" will not be capitalized.

6 Chapter 106 of the Laws of 2019. CLCPA is available at https://legislation.nysenate.gov/pef/bills/2019/S6599

7 Transmission Planning Proceeding, Initial Report, p. 6.

8 Transmission Planning Proceeding, Utilities' Report, p. 2. The Utilities' Report defines Phase 1 LT& D projects as those that are "immediately actionable projects that satisfy Reliability, Safety, and Compliance purposes but that can also address bottlenecks or constraints that limit renewable energy delivery within a utility's system." These projects may have been approved as part of a utility's existing rate plan or are in a utility's current capital pipeline. The Utilities' Report defines Phase 2 projects as projects that "tend to have needs cases that are driven primarily by achieving CLCPA targets." They "increase capacity on the local transmission and distribution system to allow for interconnection and delivery of new renewable generation resources within the utility's system." *Id.* These projects are not currently in a utility's capital plan, and methods of allocating and recovering costs must be addressed as these projects are evaluated.

progress toward New York's environmental goals. Discussions on Phase 2 projects will need to include cost allocation and recovery issues that have been the subject of considerable work by the Joint Utilities, but that have not yet been addressed by the Commission.[9] The Joint Utilities recommend that the Commission adopt the regulatory policy recommendations proposed in the Utilities' Report to allow Phase 2 projects to be developed on timelines that create overall benefits to customers. Collaboration among DPS Staff, NYSERDA, and the Joint Utilities should also include development of methods to identify priority areas that require more immediate attention to facilitate the delivery of renewable energy that is or will otherwise be bottled because of constraints.

In addition, the Joint Utilities primarily agree with the Initial Report's recommendation that the Joint Utilities continue to consider the potential benefits of advanced technologies, when they are appropriate alternatives for proposed projects, to cost-effectively relieve system constraints and achieve environmental objectives. However, the application of these technologies must continue to be evaluated carefully and targeted to appropriate opportunities. In addition, such application should not hinder the progress of Phase 1 projects. The Joint Utilities, in many cases, examined applicable advanced technologies when preparing projects that were included in the Phase 1 proposals. Where appropriate and feasible, these technologies were adopted. (Figure 1, below, provides examples of these considerations.) In many cases,

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[9] In addition to the proposals made in the Utilities' Report, on October 29, 2020, the Interconnection Policy Working Group (IPWG), which consists of the Joint Utilities, the Long Island Power Authority (LIPA), DPS Staff, and other participants, filed a proposal related to recovery of CLCPA-oriented *distribution* project costs in Case 20-E-0543. Proposals related to distribution cost recovery described in the IPWG's proposal are limited to the utility rate case approach, and do not contemplate the allocation of costs to other utilities' customers. As discussed throughout these comments, the Joint Utilities support the deployment of advanced technology solutions when they are operationally practical and cost-effective. Proposals for the deployment of these technologies on the distribution system appear in each utility's biennial Distributed System Implementation Plan (DSIP) filing (Case 16-M-0411, *In the Matter of Distributed System Implementation Plans*).

though, advanced technologies were determined not to be feasible and/or cost-effective means of addressing asset condition or infrastructure replacement needs or of meeting reliability, safety, and compliance needs.

The Joint Utilities recognize that the cost implications of implementing CLCPA will be significant. However, these investments, made on behalf of customers throughout New York, will move the State to a clean energy future. The Joint Utilities will continue to ensure that all CLCPA investments prioritize cost-effectiveness and the creation of net benefits to customers.[10]

The following sections discuss these issues, along with matters pertaining to bulk transmission study assumptions, recommendations that appear in the Initial Report, and specific questions raised by DPS Staff.[11]

I. Phase 2 Approval Process

The Joint Utilities have identified potential LT&D Phase 2 projects to meet 70 x 30 CLCPA mandates. To meet these goals, these projects require: (1) an expeditious approval process using the project selection/prioritization criteria and benefit/cost analysis (BCA) methodology proposed in the Utilities' Report; (2) a definition of "local transmission" consistent with applicable Commission orders and state environmental goals; and (3) expedited alternative cost recovery mechanisms.

The Joint Utilities advocate for development of a strong and appropriate method for evaluating Phase 2 projects that focuses on expeditious project approval, consistent with the

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[10] Transmission Planning Proceeding, Utilities' Report, pp. 21-22.

[11] The Joint Utilities' comments throughout Section 4 respond to questions DPS Staff posed to commenters. Transmission Planning Proceeding, Department of Public Service Staff Questions, February 3, 2021 (DPS Staff Questions).

Initial Report. With this in mind, the Joint Utilities request an expedited approval process for Phase 2 projects as necessary to meet CLCPA goals. Given the breadth of Phase 2 projects and the fact that these projects have yet to have been included in utility capital plans, these processes may take longer to construct and develop than did Phase 1 and having clarity with respect to the process will be necessary to expeditiously move forward.

The Initial Report advocates for collaboration among the Joint Utilities, DPS Staff, and NYSERDA to "advance high-priority Phase 2 projects to address headroom constraints in high-interest, high-potential renewable generation development areas… for which the proposed Phase 1 projects do not create sufficient headroom."[12, 13] The Initial Report makes a similar suggestion about prioritization of Offshore Wind (OSW) projects.[14]

The Initial Report proposes expediting the approval of some, but not all, Phase 2 projects prior to the approximate 2030 need date that the Initial Report identifies. Advancing some projects will help support CLCPA goals but furthering additional Phase 2 projects beyond those identified in the Initial Report will most likely be required to make more substantial gains towards the CLCPA goals. For example, approving more Phase 2 projects prior to renewable energy credit (REC) or offshore wind renewable energy credit (OREC) bidding will allow more cost savings to be reflected in REC/OREC bids and thus passed to customers.

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[12] Transmission Planning Proceeding, Initial Report, p. 6.

[13] The Joint Utilities note that DPS Staff filed its Staff Straw Proposal for Conducting Headroom Assessments (Straw Proposal) on March 16, 2021. The Joint Utilities are reviewing the Straw Proposal and will provide a response to it in accordance with the applicable comment period. Transmission Planning Proceeding, Straw Proposal (March 16, 2021).

[14] Transmission Planning Proceeding, Initial Report, p. 7.

In addition, because the majority of Phase 2 projects are proposed primarily for their CLCPA benefits, and not solely to meet reliability, safety, and compliance requirements, the Commission must make cost allocation and recovery-related determinations before these projects can be expedited. Specifically, the Commission should approve the project prioritization criteria and BCA methodologies that will guide assessment of Phase 2 projects' merits. The criteria and methodologies would necessarily recognize that the BCA is non-binding and is only one factor to be considered in prioritizing projects. Further, the cost allocation mechanisms would be designed to support cost recovery from customers across the state. If the Commission delays in making these determinations, it may be difficult to achieve the CLCPA's goals in its required timelines. The Initial Report is supportive of the proposals in the Utilities' Report. Accordingly, the Commission should approve the Utilities' Report's proposed BCA methodology and further consider the cost allocation/cost recovery approaches. The Joint Utilities request that the Commission affirm that the Joint Utilities' Phase 2 projects that are identified and prioritized due to their ability to support the CLCPA mandates should be eligible for load ratio share cost allocation. Further, the Joint Utilities recommend that the Commission establish a cost allocation working group among the Joint Utilities, the New York Power Authority (NYPA), LIPA, DPS Staff, NYSERDA, and NYISO to further develop some or all of the statewide cost allocation pathways identified in the Utilities' Report, with the goal of recommending one or more well-developed mechanisms for Commission consideration within six months of an Order approving project prioritization criteria and a BCA methodology that will apply to Phase 2 projects.

Several commenters on the Utilities' Report questioned the scope of projects to be addressed through utility local planning processes.[15] The Phase 2 projects included in the Initial Report are LT&D-focused and have always been subject to utility planning processes. Under the foundational agreements that created the NYISO and FERC precedent, these projects are appropriately considered within the Joint Utilities' local planning processes, not the NYISO planning processes for non-local system projects. The Joint Utilities will continue to coordinate with NYISO in aggregate system planning and identifying how local utility projects impact bulk system needs and vice versa. However, the Phase 2 projects are and should remain under the purview of utility planning processes rather than those governed by the NYISO. The Joint Utilities make this distinction based on the May Order in this proceeding,[16] in which the Commission states that local transmission refers to "transmission line(s) and substation(s) that generally serve local load, and transmission lines which transfer power to other service territories and operate at less than 200 kV."[17] The definition of "local transmission" in the May Order recognizes the Commission's authority over utility local planning, which includes Bulk Power Transmission Facilities ("BPTF"), as defined by the NYISO OATT.[18] It was therefore appropriate for the Commission to develop a "local transmission" definition suitable to the local transmission planning process, and the Joint Utilities support the definition provided by the Commission in the May Order.

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15 *See*, *e.g.*, Transmission Planning Proceeding, Comments of LS Power Grid New York Corporation I on Utility Transmission and Distribution Investment Working Group Report (January 19, 2021) (LS Power Comments), p. 11. *See also* Transmission Planning Proceeding, Comments of Invenergy Renewables LLC on the Utilities' Report, (January 19, 2021) (Invenergy Comments), p. 5.

16 Transmission Planning Proceeding, Order on Transmission Planning Pursuant to the Accelerated Renewable Energy Growth and Community Benefit Act (issued May 14, 2020) (May Order).

17 Transmission Planning Proceeding, May Order.

18 NYISO Open Access Transmission Tariff. Available here.

Indeed, the Joint Utilities stress that local utility management of LT&D planning processes is integral to ensuring streamlined implementation. Both the Commission and the Joint Utilities require the flexibility that the local planning processes affords to meet our respective obligations to provide reliable service – as well as clean energy – to customers. Moreover, the planning process supports timely achievement to meet the aggressive CLCPA goals. Further, the suggestion of some stakeholders, including selected competitive developers,[19] that have proposed an alternate definition of "local transmission," such as using cost or voltage thresholds, should be rejected. Those proposals are transparent attempts to confiscate development and ownership rights that lawfully belong to transmission owners. Such a result would contravene both state and federal precedent and remove assets from the Commission's jurisdictional authority. It would also conflict with statutory directives[20] for Utility investments in local systems to enable achievement of the CLCPA mandates.

Moreover, the majority of Phase 2 projects are local transmission project upgrades to existing facilities that do not alter bulk system requirements and are on the transmission owners' local systems where they, not NYISO, have expertise and responsibility for project deployment, operation, and reliability.

II. Benefit-Cost Analysis

Given the breadth of projects and compressed timeline to meet state environmental goals, the Joint Utilities continue to support the nimble approach presented in the Utilities' Report and affirmed in the Initial Report.[21] However, the Joint Utilities disagree with the Initial Report's

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19 Transmission Planning Proceeding, LS Power Comments, pp. 3-4.

20 New York Public Service Law §§ 162, 123 and 126.

21 Transmission Planning Proceeding, Initial Report, p. 6.

recommendation that the Joint Utilities use production cost modeling broadly[22] and recommend that the Commission not mandate uniform use of this evaluation approach. As stated in the Utilities' Report, production cost modeling "requires complex, expensive software, and specialized training. Production cost modeling results are highly dependent upon study assumptions and can give a false sense of precision when compared to other methods."[23] The Joint Utilities will continue to use production cost modeling when it is deemed the appropriate and feasible method to assess solutions to address particular system constraints.

The Joint Utilities support the BCA review presented in the Initial Report. In comments on the Utilities' Report, Potomac Economics[24] (Potomac) suggested several changes to the proposed methodology. However, the Potomac proposals are problematic. Some recommended approaches for determining inputs may not be realistic or fit into the Utilities' Report's BCA criteria for analysis. Furthermore, it may not be possible for all the transmission operators to apply Potomac's recommendations efficiently for multiple projects.

Scenario approaches, as suggested by Potomac, are unlikely to address its concerns relative to the additional time and resources required. Instead, it is best to rely on a consistent baseline prepared by a neutral third party. Specifically, Potomac pointed out shortcomings with the NYISO's Congestion Assessment and Resource Integration Study (CARIS) "70x30" scenario, which the Joint Utilities proposed to use as the baseline for their analysis. CARIS is developed through a transparent stakeholder process that incorporates feedback from all market participants, and thus meets the neutrality criteria. Despite any shortcomings, CARIS is a

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22 Transmission Planning Proceeding, Initial Report, p. 9.

23 Transmission Planning Proceeding, Utilities' Report, p. 271.

24 Transmission Planning Proceeding, Comments of Potomac Economics, LTD on Utility Transmission and Distribution Investment Working Group Report (January 19, 2021), p. 7.

common tool, developed by a trusted independent party, which provides a means to use the same inputs for all projects and allows all proposals to be evaluated on the same basis. Rather than justifying modeling of additional scenarios, Potomac's comments on the shortcomings of the proposed modeling highlight the need to use a BCA approach of ranking projects on a relative scale, as proposed by the Joint Utilities. The BCA should be used in the manner proposed by the utilities – as an indicative measure to be considered as one factor amongst several in determining which projects to prioritize.

III. Bulk Study Assumptions and Recommendations

As the Joint Utilities noted in their January 19th comments, both studies completed by consultants to DPS Staff and NYSERDA – the OSW Integration Study and the Zero Emissions Study – explicitly rely on the timely completion of LT&D projects that are needed to relieve congestion and reduce curtailments. In other words, if the LT&D projects are not timely constructed and in service, the value to customers of new bulk transmission investments and renewable generation will be limited. In addition, neither the OSW Integration Study nor the Zero Emissions Study considered the physical feasibility of their proposed points of interconnection or identified transmission upgrades. Addressing these issues will likewise (as the Initial Report stated) require the completion of LT&D projects to achieve the anticipated outcomes. As such, both studies demonstrate that the proposed investments described in the Utilities' Report are critical to successfully integrate the renewable resources needed for New York to achieve the CLCPA's clean energy goals.

The Joint Utilities agree with the Initial Report's assessment of the Zero Emissions Study. The Initial Report raised questions about the reasonableness of certain assumptions the

study used, which had a material effect on its results. For example, the Joint Utilities continue to evaluate storage integration into Utility operations. The Joint Utilities note that both studies assumed that developers could optimize the location of energy storage to improve results (*i.e.*, reduce curtailment). However, the studies did not identify storage costs, the physical sites for deployment, or the corresponding interconnection points. Storage cannot address aging infrastructure and asset condition issues that the utilities are confronting. These points are crucial for evaluating the potential for storage deployment and must be considered. Further, additional investment in transmission and/or interconnection facilities may be required to accommodate the studies' assumed level of energy storage. The Zero Emissions Study estimates a need for approximately 15,500 MW in energy storage investments by 2040 positioned "strategically" at specific, unconstrained locations (and developed in time) to avoid adverse system impacts. This includes 4,000 MW in New York City and 3,000 MW on Long Island.[25] If the optimized locations identified are not deployed, additional transmission upgrades may be required, requiring additional time to plan and construct, as well as additional cost outlays.

The Joint Utilities also have concerns about the Zero Emissions Study's assumptions regarding renewable siting locations and size, and the impact those assumptions have on congestion. The optimized locations used for renewables in the study result in a finding that there are limited bulk system congestion impacts because the study assumes more renewable development would occur in less constrained locations. For example, the Zero Emissions Study assumed 4,800 MW of onshore wind in Zones F, G, H, I, and only assumed 1,000 MW of

[25] Transmission Planning Proceeding, Initial Report, p. 63. As described in the Initial Report, PowerGEM assumed 1,500 MW of energy storage in 2025 and 3,000 MW in both 2030 and 2035 (See page D-13).

onshore wind in Zone D.[26] More realistic renewable siting assumptions would have likely shown more bulk congestion in a 2040 system.

Similarly, the Joint Utilities urge the Commission to evaluate the feasibility of assumptions related to renewable natural gas (RNG) replacing existing fossil generation. If these alternate fuels are not feasible or cost-effective, including at the levels assumed in the Initial Report, then transmission solutions will be needed. Transmission solutions will take time to plan and construct. Considerations such as outage scheduling will need to be considered in the timing and sequencing of projects. Further studies of a 2040 system should include a more collaborative and open study process, including input from the Joint Utilities.

With regard to offshore wind, the Joint Utilities support the recommendations for expanding the Long Island bulk transmission system and identifying feasible and cost-effective interconnections and transmission upgrades in New York City. The Joint Utilities have long supported a coordinated approach to transmission to connect offshore wind to the onshore grid.[27] Coordinated planning with the Joint Utilities on interconnection and local transmission will result in a cost-effective outcome for customers and reduce the cost of NYSERDA OSW solicitations, which benefits ratepayers over the long term. To the extent there is a need to complete local upgrades to address OSW integration, this development must remain under the purview of the applicable utility. In addition, the Commission's establishment of a Public Policy Transmission Need (PPTN) for additional transmission facilities between LIPA and Con Edison

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[26] Transmission Planning Proceeding, Initial Report, Appendix E, Table A-6, p. E-91.

[27] Case 18-E-0071, *In the Matter of Offshore Wind Energy* (OSW Proceeding), Joint Utilities Comments on the NYSERDA Petition for 2020 Offshore Wind Procurement Authorization (April 20, 2020), p. 2.

to deliver the output of offshore wind resources,[28] as LIPA proposed last year, is also an important step towards the needed coordination.[29]

IV. Joint Utilities' Response to DPS Staff's Targeted Areas of Inquiry[30]

Identification of Priority Areas[31]

DPS Staff posed several questions related to advancing Phase 2 projects, which the Utilities address above. DPS Staff also ask for feedback on the concept of Renewable Energy Zones (REZ). The Initial Report finds that "[s]ignificant renewable generation potential appears to exist in areas of the State that currently do not have access to existing transmission infrastructure. New transmission development in those areas of the State would thus facilitate renewable generation development."[32] The Initial Report then advocates for the introduction of local REZ that feature favorable conditions for the development of renewable generation.[33]

The Joint Utilities support the REZ concept as an avenue to identify future areas of renewable development ahead of time and build out transmission in advance. Doing so can help guide renewables to appropriate interconnection points, reduce the time projects spend in the interconnection process, and reduce the expected interconnection costs that renewables include

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28 Case 20-E-0497, *In the Matter of New York Independent System Operator, Inc.'s Proposed Public Policy Transmission Needs for Consideration for 2020*, Order Addressing Public Policy Requirements for Transmission Planning Purposes (March 19, 2021), p. 4.

29 Case 20-E-0497, *In the Matter of New York Independent System Operator, Inc. Proposed Public Policy Transmission Needs for Consideration for 2020*, Comments of the New York Transmission Owners on Transmission Needs Being Driven by Public Policy Requirements for the 2020-2021 Transmission Planning Cycle (October 2, 2020).

30 The Joint Utilities' comments throughout Section 4 respond to the DPS Staff Questions.

31 Transmission Planning Proceeding, DPS Staff Questions, p. 1. The DPS Staff Questions request input from stakeholders on how the Commission should identify high-priority areas for local transmission development. In addition, the DPS Staff Questions seek input on the methodologies and criteria the State should use to assess whether a region of the State is "conducive for development as a local renewable energy zone."

32 Transmission Planning Proceeding, Initial Report, p. 39.

33 *Id*.

in their bids and ultimately pass to customers. This will also reduce interconnection costs. Identification of REZ regions should involve rigorous analysis and input from the developer community and the local utility so that resources and supportive policy mechanisms are directed effectively. The Joint Utilities look forward to working with DPS Staff and stakeholders to develop this concept further.

The Joint Utilities agree with the Initial Report recommendations that considerations for establishing REZ should include detailed mapping of solar and wind resource potential, environmental constraints, inter-regional energy exchanges, and local regulations that impact greenfield development, in addition to interconnection headroom estimates. REZ identification processes should prioritize cost effectiveness by including provisions that require the exploration of development in existing rights-of-way. The Joint Utilities agree that such forward-looking mechanisms are important for the State to consider in identifying specific regions for development and infrastructure investment. As the Initial Report states, expectations for renewable generation development in specific locations has been informed primarily by applications to the NYISO for interconnection at the bulk power level, and at the local level through the standard interconnection requirements. Reliance only on interconnection applications may understate economic renewable energy potential in areas that developers avoid due to lack of transmission infrastructure. The Joint Utilities agree that "to improve planning and support procurement efforts, [forecasts] of renewable development locations on the bulk and local transmission systems should be improved."[34] It is important to reconcile differences in forecasts of renewable generation development among the NYISO, NYSERDA, and the Joint

[34] Transmission Planning Proceeding, Initial Report, p. 9.

Utilities and understand why these differences exist. As a next step, the Commission should direct NYSERDA to conduct a study to identify future REZ areas, working with the Joint Utilities, renewable resource developers, the NYISO, and other stakeholders. In doing so, the Commission should consider the applicability of the REZ concept to downstate needs.

Once a REZ is established, DPS Staff and NYSERDA should work with the local utilities to identify whether there are cost-effective local solutions to upgrade transmission in the area of the REZ. In many cases, the Joint Utilities will be able to leverage long-term plans and local knowledge of the system to propose cost-effective, multi-value projects to connect renewable resources located in REZ areas. In areas where a non-local transmission solution is needed, as defined in the May Order, the Commission should declare a Public Policy Transmission Need and seek solutions through the NYISO Public Policy Planning Process.

Technology Transfer & Deployments

The DPS Staff Questions seek stakeholder input on the integration of advanced technologies where they can provide relief for LT&D constraints. Specifically, DPS Staff asks for input on considerations relevant to the acceleration of advanced technology implementation, and on how utility LT&D planning processes should assess advanced technologies. DPS Staff also seeks input on the appropriate role of renewable generation owners and developers in providing information on particularly constrained locations.[35]

The Joint Utilities are committed to deploying advanced technologies and have made considerable progress in doing so to date. The Joint Utilities included advanced technology

[35] Transmission Planning Proceeding, DPS Staff Questions, pp. 1-2.

options within their Phase 1 and Phase 2 proposals included in the Utilities' Report. Examples of Phase 1 and Phase 2 projects that involve advanced technologies are described in Figure 1 below.

Figure 1: Examples of advanced technology considerations in Phase 1 and Phase 2 projects across the Joint Utilities.

Utility	Project Description
Central Hudson	Central Hudson incorporates NWA suitability screening for all capital projects as part of its normal capital planning process. Advanced technology considerations, such as use of storage as an alternative, D-VAR, or consideration of advanced conductors are considered in our planning study processes. Finally, some of our distribution phase 1 projects, such as our DA/DMS program, are by definition the advanced technology solution.
Con Edison	Con Edison proposed to make additional technological investments in its Distributed System Platform (DSP), including modernizing protective relays (a common barrier to interconnecting resources to the distribution system), continued investment in software and data efforts for better monitoring and optimization of DERs (Distributed Energy Resource Management System or DERMS), upgrades to hosting capacity tools, and investment in monitoring control and the communications infrastructure necessary to facilitate smart inverter functionality and the reliable participation of DER in NYISO's wholesale markets.
National Grid	National Grid has proposed to use an advanced technology in the form of a Static Synchronous Series Compensator as an alternative to traditional wires technology. This project is expected to increase deliverability of generation within one of the Company's Local Transmission System pockets while also demonstrating the viability of this technology.

Utility	Project Description
NYSEG/RG&E	NYSEG/RG&E evaluated Non-Wires solutions (*i.e.*, Storages) and Dynamic Line Ratings as alternatives for Phase 1 projects. These solutions were compared against the conventional upgrades before the preferred solutions were proposed. In Phase 2, NYSEG/RG&E expanded the scope of its evaluation of new technologies to include the Power Flow Control Devices. These new technologies were evaluated, either as a primary upgrade or a component of a group of upgrades that were designed to work together to unlock renewable bottlenecks in large, complex areas. As a result, six Storage and three Power Flow Control Devices were proposed as the solutions to unlock renewable bottlenecks in the NYSEG/RG&E service areas.
O&R	O&R's section of the Utility Report highlighted several DSIP related projects for improved situational awareness including O&R's Advanced Distribution Management System (ADMS) and Distribution Automation Smart Grid projects which contribute to a smarter and more resilient grid. O&R also proposed to incorporate energy storage capabilities on the site of the proposed stations as a hybrid solution mixing traditional and new technologies, for example through the proposal to install batteries at its Woodbury substation.

The Joint Utilities will continue to evaluate advanced technologies and deploy them where suitable and where they will help improve reliability, resilience, or clean energy requirements. The research and development consortium proposed in the Utilities' Report will provide a forum for the Joint Utilities to share information on advanced technologies, with input from key stakeholders such as NYSERDA and Electric Power Research Institute (EPRI). The Joint Utilities agree with the Initial Report that advanced technologies have great potential. However, deployment must be considered on a project-specific basis. For example, the Joint Utilities have had significant successes with implementing non-wires alternatives (NWAs) on the distribution system to defer or avoid the need for new infrastructure. For example, Con Edison has completed NWAs to defer infrastructure investments through the Brooklyn-Queens Demand Management (BQDM) program, the Water Street NWS, Plymouth Street NWS, and Newtown

NWS.[36] Likewise, Joint Utilities' DSIP filings identify additional opportunities to deploy advanced technologies throughout distribution networks. When opportunities for alternative solutions arise, the Joint Utilities intend to pursue them, continuing to work in collaboration with DPS Staff, NYSERDA, NYISO, and EPRI as appropriate, while ensuring that reliability and safety considerations remain paramount.

The Initial Report recommends that "the [Commission] could implement a process through which renewable generation owners and developers would be able to provide information on particularly constrained locations. This information could then be made public, such that either the utilities or advanced technologies vendors could propose cost-effective solutions to address the constraints."[37] The Joint Utilities propose that the existing NWA process and BCA framework on distribution systems provide a model that can be used for this purpose. As under the NWA process, it is essential that the utility be in control of assessing suitability, identifying opportunities, soliciting requests for proposals (RFPs), and evaluating the technical and financial feasibility of proposed market solutions to ensure consistency with local planning processes and that system reliability needs are met. The ability for utilities to earn incentives through use of an NWA should also be continued for this purpose.

However, it should be noted that the transmission system poses different challenges for implementing advanced technologies than the distribution system, due to its increased scale and complexity. While a NWA may be suitable to address a 30 MW deficiency on the distribution system, meeting a transmission deficiency of 360 MW would require a much larger solution that

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[36] For more information, see https://www.coned.com/en/business-partners/business-opportunities/non-wires-solutions.

[37] Transmission Planning Proceeding, Initial Report, p. 52.

may pose significant feasibility and cost-effectiveness challenges. In addition, an alternate solution may not be able to act in the same way to solve a need on the more complex transmission system (which has multi-directional flows) as it does on the distribution system. Nevertheless, the Joint Utilities are committed to seeking opportunities to deploy advanced technologies as an enhancement to LT&D projects intended to unbottle renewables. Both advanced technologies and traditional infrastructure will be needed together to help meet the long-term CLCPA goals, and the Joint Utilities will consider both in developing holistic solutions to meet future system needs.

The Joint Utilities could use screening assessments to identify opportunities on the transmission system for which advanced technologies or NWA portfolio would be appropriate. The use of screening assessments would ensure that RFPs are targeted to addressing deficiencies where they are most likely to be successful, and avoid unnecessary time, effort, and complexity in situations where a transmission solution is clearly required. Con Edison has used this for recent projects to inform whether an NWA could be feasible to defer the transmission solutions to address the reliability needs resulting from the unavailability of generation reported in DEC NOx Peaker rule compliance plans.[38] While advanced technologies may not obviate the need for LT&D investments, there may be opportunities to deploy them in tandem with other

[38] Case 19-E-0065, *Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Electric Service*, Petition of Consolidated Edison Company Of New York, Inc. for Approval to Recover Costs of Certain Transmission Reliability and Clean Energy Projects (December 30, 2020).

infrastructure, as suggested by the Commission in its February Order,[39] where they provide cost-effective benefits to the system and customers.[40]

The Commission could help provide clarity on the Joint Utilities' adoption of advanced technologies by adopting criteria to identify well-tested technologies that are ready for large-scale deployment, compared to those in earlier stages of development that are better suited to pilot projects.

Further System Studies and Planning

The DPS Staff Questions ask for input on further system studies and planning.[41] The Initial Report recommends additional analysis be conducted to better understand system needs, to forecast renewable development, and to inform effective investments on the LT&D and bulk levels. In general, the Joint Utilities agree. In particular, the Joint Utilities note that the discussion of Phase 2 projects in the Utilities' Report was not necessarily intended as a petition for approval of these projects. Analysis of Phase 2 projects will continue to evolve as insights concerning system needs and developer plans emerge. Similarly, as the Initial Report suggests, the progression and prioritization of Phase 2 projects must be evaluated (along with advanced technology options) "based on the utilities' proposed Phase 2 project selection and BCA framework," recognizing that the BCA is intended to be indicative but not binding on capital investment decisions.[42]

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[39] Transmission Planning Proceeding, Order on Phase 1 Local Transmission and Distribution Project Proposals (issued February 11, 2021) (February Order).

[40] Transmission Planning Proceeding, February Order, pp. 18-19.

[41] Transmission Planning Proceeding, DPS Staff Questions, pp. 3-4.

[42] Transmission Planning Proceeding, Initial Report, p. 6.

Additionally, the Joint Utilities support the Initial Report's emphasis on the need for coordination among the Joint Utilities, NYSERDA, DPS Staff, and the NYISO to support planning studies and to address operational challenges. This coordination happened during the development of the Utilities' Report, as NYSERDA, DPS Staff, and NYISO participated in the Utility T&D Working Groups. The Joint Utilities have unique insights to offer regarding the impacts of local level development on bulk system planning. Collaboration among these entities will inform a more comprehensive understanding of the likely trajectory of renewable development. This will ensure that the Joint Utilities deploy capital to support CLCPA benefits (*i.e.*, Phase 2 projects) in a manner that maximizes benefits for customers. Moreover, the Joint Utilities have been longstanding supporters of efforts at the NYISO to consider how the changing system will impact reliability and the markets. For example, the New York Transmission Owners' advocacy contributed to NYISO's initiation of its Grid in Transition effort, which considers what market design improvements are needed to meet the future challenges expected to arise with high levels of intermittent renewable and distributed energy resources.

The DPS Staff Questions ask for input on whether additional coordination is needed among the Joint Utilities, and between the Joint Utilities and NYISO.[43] This type of coordination occurs today and was instrumental in informing the project proposals and regulatory framework recommendations in the Utilities' Report. For example, Con Edison and LIPA worked closely together on studies evaluating OSW integration between their service territories. Likewise, National Grid, NYPA, and NYSEG and RG&E worked together to

[43] Transmission Planning Proceeding, DPS Staff Questions, p. 4.

develop case studies that appear in the Power Grid Study.[44] Coordination between local and bulk system needs is likewise already sufficiently addressed through existing coordination between the utilities and the NYISO, through the processes outlined in the NYISO Tariff. The utilities and NYISO will continue to work productively with each other in the future.

The Initial Report also emphasizes the need for striking a balance between coordinated planning and reliance on competitive markets and open access tariffs. Both competitive markets and coordinated planning serve integral roles in meeting the State's environmental objectives. Given the CLCPA's mandated timelines for integrating clean generation resources, time is of the essence. Speed and efficiency can be gained from extracting the greatest value from the experience and expertise of the Utilities. Non-local transmission projects, such as underwater transmission to connect OSW, may be more suitable to competitive processes. With respect to the NYISO's Order 1000 planning process, the Commission's role is to declare PPTNs for non-local transmission solutions. Timely declaration of PPTNs will provide for the selection of competitive bulk transmission projects to meet the State's goals. PPTNs, where declared, should be coordinated with needed investments on the local system performed by the utilities.

With respect to the question concerning how the Commission could consider moving towards a meshed approach for offshore wind, several factors must be considered. Interconnection policies must reflect the physical limitations at existing substations and must consider impacts to contingencies based on size of connections. In addition, care must be taken to ensure that current offshore development is not delayed or imperiled by uncertainty over

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[44] This collaboration extends to coordination with the developer community plans as well. The Joint Utilities' proposed Phase 2 investments reflect optimal approaches to support the LT&D-connected resources that are in active and advanced stages of development.

interconnection policy. The Joint Utilities support additional study on whether a meshed approach is optimal for New York, and if a decision is made to promote a meshed approach, implementation should be done in consultation with stakeholders to ensure against unintended consequences. Finally, evaluations of interregional approaches must place priority on New York before expanding a focus on external resources due to the difficulties in addressing cost allocation in interregional planning.

V. Conclusion

As is discussed throughout these comments, the Joint Utilities agree with many aspects of the Initial Report. In particular, the Joint Utilities agree with the Initial Report's conclusion that LT&D investment is needed to achieve CLCPA mandates within the timelines set in the statute.

The Joint Utilities also agree with the Initial Report's recommendation that the Commission direct the evaluation of Phase 2 projects using the project selection and BCA frameworks proposed in the Utilities' Report. The Commission should also continue to consider cost allocation and cost recovery approaches for Phase 2 investments. This will allow the timely development of Phase 2 projects that will enable the expansion of clean energy resources throughout the State. With regard to offshore wind, the Joint Utilities support the recommendations for expanding the Long Island bulk transmission system and timely identifying feasible and cost-effective interconnections and transmission upgrades downstate.

The Joint Utilities appreciate the opportunity to provide these comments and look forward to collaborating with DPS Staff, NYSERDA, and the NYISO on additional studies that will support efficient deployment of LT&D investments and bulk transmission resources where they will create the greatest benefits for customers throughout New York. The Joint Utilities

look forward to working with these and other stakeholders as the Transmission Planning Proceeding continues.

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Respectfully submitted,

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