



WATT Coalition Comments Regarding Actions Taken to Implement Transmission Planning Pursuant to the Accelerated Renewable Energy Growth & Community Benefit Act; Case 20-E-0197

February 28, 2023

The WATT (Working for Advanced Transmission Technologies) Coalition is pleased to offer the following comments regarding the review designated to the Commission as part of the Accelerated Renewable Energy Growth and Community Benefit Act (the Act). Specifically, the Act directs the Commission to report on the actions 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 Act (CLCPA).

The WATT Coalition is a non-profit organization focused on facilitating the adoption of advanced technologies on the US electric transmission system that improve reliability, lower cost, and accelerate decarbonization, benefiting American citizens and businesses. The WATT Coalition is composed of associate members benefiting from Grid Enhancing Technologies (GETs) and technology members, offering expertise in Advanced Power Flow Control, Dynamic Line Ratings (DLR), and Topology Optimization.

The WATT Coalition appreciates the many actions taken by the Commission to implement the Act, and outlines recommendations from our memberships in service of the Act and this report, and by extension, CLCPA. Importantly, the WATT Coalition is encouraged by Commission's recognition of GETs in this proceeding, identified as "advanced technologies." This includes the Commission's directive that "utilities could implement well-established advanced technologies in the near term, specifically those that have advanced beyond the R&D and pilot phase and have been deployed in New York and other jurisdictions" recognizing that "such established technologies can offer significant benefits by expanding the CLCPA benefits of the projects."¹ The Commission directed the utilities to endeavor to incorporate these advanced technologies where appropriate and consider the application of one or more for Phase 1 projects and restated this for Phase 2 projects.² As the Commission correctly recognizes, GETs, or advanced technologies, can maximize CLCPA contributions of proposed projects and reduce costs to ratepayers.³

However, despite this recognition of the important role GETs can play, projects approved to date pursuant to the Act demonstrate that not all the utilities are utilizing every tool in their toolbox to more quickly bring about a cost-effective electric grid to meet CLCPA goals. The WATT Coalition recommends

¹ Order on Phase 1 Local Transmission and Distribution Project Proposals, at 18, Case No. 20-E-0197 (February 11, 2021)

² Order on Phase 1 Local Transmission and Distribution Project Proposals, at 18, Case No. 20-E-0197 (February 11, 2021); Order on Local Transmission and Distribution Planning Process and Phase 2 Project Proposals, at 36, Case No. 20-E-0197 (September 9, 2021)

³ Order on Phase 1 Local Transmission and Distribution Project Proposals, at 18, Case No. 20-E-0197 (February 11, 2021)



that the Commission and Staff take the opportunity with this report to analyze why there is misalignment between the Commission’s encouragement of GETs and actual roll out by utilities and identify ways to further their deployment to the benefit of CLCPA goals and ratepayers. Specifically, in the comments below, the WATT Coalition:

- Provides a brief overview of the benefits of GETs;
- Discusses the action taken by the Commission to date to encourage deployment of GETs;
- Discusses current underutilization of GETs in proposed and approved Phase 1 and Phase 2 projects; and
- Outlines recommendations for the Commission and Staff to use this report, in part, to review this underutilization of GETs, reprioritize certain Phase 1 projects that deploy GETs and adopt the fast tracking of proven GETs beyond the timeline provided by the ATWG to bring about more cost-effective infrastructure that can more quickly support the interconnection of CLCPA resources.

I. GETs unlock additional capacity of existing grid assets, to the benefit of CLCPA goals and customers

While there are many potential paths and combinations of resource and transmission builds to achieving New York’s climate change requirements, significant new resource development will be required to achieve CLCPA energy targets. The total installed generation capacity to meet policy objectives within New York is projected to range between 111 GW and 124 GW by 2040. Transmission expansion is critical to facilitating efficient CLCPA energy target achievement. The current New York transmission system, at both local and bulk levels, is inadequate to achieve currently required policy objectives.⁴

Historically, utilities, system operators, and regulators assumed the transmission grid was essentially “fixed” in capacity and configuration. This assumption ignores the capabilities offered by advanced transmission technologies which allow physical transmission assets to be actively managed to provide more transmission capacity, reduce grid congestion, provide higher reliability and resilience, and improve the integration of renewable generation. By using the GETs represented by the WATT Coalition to fully utilize the grid’s capacity, New York can dramatically reduce the amount of new asset construction and cost while accelerating progress toward meeting requirements in a non-disruptive and socially-just way.

II. The Power Grid Study highlights that GETs can play a larger role in Phase 1 and 2 Projects

The WATT Coalition is encouraged to see GETs solutions included in approved Phase 1 and 2 projects, however there is a strong need to expand their utilization and deployment beyond the level seen to date. Fully utilizing GETs will improve the ability of key CLCPA renewable projects to interconnect and reduce curtailment of existing and future projects. GETs help planners make the most cost-effective transmission investments and can be affordable and timely bridge solutions to reduce congestion and alleviate constraints on the grid as larger scale transmission projects are pursued.

⁴ <https://www.nyiso.com/documents/20142/33384099/2021-2040-Outlook-Report.pdf>



The Act requires the Commission to reorient transmission planning and investment toward the achievement of CLCPA targets, including proposals for planning, funding, and prioritizing local transmission and distribution (LT&D) investments needed to meet CLCPA objectives. Pursuant to the Act the Commission identified two categories of projects, Phase 1 and Phase 2. While Phase 1 projects are those that are needed to address reliability, safety, and compliance issues (while also able to capture CLCPA benefits), Phase 2 projects are specifically designed to achieve CLCPA targets by increasing the capacity on the local transmission and distribution system to allow for interconnection and delivery of new renewable generation resources. The Act also instructed the State to conduct a Power Grid Study to inform transmission and distribution system investments that will be necessary to achieve the clean energy goals of the CLCPA. As part of the Power Grid study process, the Commission noted that there are several well-developed transmission technologies, including DLR, modular power flow control and topology optimization, that the utilities should consider applying when designing LT&D investments.

Importantly, the Power Grid study contains a list of Phase 1 local transmission candidates for DLR implementation.⁵ However, while the Commission has authorized development of 53 Phase 1 projects to meet CLCPA targets by 2030, only a handful of projects included deployment of GETs. The small number of GETs projects included in proposed and approved Phase 1 projects to date is a concern given the rapid time frame for GETs implementation, often weeks to months, that can deliver solutions in a far more expedited manner than is experienced with traditional upgrades. For example, the one DLR Phase 1 project, proposed by National Grid, along with limiting station connection upgrades and the rebuild of a 4.8-mile section of circuit, is projected to avoid the rebuild of nearly 30 miles of double circuit transmission, while reducing wind curtailments by 350MW and adding 190MW in additional headroom.

Similarly, the role of GETs has been limited with Phase 2 projects. For example, certain Phase 2 projects were identified as Phase 2A projects, meaning those that would not be advancing at this time but for the CLCPA needs related to renewable generation unbottling in the noted Areas of Concern (AOC). These areas are identified by NYSERDA as Hornell and South Perry (NYSEG & RG&E), the Watertown/Oswego/Porter subzone (National Grid), and an area of Southeastern New York consisting of facilities owned by NYSEG, National Grid, and Central Hudson. The same locations are also identified by the NYISO in the CARIS process as Z1, X2, and X3, and Y1 and Y2.⁶ They are characterized by the presence of existing renewable generation that is already experiencing curtailments and a strong level of developer interest that exceeds the capability of the local transmission system. Earlier this month, the Commission issued an order authorizing the construction of 62 AOC Phase Two Projects, again with a limited number of approved projects deploying GETs.⁷

Given the need for timely solutions that can enable the interconnection of renewables and advance CLCPA goals, the WATT Coalition recommends the Commission include in this report an assessment of the analysis by utilities of GETs to date and identify opportunities to increase their deployment to

⁵ https://www.brattle.com/wp-content/uploads/2021/06/20842_initial_report_on_the_new_york_power_grid_study.pdf; Figure9, pg.56

⁶ Order on Local Transmission and Distribution Planning Process and Phase 2 Project Proposals, at 34, Case No. 20-E-0197 (September 9, 2021)

⁷ <https://dps.ny.gov/system/files/documents/2023/02/pr23015.pdf>



maximize CLCPA goals and reduce costs to customers. This can include a review of identified Phase 1 projects in the Power Grid study that leverage GETs and the opportunity for those to be prioritized in the near term by utilities.

III. The Advanced Technology Working Group (ATWG) must optimize GETs deployment

The WATT Coalition appreciates the Commission's role in ordering the creation of the ATWG to assess technologies and establish pathways to implementation of beneficial transmission technologies.⁸ While the WATT Coalition welcomes the ATWG's rigorous research methodology to establish standardized testing, evaluation, and deployment processes for widespread adoption of GETs, given the mounting pressure to alleviate transmission bottlenecks, reduce congestion, bring renewable hydroelectric and wind resources online, and support circuit load factors, it is of utmost importance to optimize the processes and frameworks being examined by the ATWG.

Several New York utilities, such as National Grid and Avangrid have devoted resources toward piloting GETs projects on their system to validate the technology and use case on the New York grid; this includes the above noted Phase 1 and 2 projects. Furthermore, GETs have been deployed at-scale in New York as far back as 2001, when Advanced Power Flow Control (APFC) installations were completed within the New York Power Authority transmission system; devices that remain in operation today and are considered best-in-class. These projects were implemented with the intent to pave the way for GETs to be rapidly deployed to advance the energy transition. These projects have been successful in demonstrating that GETs are reliable and capable of addressing challenges in New York cost-effectively, with very short lead-times, and minimal community impact.

In January 2023, the ATWG issued a Progress Report that details consideration for commercial ready technologies, which includes GETs provided by WATT members, and correctly notes that several New York utilities already have GETs installations in progress.⁹ The Progress Report suggest activities related to studies and analysis will encompass the next 3 years, only after which the Joint Utilities will start looking at using GETs in business-as-usual project development processes. This timeline suggests limited use of GETs beginning in 2026, which will simply not allow New York to meet CLCPA goals in the most efficient or cost-effective manner.

In line with the ATWG's stated goal of designing a streamlined approach to technology adoption, the WATT Coalition has encouraged the ATWG to enlist all efforts to coordinate mature GET deployments, namely through a Fast-Track option for mature, market-tested GETs—and further recognizing the quick installation capabilities and immediate benefits of GET implementation in supporting the goals of the CLCPA. This approach aligns ATWG actions with the directives of the Commission in Phase 1 and 2 orders on the deployment of well-established advanced technologies. The WATT Coalition recommends the Commission's report recommend adopting a fast-track option for mature, market tested GETs to encourage further inclusion of GETs in future proposed CLCPA projects.

⁸ Order on Power Grid Study Recommendations (issued January 20, 2022)

⁹ Research and Development Plan for Advanced Transmission and Distribution Technologies – PROGRESS REPORT, January 20,2023



IV. Conclusion

The WATT Coalition appreciates the actions taken by the Commission to date as stakeholders work to achieve the clean energy targets established in CLCPA. Investments in GETs have provided large system impact and substantial savings for consumers around the world. Fully utilizing the capacity of the existing network is the most cost-effective means of ensuring that New York ratepayers see the lowest rate impact possible while accruing the benefits of the CLCPA.

Significant benefits are at stake if these projects are not pursued in the near term and even minor delays pose dramatic downstream effects for the integration of constrained renewables and the state's energy transition. The WATT Coalition looks forward to participating in the upcoming stakeholder sessions and technical conference noted in the ATWG Progress Report.

Best Regards,

/s/

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