State of New York

Public Service Commission

Case 15-E-0302

Proceeding on Motion of the Commission to Implement a Large-Scale Renewable Program and a Clean Energy Standard

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NYSERDA Comments on the Zero Emissions Target Notice Seeking Further Comment (issued October 20, 2023)

Submitted by the New York State Energy Research and Development Authority

February 20, 2024

1. Context

On May 18, 2023, the Public Service Commission ("Commission") issued an Order Initiating Process Regarding Zero Emissions Target[1] ("Order") under Case 15-E-0302 (Proceeding to Implement a Large-Scale Renewable Program and a Clean Energy Standard) ("Proceeding"). In its role completing statewide energy planning, as well as supporting its role on the Energy Planning Board and Climate Action Council, NYSERDA conducts market and technology studies and demonstrations of key relevant technologies to provide objective information for energy policy decision making. NYSERDA also serves as the administrator of the Commission's Clean Energy Standard through which it procures environmental attributes for large-scale renewable projects that will fundamentally contribute towards the zero emissions by 2040 target (the "Zero Emissions by 2040 Target").

The Order "initiate[d] a process to identify technologies that can close the gap between the capabilities of existing renewable energy technologies and future system reliability needs, and more broadly identify the actions needed to pursue attainment of the Zero Emission by 2040 Target."[2] The Order also posed a number of preliminary questions, in response to which NYSERDA submitted comments on August 16, 2023.[3] On October 20, 2023, the Commission released a Notice Seeking Further Comment ("Notice") in the Proceeding, with an additional series of questions for comment posed by Department of Public Service ("Department") staff.[4] These comments respond to the Notice.

The Order makes reference to §66-p(2) of the Public Service Law ("PSL") of the Climate Leadership and Community Protection Act ("CLCPA"), which directs the Commission to "establish a program to require that […] by the year 2040 […] the statewide electrical demand system will be zero emissions. In establishing such program, the commission shall consider and where applicable formulate the program to address the impacts of safe and adequate electric service in the state under reasonably foreseeable conditions. The commission may, in designing the program, modify the obligations of jurisdictional load serving entities and/or targets upon consideration of the factors described in this subdivision."[5]

PSL §66-p(2) authorizes the Commission to establish and formulate a Zero Emissions by 2040 Target program. In so doing, from the program's inception, the Commission may make a determination of how to interpret "electrical demand system" and "zero emissions", which are terms not defined in the statute. Interpreting these terms will likely become an integral part of program design and will work alongside the statute's requirement that the Commission consider and, where applicable, incorporate electrical reliability considerations into its formulation of the program. Given the complex interplay of these considerations and the continued need for further information and

[1] Case 15-E-302, Order Initiating Process Regarding Zero Emissions Target, Issued May 18, 2023 ("Order")
[2] Id., pg. 2
[3] Case 15-E-302, NYSERDA Comments on the Order Initiating Process Regarding Zero Emissions Target, Issued August 16, 2023.
[4] Case 15-E-302, Notice Seeking Further Comment, Issued October 20, 2023.
[5] Public Service Law (PSL) § 66-p(2)

assessment as described below, NYSERDA cautions against prematurely establishing definitions that could limit the range of resources eligible for the Zero Emissions by 2040 Target.

2. Resource uncertainty

In December 2023, a Technical Conference was convened by the Department on the Zero Emissions by 2040 Target, which included several expert panels representing a broad range of technologies that could contribute to a 2040 zero-emission electric grid. Panels were conducted on subjects such as nuclear energy, hydrogen, long-duration energy storage, demand-side resources and virtual power plants, as well as biogas, renewable natural gas, and carbon capture and sequestration. Importantly, all of these panels identified significant implementation barriers, including a mix of infrastructure constraints, emission leakage, technological/commercial nascency, and lack of market structures to sufficiently compensate candidate resources. While many of these barriers may be overcome between now and 2040, it is not evident today which mix of resources is best suited to maintain a reliable grid while achieving the Zero Emissions by 2040 Target, both from a perspective of system needs and the level of availability of each of the candidate technologies given the aforementioned barriers.

As a number of these technologies are also in relatively early stages of technology and market development, there may be levels of performance characteristics for some of the technologies (especially with respect to emissions) that evolve over the timeline to 2040. A technology that, depending on the formulation of the Zero Emissions by 2040 Target, might not qualify today may well improve to the extent that it would qualify by 2040; and the very opportunity for such technologies to be deployed over the period before 2040 could be critical to enabling them to evolve to this extent.

NYSERDA recommends that next steps of the Proceeding be informed by additional technical feasibility analysis. NYSERDA currently is initiating Zero by 40 Technical Feasibility Studies to assess and characterize the economic and technical potential of resources needed to maintain reliability and comply with the CLCPA requirement that by 2040 the electric system will be zero emissions. These analyses can better illuminate the deployment potential and key tradeoffs of candidate resources, as well as how those resources align with the needs of a zero emissions by 2040 electric grid. This information is critical to defining a Zero Emissions by 2040 Target that maintains grid reliability and cost-effectiveness while avoiding the potential for overreliance on resources that might not materialize at the scale required.

3. Recommended approach on definition

NYSERDA recommends that, at least initially, any definitions or eligibility criteria should establish broad, inclusive guardrails that avoid prematurely taking resources off the table. Such guardrails should consist of any immediately applicable eligibility constraints only to the extent these would not trigger the technology uncertainty concerns raised above; in other respects, NYSERDA recommends that such guardrails frame the form of expected future criteria to be applied by 2040, such that they could drive and guide the innovation progress that technologies would need to achieve to comply. The guardrails and the associated eligible resources should be re-examined at

regular intervals, taking into account the progress of relevant technologies, and should potentially be adjusted over time based on consideration of grid reliability needs. Further opportunities to assess the application of eligibility criteria would arise if and when the Commission would consider any interventions aimed at supporting the technologies in question, which may include technology-specific targets or procurement programs, analogous to other steps taken under the Clean Energy Standard.