Honorable Kathleen H. Burgess, Secretary  
New York State Department of Public Service  
Three Empire State Plaza  
Albany, NY 12223-1350  

August 6, 2018

RE: Department of Public Service Staff Proposal on Value Stack Eligibility Expansion in Case 15-E-0751 and Matter 17-01276

Dear Secretary Burgess:

On May 22, 2018, Department of Public Service Staff (“Staff”) filed a proposal on Value Stack Eligibility Expansion.\(^1\) Borrego Solar Systems, Inc. (“Borrego Solar”) supports the comments jointly submitted on this proposal by the Advanced Energy Economy Institute, the Advanced Energy Economy, the Alliance for Clean Energy New York, and the Northeast Clean Energy Council, with the exception that we take no position as to whether combined heat and power systems should be included in the Value Stack. In addition, we write separately to recommend several improvements to Staff’s proposal to expand VDER eligibility to standalone energy storage systems (“ESS”).

In addition to Staff’s proposal on Value Stack Eligibility Expansion, the PSC also solicited comments on proposals to allow for interzonal crediting and lower customer subscription sizes for community distributed generation (“CDG”) projects.\(^2\) Borrego Solar supports these proposed changes, and endorses the comments filed by the Coalition for Community Solar Access with respect to these issues.

The balance of these comments addresses the eligibility of battery energy storage systems for the VDER tariff.

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\(^1\) Dep’t of Public Service, *Staff Proposal on Value Stack Eligibility Expansion* (Case No. 15-E-0751, Matter No. 17-01276) (filed May 22, 2018).

I. Standalone Battery Storage Should Receive Some Portion of the E-Value Once Time- and Location-Varying E Values Are Implemented

Borrego Solar agrees that standalone battery storage (“ESS”) should be eligible for the Value Stack, but should not initially receive the Environmental Value (“E-Value”). However, we recommend that ESS should become eligible to receive VDER credit for environmental benefits once a more time- and location-differentiated E-Value is developed.

Borrego Solar supports Staff’s Environmental Impacts Principle (No. 3) that “[t]echnologies should be either (i) renewable technologies, based on Tier 1 REC eligibility rules; or (ii) non-renewable technologies that have potential environmental impacts that are better than or at least approximately ‘no worse’ than bulk system power.” Under this principle, ESS should become eligible VDER because it has the potential to be “better than or at least approximately ‘no worse’ than bulk system power.” Specifically, if provided with appropriate charge and discharge signals, ESS could displace high-emitting duel-fuel or natural gas peaker plants, as well as remaining coal generation facilities, thus providing net environmental benefits.

ESS eligibility for the value stack is also supported by the VDER Phase 1 Order, which affirmed that projects including energy storage “could offer certain environmental benefits not recognized in the current Value Stack tariff, such as shifting energy consumption to a time of day when incremental generation is cleaner.” At that time, the Commission observed that those benefits were not calculable, and directed Staff and stakeholders to consider in Phase 2 whether and how “more granular values, including environmental benefits from time-shifted consumption, can be included in VDER tariffs.” If given the appropriate signals through revisions to the VDER tariff, ESS that stores grid-supplied energy could reduce net greenhouse gas emissions on New York’s electricity grid by injecting energy at certain peak polluting hours.

Although ESS clearly can reduce the environmental impacts of New York’s current power generation system, the environmental value (“E-Value”) under the Phase 1 VDER tariff currently is not time-differentiated, and therefore does not send time-specific signals to encourage environmentally beneficial dispatch. For this reason, we agree with Staff’s proposal that standalone ESS should not initially receive E-Value compensation. However, ESS should become eligible for receiving E-Value once changes are made to the environmental component of the value stack that account for locational and temporal differences in environmental value provided by DERs.

Two presentations at the Value Stack Working Group meeting on July 11, 2018 provide support for the potential of adopting time- and location-varying E-values under VDER. E3’s “Shaped E-Value” presentation noted that the marginal emissions rate is higher during certain

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3 Our comments are focused on battery-based energy storage systems; we do not address how other types of storage systems, such as compressed air or pumped hydroelectric storage, should be treated under VDER.
4 See PSC, Order on Net Energy Metering Transition, Phase One of Value of Distributed Energy Resources, and Related Matters, at 49 (Mar. 9, 2017) (“VDER Phase One Order”).
5 Id.
6 Staff Proposal on Value Stack Eligibility Expansion, supra note 1, at 5 (Table 1).
hours and seasons.\textsuperscript{7} E3 observed that a simple peak/off-peak differential in the E-Value for ESS could serve as an approach to encouraging appropriate dispatch behavior, and would have greater benefits as more zero marginal emission resources were added to the grid.\textsuperscript{8} In addition, the Institute of Policy Integrity’s presentation focused on quantifying localized non-GHG pollutants and incorporating their avoidance into the Value Stack. That presentation demonstrated that such pollution exhibits local and time-differentiated peaks.\textsuperscript{9} To the extent that a revised E-Value incorporates those localized and temporal environmental benefits in a financeable manner, the benefits of standalone storage would be even greater.

Once the Commission approves a time-varying E-Value, all ESS should receive environmental credit under VDER based on the difference in expected environmental impacts when the ESS charges and discharges. The time-varying E-Value should be made available on an opt-in basis to all standalone ESS, including ESS installed before the date that such variable E-Value is adopted. By making the E-Value available retroactively, the Commission will encourage existing ESS to operate in alignment with the VDER tariff’s environmental signals.

\textbf{II. Standalone Storage Should Be Eligible for Capacity Alternative 2 or a Revised Capacity Alternative 3}

Borrego Solar supports making ESS eligible for Capacity Alternative 3. However, standalone ESS should also be eligible to opt into Capacity Alternative 2 due to the operational limitations associated with current ESS technology. Specifically, current ESS battery technology—particularly the type that can be deployed at the distribution scale—may not be able to sustain discharge for long enough to reliably hit a single NYISO peak hour each year. For example, it is common for the ISO system peak to occur during a late summer afternoon between 2 PM and 8 PM—a 6-hour window that would exceed the duration of most commercially available ESS technology. We note that the NYISO has consistently recognized that battery storage systems have unique operational constraints that merit treating them differently from other types of dispatchable resources that are able to store or access large amounts of fuel, be it coal, gas, oil, or stored water. Allowing ESS to receive Capacity Alternative 2 compensation would recognize these unique constraints while still enabling ESS to provide significant relief during expected peak hours, thus reducing capacity, distribution, and energy costs for other ratepayers.

Conversely, failing to make ESS eligible for Alternative 2 could result in significant under-investment in ESS due to the difficulty of financing these projects around a single-peak-hour Alternative 3 capacity compensation scheme. Put simply, the cost of deploying ESS in New York would be higher if all standalone ESS is required to receive compensation only under Alternative 3. Were the Commission to make such a choice, the result would be a reduction in the myriad non-capacity benefits that ESS could provide in terms of reduced emissions, improved renewables integration, reduced peak prices, ancillary services, resiliency, etc.

\textsuperscript{7} See E3, \textit{Shaped E-Value Presentation} (July 11, 2018) (Slides 6-7).
\textsuperscript{8} Id.
\textsuperscript{9} See Institute of Policy Integrity (E/EJ Value Subgroup), \textit{Environmental Value of Distributed Energy Resources in New York State} (July 11, 2018).
Moreover, providing a more financeable, reasonable compensation mechanisms for ESS under VDER will go a long way to allowing New York to achieve its ambitious 1,500 MW energy storage mandate at lower overall cost.

**III. Conclusion**

We appreciate the opportunity to provide feedback on these important topics, and look forward to working with Staff to further refine the VDER tariff.

Sincerely,

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