

STATE OF NEW YORK
DEPARTMENT OF PUBLIC SERVICE

CASE 15-E-0751 - In the Matter of the Value of Distributed Energy Resources.

MATTER 17-01276 - In the Matter of the Value of Distributed Energy Resources Working Group Regarding Value Stack.

STAFF PROPOSAL ON VALUE STACK ELIGIBILITY EXPANSION

(filed May 22, 2018)

By issuing the VDER Order on March 9, 2017,¹ the Public Service Commission (Commission), began the transition of compensation for Distributed Energy Resources (DERs) to methodologies that reflect the actual value provided by those resources and enabling a distributed, transactive, and integrated electric system. As a first step, eligibility for the Value of DER (VDER) tariffs, which were created in the VDER Order and finalized in the Commission's VDER Implementation Order,² was limited to technologies and project types that had previously been eligible for net energy metering (NEM) based on Public Service Law (PSL) Sections 66-j and 66-l,³ as well as projects that paired energy storage with an eligible technology. However, as the VDER Order explained, "VDER tariffs will be expanded beyond NEM-eligible DG technologies to all DER in a technologically-neutral, value-focused manner as soon as practicable." In addition,

¹ Case 15-E-0751, In the Matter of the Value of Distributed Energy Resources, Order on Net Energy Metering Transition, Phase One of Value of Distributed Energy Resources, and Related Matters (issued March 9, 2017) (VDER Order).

² Case 15-E-0751, supra, Order on Phase One Value of Distributed Energy Resources Implementation Proposals, Cost Mitigation Issues, and Related Matters (issued September 14, 2017) (VDER Implementation Order).

³ Appendix A lists the eligible technologies and associated technical requirements.

the VDER Order directed that stand-alone energy storage projects be included in the VDER tariff "as expeditiously as possible."

In order to progress towards these goals, Department of Public Service Staff (Staff) has worked with stakeholders through the VDER Value Stack Working Group to develop a process for expanding eligibility for VDER tariffs. Staff determined that certain currently ineligible DER could be compensated using the same Value Stack approach used in the VDER tariffs without change to the Value Stack elements. For that reason, the potential exists to expand the VDER tariffs to those DER in an expedited manner. This Staff Proposal presents a proposed process for identifying those resources and expanding the VDER tariffs to such resources for stakeholder comment followed by Commission consideration.

This Staff Proposal deals specifically with the issue of eligibility expansion. A variety of other issues related to the continued development of VDER are currently under consideration in various forums.

Principles for Eligibility Expansion

Staff has developed and proposes the following general principles for identifying technologies and project types for eligibility and determining their appropriate treatment in the Value Stack.

- 1) Practicality: Inclusion of the technology or project type must not require any changes to the definition or calculation of existing Value Stack elements;
- 2) Ripeness: The factual record must be sufficiently complete to provide a basis for decision.
- 3) Environmental Impacts: Technologies 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. Compensation based on environmental attributes should be offered only to projects that are eligible for and provide Tier 1 RECs.

- 4) Non-Participant Cost Impacts: Any potential utility net revenue impact, and therefore potential non-participant cost impact, if applicable, should continue to be subject to the Tranche system approved in the VDER Order. (NOTE: May not be necessary if Principle 8, below, is adopted.)
- 5) Technology Neutrality: The compensation for resource injections should be based on the specific values provided, rather than on technology designation (while at the same time recognizing that specific technologies may provide different values).
- 6) Value-Based Crediting: Each element of the Value Stack should reflect an actual value to the system and society and a reasonably accurate calculation of that value.
- 7) Electricity Injection Focus: Each element of the Value Stack should have a direct relationship to the production and injection of electricity to the grid.
- 8) Market Transition Credit (MTC) as a Transitional Element: The MTC was based on kWh retail rates that mass market customers could avoid via NEM and is a transition tool for NEM-eligible resources only; therefore, resources that were not eligible for NEM should not be eligible for the MTC.

The determination that a particular technology or project type does not currently qualify for eligibility, either in this Proposal or by the Commission, should not be interpreted as a determination that technology or project type will not become eligible for VDER tariffs at a later point. Staff will continue to evaluate the potential for eligibility expansions as both the VDER tariffs and the market evolve, and will recommend further action as appropriate.

Proposed Removal of Customer-Type-Based
Technology and Size Limits

As Appendix A shows, eligibility for NEM was limited to certain technologies, and certain project sizes by technology, depending on customer type (e.g., residential vs. commercial). These limits may have been necessary and appropriate when compensation was associated with the utility service class that applied at that project's site. With the advent of the Value Stack, however, the service class applied at a project site no longer affects compensation and therefore those limits no longer appear to be needed. For that reason, Staff recommends that those limits be lifted, such that any of the technologies appearing in PSL 66-j or 66-l can be built by any type of customer up to the overall 5 MW limit, with the exception of Combined Heat and Power (CHP), which requires further analysis and is discussed in more detail below. In any case where, based on customer type and/or project size, a project would not have been eligible for NEM under PSL 66-j or 66-l, the project will not be eligible for Phase One NEM or the MTC element of the VDER Tariff. In all other respects, however, the project should be treated in the same way as other projects of that technology meeting the customer type and/or project size rules for compensation purposes.

Proposed Technologies for Expanded Eligibility

Staff has identified additional technologies and project types that could be made eligible for Value Stack compensation based on the Commission's direction and the principles described above. In considering the inclusion of additional technologies and project types, Staff has also identified the elements of the Value Stack that should be included in compensation for each resource.

The potentially additional eligible resources fall into three categories:

- (1) CES Tier 1 Eligible Resources that were not already NEM-eligible;
- (2) Stand-alone storage, as well as regenerative braking; and
- (3) Distributed CHP generation not already eligible under NEM (specifically, CHP projects larger than 10 kW and no larger than the VDER maximum project size, currently 5 MW).

Each category of resources presents distinct issues and questions that require consideration in the application of each Value Stack element. Table 1, below, summarizes Staff's proposal regarding the applicability to each project type of each of the Value Stack elements: (a) LBMP energy; (b) ICAP; (c) E, the environmental externality value based on Tier 1 RECs; (d) DRV/LSRV, the local distribution avoided cost value; and, (e) the MTC.

Table 1. Proposed Eligibility for Credit Element by New Resource Category

Potential Additional VDER Eligible Resources

	Other Tier 1	Batteries/Storage /Braking*	Non-NEM CHP
<u>Credit Element</u>			
LBMP	Yes	Yes	Not at this time
ICAP	Alt. 3	Alt. 3	Not at this time
E	Yes	No	Not at this time
LSRV	Yes	Yes	Not at this time
DRV	Yes	Yes	Not at this time
MTC	No	No	Not at this time
Project Size Limit	5 MW	5 MW	N/A

*Note: for storage paired with an eligible generator, the 5 MW limit is applied as described in the Commission's April 19, 2018 Order Modifying Standardized Interconnection Requirements in Case 18-E-

0018. Essentially, the eligible generator and the storage may each individually be sized at up to 5 MW and no more than 5 MWs may be injected into the distribution grid at any given time.

(1) Tier 1 REC Eligible Resources. DPS Staff proposes to expand the eligibility for Value Stack crediting under the VDER tariff to any clean generation technology that satisfies the requirements described for Tier 1 resources under the Clean Energy Standard (CES). Examples of technologies that produce Tier 1 RECs, but are not currently eligible to participate in VDER tariffs, are (a) tidal energy generators and (b) biomass generators that meet the Tier 1 CES requirements but not the more prescriptive PSL 66-j requirements, which require among other things that at least fifty percent of the feedstock be "livestock manure materials."

Staff also proposes to expand eligibility for compensation under the Value Stack to those clean resources that are ineligible to participate in the CES by virtue of an in-service date prior to January 1, 2015. Consistent with existing rules for VDER crediting, resources that are not CES eligible due to their vintage date will not be eligible for the E value. Similarly, non-NEM-eligible resources should also not be eligible for MTC crediting because the MTC is an element specifically tied to NEM eligibility.

For the same reason, Staff proposes that non-NEM-eligible resources be eligible only for Alternative 3 ICAP credits, which best represent the value provided to the system. Alternatives 1 and 2 were transitional constructs to allow resources that have been relying on NEM compensation to gradually adapt to the VDER approach. Alternative 3, which reflects actual ICAP cost causation for load-serving entities (LSEs) and large retail customers, will provide an improved value signal for entry by new market participants.

(2) Stand-Alone Storage, including Regenerative Braking. Pursuant to the VDER Order, storage paired with an eligible DER qualifies for Value Stack compensation. Staff proposes that stand-

alone storage, including storage paired with consumption load, be eligible for the VDER tariff for any hourly injections to the grid. Staff also proposes that energy storage systems charged by using regenerative braking technologies, such as those used by New York subway systems, be eligible for the VDER tariff for any hourly injections to the grid. As shown in Table 1, staff proposes that storage be eligible for hourly LBMP, Alternative 3 ICAP, and LSRV/DRV crediting. If storage is "charged" with either system power, or an otherwise VDER-eligible technology, then it should satisfy the principle that the environmental impacts of its injection are no worse than bulk system power.⁴ The addition of storage to the VDER eligibility list, however, raises a concern with respect to possible uneconomic arbitrage with the retail consumption rates under which the battery may be charged; that concern is discussed further below.

(3) CHP. The only CHP that was eligible under NEM was so-called "Residential Micro-Combined Heat and Power," defined as CHP with a rated capacity between 1 kW and 10 kW that would produce at least 2,000 kWh annually, at a total fuel use efficiency of at least 80%. Staff considered expanding CHP eligibility beyond this very narrow class to all CHP below the maximum project size, currently at 5 MW, for any customer. While some stakeholders support this, others raise concerns that the record is not adequate to assure that the environmental impact of such resources would be "no worse" than bulk system power with respect to CO₂ emissions or that such resources would not unreasonably increase local pollutants in environmental justice areas or similar locations. Staff agrees with these parties that further work is needed to define "VDER-eligible CHP" such that granting eligibility to such resources will not worsen environmental

⁴ The possibility of "shaping" the E credit more granularly, for example hourly, which might allow storage to provide CO₂ emission savings, will be addressed elsewhere.

impacts. Staff will work with the New York State Energy Research and Development Authority (NYSERDA) and stakeholders to develop the record to enable CHP eligibility to be given further consideration.

Other Issues

Uneconomic retail rate arbitrage. Retail consumption rates for most customers represent average cost causation over a period of time, such as a period of hours, a month, or even a year, while VDER compensation is specific to value in an individual hour. A storage resource could be used to engage in uneconomic arbitrage⁵ by charging from system power during a high-value period at an average retail consumption rate and then immediately injecting that power back into the system for the more granular, and therefore higher, VDER tariff value. While the technological potential for such situations may be limited at the present, technology in this area is changing rapidly. To avoid this situation and to more generally ensure that storage resources receive charges and credits that accurately reflect the costs and values they create, Staff proposes requiring that customers with stand-alone storage seeking eligibility for VDER injection compensation be charged for consumption at the utility's Mandatory Hourly Price (MHP), resulting in both charges and credits accurately reflecting hourly values.⁶ At the same time, customers having small enough loads to avoid being served at MHP and that are installing storage primarily to manage their behind-the-meter consumption may be discouraged from installing storage if they are required to switch to MHP for all of their load. Staff proposes that MHP not be required

⁵ Compensation that does not actually reflect the costs and benefits created by the resource.

⁶ A customer who sites storage behind a separate meter from its other consumption or generation would only be required to be charged based on the Mandatory Hourly Price at the meter on the storage.

when the injecting storage is sized to not exceed 115% of the customer's peak consumption load. The utilities should propose methods to implement this requirement. Further, Staff proposes the utilities be required to offer optional hourly pricing to any VDER customer with storage.

Standby and buyback rates. Standby rates seek to ensure some minimum payment from "prosumers" to support the existence and maintenance of the electrical grid. Some provisions of certain utility "buyback rate" tariffs seek to do the same for projects that have de minimis retail consumption. However, NEM-eligible technologies and project types have generally been exempt from participating in standby and buyback rates. Staff believes that such an approach is neither fair nor sustainable as the VDER eligibility list is expanded. Thus, Staff proposes that any standby or buyback rate provision that would otherwise apply to non-VDER prosumers be applied to customers in this expanded eligibility VDER class, except that compensation for net hourly injections would be based on the Value Stack as described in this proposal rather than on existing buyback rate compensation.

Community Distributed Generation (CDG) Eligibility. Currently, only NEM-eligible technologies are permitted to be organized and compensated as a CDG project. Staff proposes to expand the CDG-eligible list to correspond to the additional Tier 1 technologies proposed to be added to VDER eligibility in this Proposal, including the combination of VDER-eligible technologies with storage. Regardless of whether a project is organized or compensated as a CDG project, an on-site project, or a remote crediting project, compensation would be under the Value Stack and consistent with the proposals in Table 1.

APPENDIX A

Currently Eligible Resources:

- a) Solar (66-j)
 - a. Residential: 25 kW or less (except Farm);
 - b. Farm Residential: 100 kW or less;
 - c. Non-residential: 5,000 kW (February 22, 2018 Order).
- b) Farm Waste (66-j)
 - a. 500 kW Farm Residential; 5,000 kW Commercial (February 22, 2018 Order);
 - b. Agricultural waste and food waste; with
 - c. 50% of annual feedstock, by weight, being livestock manure.
- c) Residential Micro-Combined Heat and Power (66-j)
 - a. Cogenerating building heat and electric power;
 - b. Any fuel (engine, fuel cell, or other);
 - c. Between 1 kW and 10 kW;
 - d. Produces at least 2,000 kWh annually;
 - e. Design total fuel use efficiency of 80%.
- d) Fuel Cell (66-j)
 - a. Residential: 10 kW or less;
 - b. Non-residential: 5,000 kW (February 22, 2018 Order).
- e) Micro-Hydroelectric (66-j)
 - a. Residential: 25 kW or less;
 - b. Non-residential: 5,000 kW or less (February 22, 2018 Order).
- f) Wind (66-l)
 - a. Residential: 25 kW or less;
 - b. Farm: 500 kW or less;
 - c. Non-residential: 5,000 kW or less (February 22, 2018 Order).
- g) Storage Combined with a) - f) (March 9, 2017 VDER Order)