STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

PUBLIC UTILITIES COMMISSION

PETITION OF TESLA, INC. & SUNRUN INC.
FOR DECLARATORY JUDGMENT **Docket No. 4743**
PURSUANT TO R. GEN. LAWS §39-26.4 et seq.,
THE NET METERING ACT

REPLY COMMENTS OF SUNRUN INC.

On November 7, 2017, the State of Rhode Island Division of Public Utilities and Carriers ("Division"), National Grid, and the Commissioner of the Rhode Island Office of Energy Resources ("OER") provided comments on Tesla, Inc. ("Tesla") and Sunrun Inc. ("Sunrun") (together "the Petitioners'") petition in the above-referenced proceeding. Sunrun appreciates these initial comments and offers a response to some of the matters raised in an effort to provide clarity and serve as a resource for the Commission to issue an order in this proceeding that best suits the needs of all parties and ratepayers.

We would like to thank the Division and OER for their public support of solar + storage in Rhode Island. The Division recommended that the Commission determine that adding a battery storage systems to certain solar net metering ("NEM") resources should not affect the project's eligibility for NEM status, and acknowledged that this question is stalling the interconnection of viable projects.[1] OER underscored the benefits of energy storage to customers, the grid, and society, and fully supports our Petition in this proceeding.[2] We applaud this public participation as an important step in advancing a reliable, affordable, and clean energy future for Rhode Island.

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[1] *See* Division Comments at p. 3.
[2] *See* OER Comments at p. 1.

Ensuring that charging is confined to NEM-eligible electricity does not have to be a complicated exercise. There are only two necessary elements. First, the equipment must be technically capable of preventing grid charging, which can be verified through equipment testing by a Nationally Recognized Testing Laboratory, proof of appropriate field commissioning settings, and the establishment of standardized acceptable configurations. Second, the system must be programmed and operated so as to abide by NEM-only charging requirement. This can also be accomplished simply with modifications to interconnection documents that demand a commitment to maintaining the operating characteristics that prevent grid charging. Such commitments may be enforced via existing mechanisms governing violation of interconnection rules and agreements.

Within Sunrun's original filing, we discussed our Brightbox, which may include a single inverter with DC connections for photovoltaic modules and batteries ("DC coupled"). We felt the need to raise this design option again as the alternative AC coupled design option has been the primary design configuration discussed. DC coupled systems can be designed to have multiple electric meters to account for all power flow, but we feel that this expense and design complication is unwarranted. Submittal of site commissioning documentation should highlight that the system's configuration is charge-only from onsite solar and will ensure that the system is not capable of charging from grid power.

I. Response to the Division's Comments

The Division suggested that Rhode Island may be considering time of use ("TOU") rates in the future, and that an additional docket to address solar + storage

systems under conditions than proposed in this Petition would be warranted at that time.[3] We agree that a longer-term docket on TOU may be necessary. Many other states have already addressed this issue and are, as a result, beginning to harness all of the grid and ratepayer benefits that solar + storage on time variant rates provide.

Energy storage makes electricity generated by a NEM system more valuable, to the benefit of both the NEM customer and all ratepayers. It allows NEM systems to be operated so as to provide "smart exports" in a manner that is responsive to system needs. Prohibiting NEM systems equipped with energy storage from exporting otherwise NEM-eligible electricity to the grid would sacrifice a significant portion of the benefits that energy storage can deliver, reducing both the temporal range of responsiveness, and the magnitude of that response. For instance, the storage system would be forced to stand idle during critical events when the accompanying NEM system is already exporting electricity, or when the NEM customer has an on-site load that does not coincide with the loads of other customers. The ultimate result would be to confine storage-paired NEM systems to operate as traditional demand response, making a potentially fully dispatchable resource only semi-dispatchable, with a narrowed range of operation that makes it less able to respond to system needs.

Such a result would be shortsighted and contrary to numerous state and regional initiatives seeking to unlock the full value of customer-sited energy storage. Below are several examples of instances where the value of energy storage as a vehicle for "smart exports" has been acknowledged and supported by regulators and policymakers:

- Hawaii: On October 20, 2017 the Hawaii Public Utilities Commission issued an Order establishing an interim Smart Export Tariff capped at 35

[3] *See* Division Comments at p. 5.

MW in total among the three main islands. The tariff allows and provides compensation for exports from 4 PM - 9 AM (i.e., outside of typical solar generation hours) while providing no compensation for exports that occur during the 9 AM - 4 PM period. These compensation rates are higher than those offered other tariff options that allow exports, responding to the changing character of resource needs during different time periods and the unique conditions present in Hawaii.[4]

- New York: The New York Public Service Commission's ("NYPSC") March 2017 Order establishing a value-based DER ("VDER") tariff for some systems and continuing NEM for systems installed by "mass market" customers (i.e., residential and small commercial) allows exports from energy storage under both the VDER and remaining NEM tariff options. In making this decision, and declining to establish additional technical requirements or limitations, the NYPSC reasoned that: (a) limitations embodied in federal tax incentives ensure that most energy storage systems are charged only from renewables, (b) energy storage is a key component of the energy future, and (c) energy storage has substantial potential to enhance DER capabilities so as to lower system costs and provide additional services.[5]

- California: In April 2016 the California Public Utilities Commission ("CPUC") issued a Decision that allows all storage-paired NEM systems to export power (with no restrictions on grid charging). Additional metering and equipment is required for larger systems to prevent gaming, but systems with storage capacity of 10 kW or less are permitted to use an estimation methodology that limits compensation for exports during a month based on the estimated production of the on-site NEM system. In making its decision, the CPUC reasoned that TOU arbitrage using grid electricity was not a serious concern given current storage costs, efficiency losses, and TOU price differentials, and weighed that against the benefit of export shifting as a source of DER value.[6]

  Furthermore, in October 2017 the CPUC issued Draft Resolution E-4889 addressing utility proposals for competitive DER solicitations for the purpose of deferring or avoiding distribution capital investments. The Draft Resolution, among other things, directs Southern California Edison and San Diego Gas and Electric to revise their proposed solicitation requirements to eliminate constraints on exports from behind the meter systems, agreeing with commenters arguing that categorical export

[4] Hawaii Public Utilities Commission Docket No. 2014-0192, Decision and Order No. 34924 (Oct. 20, 2017).
[5] New York Public Service Commission, Case No. 15-E-0751, Order on Net Energy Metering Transition, Phase One Value of Distributed Energy Resources, and Related Matters, P. 48-49 (Mar. 9, 2017).
[6] California Public Utilities Commission, Docket No. R.12-11-005, D.16-04-020, (Ap. 28, 2016).

constraints would create significant challenges for cost-effective deployment and utilization of customer-sited resources.[7]

- PJM Interconnection: The PJM established a special stakeholder committee in early 2016 to explore barriers and potential solutions to DER market participation models. As discussed in meetings that took place from June - October 2016, one of the primary barriers to DER market participation is that resources classified as DR (avoiding expensive interconnection and metering requirements applicable to generation units) are not permitted to inject energy to the grid, limiting their capability to be full market participants. The group recognized this limitation and began exploring how to resolve issues associated with exporting DR along the lines of the ISO-NE's DR model, which does permit grid injections.[8] The stakeholder proceedings have thus far achieved tangible results, but the effort is a recognition that DER value is limited by export restrictions.

With regards to the Division's concern that our Investment Tax Credit ("ITC") obligations do not legally prevent us from charging our solar + storage systems from the grid,[9] in practice the financial disincentive is just as effective as a prohibition.

II. Response to National Grid's Comments

National Grid's interconnection tariff and the conditions that they propose within their filings are inconsistent.[10] First, some of their suggested enforcement mechanisms, such as customer disconnection, are clearly included within the tariff and do not require a separate standard.

Secondly, for guidance on how to ensure a system is operating in compliance in the future, we must again look the interconnection tariff for consistent applications of reasonable standards.[11] In the event National Grid has concerns with systems settings, it

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[7] California Public Utilities Commission, Draft Resolution E-4889 (Oct.27, 2017).
[8] PJM Interconnection. Markets and Reliability Committee. Special DER Committee. Materials available at: http://www.pjm.com/committees-and-groups/committees/mrc.aspx.
[9] *See* Division comments at p. 4.
[10] National Grid's current interconnection tariff is available at https://www9.nationalgridus.com/non_html/RI_DG_Interconnection_Tariff.pdf.
[11] *See, e.g.*, Section 4.2.4 Protection System Testing and Maintenance, which provides that "[t]he Company reserves the right to install special test equipment as may be required to monitor the operation of the

is their right to test at National Grid's expense unless there is shown to be a problem with the generating facility. To require separate enforcement mechanisms would be counter-productive to the state's energy goals; why require that of customers adopting a progressive technology that promises so many benefits to the grid.

Much like our recommendations offered in Massachusetts, we suggest that a customer should be notified if a utility suspects a violation of the interconnection tariff or if the utility suspects the customer is charging from the grid, which could trigger an inspection. If the inspection validated a violation, then the customer should be subject to lose his or her NEM status.

National Grid suggested additional equipment, but the cost and equipment were not specified. Requiring additional equipment would be wasteful and counter-productive.

III. Conclusion

Sunrun appreciates the opportunity to respond to comments and the unanimous support for NEM eligibility for solar + storage systems. Accordingly, SunRun respectfully asks the Commission to grant this petition and advance energy storage

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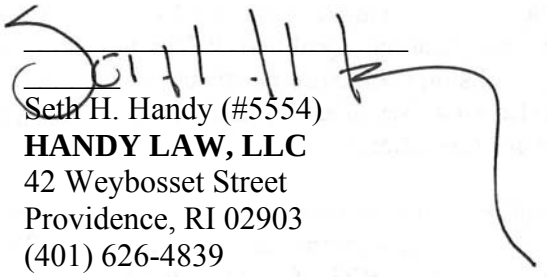
Facility and its control or for evaluating the quality of power produced by the Facility at a mutually agreed upon location. The cost of this testing will be borne by the Company unless there is shown to be a problem associated with the Facility or if the test was performed at the request of the Interconnecting Customer."

technology in Rhode Island.

Sunrun, Inc.

By their Attorneys,



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