August 4, 2023

Rhode Island Public Utilities Commission
89 Jefferson Blvd.
Warwick, RI 02888

Re: Docket No. 5000 – CPower Comments on RI PUC's Storage Report, "Examination of the Value of and Need for Energy Storage Resources in Rhode Island"

Dear PUC Commissioners and Staff,

CPower appreciates the opportunity to provide comments on the Rhode Island Public Utilities Commission's ("PUC's") July 10, 2023 report, "Examination of the Value and Need for Energy Storage Resources in Rhode Island" (the "Storage Report").

CPower is a leading Demand Response ("DR") and Distributed Energy Resource ("DER") Service Provider, with over 6 GW of capacity under management across the nation. CPower participates in all the organized wholesale markets in the United States as well as over 60+ retail programs designed to incent energy storage and load reductions. CPower was actively involved in the development of the recently launched Connecticut Energy Storage Solutions ("CT ESS") program and has qualified over a dozen resources for participation in that program.

Comments

1. **Storage may be needed to transition to a carbon-free electricity supply sooner than anticipated.**

The Storage Report focuses on when storage will be needed to enable the transition to an emissions-free electricity supply consistent with the RES and Act on Climate. Notably, however, the development of clean energy resources is driven by a variety of forces, including state procurements, customer preferences, merchant investor decisions, and other factors. Given this, it is difficult to predict when the supply of clean energy will begin to outstrip demand during parts of the day, and thus equally

difficult to guess when storage will be able to provide benefits in terms of shifting zero emissions generation to hours where its benefits can be maximized. As such, CPower recommends that the PUC take a proactive approach to incenting storage, and begin developing a unified incentive approach now, so that incentives will be in place and storage will be on-line in time to meet the needs of the system.

2. **Storage resources of any significant size take multiple years to develop, therefore, the PUC should ensure sufficient incentives are in place *well before* storage is needed.**

CPower is in the process of developing multiple storage projects for participation in Connecticut's Energy Storage Solutions (ESS) Program and therefore has firsthand experience with the lengthy process of bringing a storage project of half a megawatt or more to fruition. The interconnection process alone may take multiple years for some projects. We are finding that almost all large projects and many relatively small projects are required to perform both a study at the distribution level (a utility level study) and a study at the transmission level (an ISO-New England level study); the addition of a transmission study can add as much as 9-12 months to the development process. We expect this requirement to perform dual System Impact Studies to become more frequent as the number of distribution resources on the system grows. In addition, the supply chain for battery components, including lithium carbonate, transformers, and inverters continues to be challenging, resulting in lengthy delivery timeframes for equipment. To illustrate this, we've included the table below, which shows recent quotes from equipment suppliers.

Energy Storage Equipment Supplier *(in no particular order/ranking)*	Battery Containers *(Weeks from PO to delivery)*	Inverters *(Weeks from PO to delivery)*	Transformers *(Weeks from PO to delivery)*	Switchgear *(Weeks from PO to delivery)*
Supplier 1	52	30	40	55
Supplier 2	42-46	20	52	46
Supplier 3	42-52	25	46	70
Supplier 4	52-60	20	60	60

In short, the PUC should recognize that developing storage is a multi-year process and therefore, it should ensure that the proper incentives are in place well before it sees the need for storage on the system. Further, as noted above, the need for storage to maximize the benefits of clean energy may materialize sooner than expected. Given this, the PUC should be proactive in developing robust incentives for storage.

3. **ConnectedSolutions will become much less effective (or potentially ineffective) at incenting storage at Commercial and Industrial (C&I) sites if Rhode Island Energy (RIE) caps the incentive as planned.**

RIE has informed CPower that it plans to cap the ConnectedSolutions Performance Incentive available to C&I batteries at 150% of the host customer's load. Such a cap is likely to make a large portion of C&I storage unviable because the economics are much more challenging for smaller batteries. The majority of C&I storage projects are sized larger than the host load because this creates resilience benefits for the customer and provides economies of scale on the cost of the battery. If C&I projects' incentives are capped at 150% of the customer's peak load, it's likely that all but those associated with the largest customers will become financially unviable. CPower anticipates that most, if not all, large customer-sited projects in the interconnection queue today would drop out due to deteriorated economics if the planned incentive cap moves forward.

One simple step that the PUC could take today to reduce barriers to C&I storage development would be to direct RIE not to implement a an incentive cap of 150% of peak load on C&I batteries in ConnectedSolutions. CPower is not opposed to implementing a cap on the performance incentive in the program; this is probably a prudent measure to ensure that storage that is many multiples of peak load is not eligible for an incentive on this extreme over-sizing. The proposed cap of 150% of peak load, however, is overly restrictive and will be damaging to project economics. CPower believes that a cap in the range of 6x to 7x peak load would be appropriate; this sizing would deliver meaningful resilience to customers while ensuring that the Program does not pay for "extreme oversizing".

4. **CPower agrees that the current "patchwork" of storage programs leaves value on the table; it would be more effective to create a single unified approach to incenting storage**

CPower suggests that the PUC consider adopting a program similar to Connecticut's Energy Storage Solutions Program. This program provides both an up-front incentive and a performance incentive to projects in the program. Incentive rates are locked in for 10 years. This lock-in feature is a very important aspect of the program. Customers and investors are generally unwilling to invest in storage without some certainty on the value streams available to recoup their costs.

Any storage program should include incentives for both front of the meter and behind the meter (customer-sited) storage. Both types of storage are important to the grid. Notably customer-sited storage provides customers with valuable resilience benefits and can help maintain the reliability of the distribution system.

5. **Any storage tariff should include rates for both front of the meter storage and behind the meter (customer-sited) storage**

As noted above, both behind the meter and customer-sited storage provide important benefits to the grid, and therefore the development of a storage tariff should include rates for both classes of storage.

Conclusion

CPower appreciates this opportunity to provide comments to the RI PUC on the Storage Report and looks forward to working with the PUC to facilitate the transition to a zero-emissions electricity supply.

Respectfully,

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