

**COMMENTS FROM DIVERSIFIED ENERGY REGULATORY CONSULTING, LLC
ON NEW JERSEY BOARD OF PUBLIC UTILITIES' NOTICE REQUESTING
COMMENTS ON QUESTIONS RELATED TO THE PREPARATION OF AN ENERGY
STORAGE ANALYSIS.**

March 20, 2019.

I. INTRODUCTION

On March 7, 2019, the New Jersey Board of Public Utilities' ("BPU's") Office of Clean Energy, issued a Notice Requesting Comments ("Notice") on issues related to the preparation of an Energy Storage Analysis.

Diversified Energy Regulatory Consulting, LLC ("DERC") appreciates the opportunity to provide input on specific questions raised in the Notice. DERC looks forward to continued participation in the process of determining how energy storage technologies will contribute to New Jersey's energy landscape.

DERC's comments will focus on two interrelated issues raised in the Notice. The area of focus will be on potential ratepayer benefits that could be derived from renewable electric storage systems. The second and related area of focus centers on the benefits and costs to ratepayers and other stakeholders of the development and implementation of energy storage technologies.

DERC applauds the New Jersey Legislature and the BPU for its timely focus on energy storage. This includes focusing on the existing and potential contribution of electric energy storage to New Jersey's energy landscape, as well as potential impacts on ratepayers, utilities, local communities and other stakeholders.

II. COMMENTS

Q. How might the implementation of renewable electric storage systems benefit ratepayers by providing emergency back-up power for essential services, offsetting peak loads, providing frequency regulation, and stabilizing the electric distribution system.

A. It is somewhat cliché, but it is nevertheless true that the electric industry is undergoing significant transformation. Driven by technological changes, changes in the resource mix, the need for greater grid security and resilience, and the desire by some ratepayers to more actively

manage their energy consumption and production, electric energy storage can play a vital role in facilitating sustainability, system resilience, and more efficient energy cost management.

Electric energy storage when paired with renewable energy resources such as solar, can promote system resiliency by ensuring that there is an uninterrupted power source in the case of outages on the electric distribution system. The paired energy storage/renewable generation system can be part of a microgrid serving a local community, or it could be a form of back-up generation used by a single customer during an outage. Having a paired energy storage plus renewable generation system can mitigate the impact, including any economic impact from disruptions of service, or outages on the electric grid.

Key to the widescale adoption of electric storage systems is the economic benefits or economic payback to be derived from such systems. In order to facilitate broader adoption and investment in these technologies, there needs to be an economic incentive to invest. With the appropriate regulatory constructs for instance, ratepayers can potentially see economic benefits from the use of their electric storage systems to manage demand charges through offsetting peak loads.

More broadly speaking, there also needs to be consideration of multiple use applications for these electric storage systems. This includes how to fairly compensate owners for those multiple uses, while preventing duplicative payments for the same service. For instance, if a storage system is providing distribution services as well as wholesale services, how should market rules and tariffs be defined to clearly demarcate jurisdictional boundaries/markets, and how services are valued and compensated in each jurisdictional market?

Q. What might be the benefits and costs to ratepayers, local governments and electric public utilities associated and implementation of additional energy storage technologies.

A. For ratepayers that invest in energy storage systems, the most obvious cost is the upfront costs associated with such investment. As stated earlier, in order to incent widescale adoption and investment in these technologies, the market and regulatory constructs must exist to provide reasonable economic payback on the investment. Identifying the grid services or benefits that can be provided by energy storage technologies, is the first step in determining what markets or regulatory constructs are needed to value and compensate for those services. In the case of energy storage paired with renewable generation, the right price signals may allow for such systems to be used for peak shaving, reducing electricity costs to ratepayers. Such systems could also conceivably be aggregated and used by System Operators to balance supply and demand on the grid. There could be resilience benefits of having these systems as part of a microgrid, or as back-up generation in the case of an outage or disruption in service.

The key to realizing the full potential of electric storage systems is to create the market and regulatory mechanisms to identify, value and compensate for the services that these technologies provide.

The other aspect that should not be neglected is that whatever regulatory construct is adopted should minimize or eliminate any cost shifts that may occur from ratepayers who own energy storage systems to those who do not. This is where it is important that utilities and the BPU work closely to ensure appropriate rate designs that incents innovation and choice, while also allowing the costs of maintaining a reliable, resilient grid, to be fairly allocated to all ratepayers.

Another costs to be considered is that associated with research and development into newer, more efficient and cost-effective technologies. One central question is who should bear the cost of research and development in this area. If energy storage is seen as a vital part of a sustainable, reliable and resilient energy future, what is the role for government, utilities, and the private sector in facilitating research and development in this area? Is this an arena where public-private partnerships make sense in order to further innovation.

III. CONCLUSION

In conclusion, DERC applauds the BPU for its leadership on this issue and looks forward to continued participation in the stakeholder process.

Respectfully Submitted,

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