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December 29, 2020

VIA EMAIL

Ms. Debra A. Howland
Executive Director
New Hampshire Public Utilities Commission
21 S. Fruit St, Suite 10
Concord, N.H. 03301-2429

RE: Docket No. IR 20-166 - Investigation into Compensation of Energy Storage Projects for Avoided Transmission and Distribution Costs

Dear Ms. Howland,

The Edison Electric Institute (EEI) respectfully submits this letter to the New Hampshire Public Utilities Commission (Commission or PUC) in response to the Order of Notice issued on October 12, 2020 in Docket No. IR 20-166, *Investigation into Compensation of Energy Storage Projects for Avoided Transmission and Distribution Costs*. EEI has been monitoring energy storage proceedings across the country and appreciates the opportunity to provide the PUC with a national perspective on the integral role electric companies can play in not only supporting the deployment of energy storage, but also in ensuring its value is maximized and cost-effective for customers.

EEI is the association that represents all U.S. investor-owned electric companies. Our members provide electricity for 220 million Americans and operate in all 50 states and the District of Columbia. Collectively, the electric power industry supports more than 7 million jobs in communities across the United States. EEI's member companies, which includes Eversource Energy, Liberty Utilities, and Unitil, deliver safe, reliable, affordable, and increasingly clean electricity that powers the economy and enhances the lives of all Americans.

EEI members annually invest more than \$110 billion to make the energy grid stronger, smarter, cleaner, more dynamic, and more secure; to diversify the nation's energy generation mix; and to integrate new technologies that benefit customers. EEI members are united in their commitment to get as clean as they can, as fast as they can, while keeping reliability and affordability front and center for the customers and communities they serve.

Throughout the United States, electric companies are leading the way on energy storage. In fact, electric companies are the largest users and operators of all forms of energy storage in the U.S., including pumped hydropower, batteries, flywheels, compressed air, and thermal storage. Accordingly, electric companies are critical partners in implementing energy storage technologies, representing approximately 60 percent of total investment in battery storage

technology, and owning, procuring, or utilizing 97 percent of all grid-connected energy storage today.¹

Electric Companies' Ownership of Energy Storage Enables Fair Compensation and Distributes Benefits to All Customers

Energy storage is not a single technology but rather a host of different technologies with vastly different operating characteristics, cost structures, and benefits.² The type of energy storage technology deployed in a location is largely determined by an area's resources, needs, and market structure. When deployed at the appropriate location and scale, energy storage can be used in various ways to enhance electric company operations, to optimize and support the energy grid, and to enrich the customer experience.

As implicitly acknowledged in the Order of Notice, electric companies are increasingly using energy storage as a tool in their toolbox to enhance flexibility, reliability, and resiliency at all levels of service - generation, transmission, and distribution. For New Hampshire to realize the full benefits of energy storage, storage providers should be allowed to provide multiple services and be fairly compensated for each service provided.³ The value of energy storage is determined by the specifications and maximizing revenue streams for all possible uses of an individual project, which makes it difficult to compare costs among energy storage projects since the value is highly dependent on specific use cases. The ability to tap into multiple value streams and to stack the values to maximize an asset's potential will be increased if electric companies are able to own, procure, and operate energy storage.⁴ Electric companies are best positioned to maximize the value and cost-effectiveness of energy storage when permitted to use the same storage asset in multiple ways.

Storage is a technology that may not always fit cleanly into traditional generation, transmission, or distribution classifications. Nationally, existing regulations in this area were developed at a time when pumped hydro was essentially the only form of energy storage. As a result, most laws and regulations on storage do not typically account for specific use cases, the intrinsic flexibility of newer storage technologies, nor allow for the provision of multiple services. To address these gaps and determine reasonable compensation, regulations and standards in this area should recognize the flexibility of the various types of energy storage, the best ways each type of storage can be used, and allow for the use of energy storage technologies to be on equal footing with other resources, regardless of whether they support generation, transmission, distribution, or their location either in front or behind-the-meter (BTM).

¹ See EEI, *Energy Storage Trends & Key Issues*, June 2020, https://www.eei.org/issuesandpolicy/Energy%20Storage/2020_June_Storage_Key_Trends_Solutions_FINAL.pdf

² Edison Electric Institute, "Harnessing the Potential of Energy Storage: Storage Technologies, Services, and Policy Recommendations," 2017, https://www.eei.org/issuesandpolicy/generation/Documents/EEI_HarnessingStorage_Final.pdf

³ See *id.*

⁴ See EEI, *Electric Companies Help Maximize the Benefits of Energy Storage*, 2019, https://www.eei.org/issuesandpolicy/Energy%20Storage/EEI%20Energy%20Storage%20Ownership_042019_Final.pdf

Electric companies, when prohibited from owning energy storage and DER, are prevented from more easily enhancing and enabling the reliability and resiliency of the energy grid. For example, electric companies — because of their knowledge and experience operating the distribution system — can identify valuable applications and beneficial locations and resources to use on the energy grid. Siting storage and other DER appropriately is acutely important because an individual resource can help or hurt the reliability and resiliency of the broader energy grid depending upon where it is located as well as how and when it is operated.

Take Vermont, for example, where Green Mountain Power (GMP) owns and operates BTM energy storage under several pilots.⁵ Its Resilient Home Innovation Pilot is evaluating a battery's ability to serve as a customer's meter, and how the system can act as a resource for load reduction and grid reliability. GMP recently released an analysis showing peak shaving by its storage programs would result in \$49 million in avoided costs, or between \$12,000 to \$15,000 per system on average. When factoring in all costs and revenues, its two pilot programs — Grid Transformation Innovative Pilot and Resilient Home Innovative Pilot — combined will generate a net benefit of \$8.5 million over 18 years.⁶ In 2020 alone, GMP's energy storage projects and carbon reducing devices have saved all customers \$3 million.⁷

Electric companies have already been allowed to operate BTM storage on a pilot basis in New Hampshire. In 2019, the Commission approved Liberty Utilities' battery storage pilot program, which allowed the Company to own and operate 500 BTM Tesla Powerwall units that can be aggregated and dispatched to reduce peak demand, thus avoiding grid costs. Liberty also offers time-of-use rates to encourage charging and discharging during times that collectively help to smooth load profiles.⁸ The learnings from these pilots should be helpful in informing the Commission's policies around the compensation of energy storage going forward.

An additional benefit of electric company ownership and operation of front of the meter and behind-the-meter energy storage is to provide necessary information that best maintains the reliability and safety of the distribution system. Accordingly, electric companies need visibility and operational control of the DERs that are integrated into the distribution system, including energy storage, for planning and daily operational purposes. This concept has been recognized and recently approved in Pennsylvania. Specifically, an approved settlement by the Pennsylvania Public Utility Commission authorizes PPL to conduct a pilot program to monitor and manage DERs as well as evaluate their potential impact on the distribution system.⁹

⁵ See GMP's Resilient Home Innovative Pilot <https://epuc.vermont.gov/?q=node/64/140011/FV-Case>; GMP's Grid Transformation Innovative Pilot <https://epuc.vermont.gov/?q=node/64/139679/FV-ALLOTDOX-PTL>; GMP's C&I BYOD Innovative Pilot <https://epsb.vermont.gov/?q=node/64/144162>

⁶ See GMP/Energy Storage System Tariff <https://epuc.vermont.gov/?q=node/64/143817>

⁷ See Green Mountain Power's Energy Storage Programs Deliver \$3 Million In Savings for All Customers During 2020 Energy Peaks. Green Mountain Power News Release <https://greenmountainpower.com/gmps-energy-storage-programs-deliver-3-million-in-savings/> September 29, 2020

⁸ See DE 17-189 Liberty Utilities (Granite State Electric) Corp. d/b/a Liberty Utilities Petition to Approve Battery Storage Pilot Program <https://www.puc.nh.gov/Regulatory/Docketbk/2017/17-189.html>

⁹ See *Petition of PPL Electric Utilities Corporation for Approval of Tariff Modifications and Waivers of Regulations Necessary to Implement its Distributed Energy Resources Management Plan Order*, Docket No. P-2019-3010128, (entered Dec. 17, 2020), <https://www.puc.pa.gov/pcdocs/1687599.docx>

Given the benefits of electric company ownership of storage described above, the Commission should clearly articulate electric companies' right to own, procure, and operate energy storage in front and behind-the-meter, as they do any other technology that assists in the ability to optimize and support the energy grid, that ensures the grid's reliability and resiliency, and that maximizes customer benefits. Some states, including California, Connecticut, Illinois, New York, Massachusetts, and Maine, have established laws and/or regulations that explicitly permit investor-owned electric companies to own energy storage as distribution or transmission assets. The New Hampshire PUC should look to these states for guidance on the benefits that can inure to all customers as a result of electric company ownership and operation of these resources.

Electric Company Storage Projects Provide Real World Experience that Enhances System Reliability and Resilience as well as an Opportunity to Explore Stacked Benefits

Regulatory support for energy storage projects would provide an important and necessary step for companies to utilize and expand use cases. Electric companies could endeavor to develop projects that are limited in scope to evaluate the benefits and capabilities of a technology without unreasonable risk to system reliability and resilience or the creation of a potentially large-scale stranded cost. The Commission can allow for more innovation and exploration of ideas in the regulated space around energy storage by allowing such projects. In short, regulatory support for demonstration projects would provide the freedom and experience to build confidence, familiarity, and understanding of this technology.

Any evaluation or approval of electric company energy storage or DER projects, including their benefits, should not be done strictly on traditional cost-benefit analyses, as the benefits of new technology are typically neither fully known nor realized until evaluation in the future. Real world examples are needed to understand the limitations of a technology's viability — relying on hypotheticals and projections in perpetuity is not enough. Moreover, because a project's results or a technology's ultimate use may not have the outcome that was originally expected or result in full scale deployment does not mean there was no value or benefit to customers in the exploration; the value is in the process. Evaluation of unproven technology should be more flexible than rigid — it is the only way that such projects will ever be approved in the regulatory space.

In addition, the Commission should also be flexible and expedient once a new technology is ready for full-scale deployment. Long lead times for implementation after approval prevents customers from enjoying and maximizing the benefits of innovative technology. By ensuring implementation is done in an expedient and efficient manner, both customers and electric companies can have more optionality — a characteristic customers increasingly desire from their electric company.

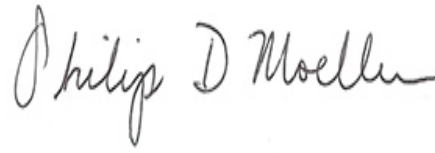
Conclusion

As the Commission works to finalize its policies around energy storage compensation, electric companies should play an integral role in owning, procuring, and operating energy storage at all levels of service — generation, transmission, and distribution, as this ability will be an important and vital component of achieving cost-effective solutions that benefit all customers. In addition,

the prevalence and use of projects operating in the near-term can be especially beneficial in this space. As explained *supra*, electric companies are uniquely positioned to enhance the benefits and value of energy storage for customers and the broader energy grid and, if given the opportunity, will help encourage the deployment of energy storage and other DER technologies throughout the state.

Thank you for the time and opportunity to provide comment on these important issues. EEI commends the PUC for instituting such an important inquiry and is available if the Commission has any follow up or requires more information about any of the information included above.

Respectfully submitted,

A handwritten signature in dark ink, reading "Philip D Moeller". The signature is written in a cursive style with a large initial "P" and "M".

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