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VIA ELECTRONIC MAIL

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Patrick Hudson, Smart Grid Section, Energy Resources Division
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Michigan Public Service Commission
7109 W Saginaw Hwy
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Re: Comments by the Energy Storage Association on the Michigan 2020 Distribution Planning Draft Staff Report, *Electric Distribution Planning Stakeholder Process*

Dear Mr. Hudson and Ms. Rogers,

The Energy Storage Association (“ESA”) respectfully submits these comments on the Michigan 2020 Distribution Planning draft staff report for the Michigan Public Service Commission’s consideration.

ESA is the national trade association dedicated to energy storage, working toward a more resilient, efficient, sustainable and affordable electricity grid—as is uniquely enabled by energy storage. With more than 190 members, ESA represents a diverse group of companies, including independent power producers, electric utilities, energy service companies, financiers, insurers, law firms, installers, manufacturers, component suppliers, and integrators involved in deploying energy storage systems around the globe. Further, our members work with all types of energy storage technologies and chemistries, including lithium-ion, advanced lead-acid, flow batteries, zinc-air, compressed air, and pumped hydro among others.

In our comments below, ESA provides information about the benefits of energy storage and the role that it can play in distribution system planning based on programs that have been successful in other jurisdictions. ESA also provides a framework to evaluate the cost-effectiveness of these programs.

Respectfully,



Jason Burwen
Vice President, Policy
Energy Storage Association

ESA Comments on the Michigan 2020 Distribution Planning Draft Staff Report

I. INTRODUCTION

The Michigan 2020 Distribution Planning draft staff report (“the Staff Report”) provides a review and summary of recommendations following a public stakeholder process held throughout 2019 that addressed the on-going issues and challenges of utility electric distribution planning in Michigan. This report is intended to inform the Commissioners about the distribution planning process and dialogue that has taken place, followed by Staff recommendations regarding key issues that the Commission may consider going forward. In these comments, ESA provides information on the benefits of energy storage as it relates to discussions about distributed energy resources in the Staff Report. ESA additionally makes recommendations for the Michigan Public Service Commission’s (“MPSC”) consideration.

II. ENERGY STORAGE BENEFITS TO MICHIGAN

Energy storage serves as a cost-effective alternative for traditional distribution investment.

Energy storage plays a unique role in distribution system planning. Energy storage can be deployed as a cost-effective solution for extending the life of distribution system infrastructure and investments, increasing power quality on distribution circuits, and increasing circuit and substation hosting capacity to meet the system demands posed by increasing proliferation of distributed energy resources (DERs), particularly non-dispatchable generation. Storage can avoid costs to ratepayers of excess grid capacity in the form of power plants and wires. Since storage can charge off-peak when system demand and electricity costs are lower, and then deliver that electricity during peak periods of demand to relieve grid stress, energy storage can save consumers in the State money by reducing the amount of spare power plant capacity needed to meet system peak demands while better utilizing generation resources available during off-peak periods. Utilities outside of Michigan have begun to demonstrate the use of energy storage as a distribution asset, for example:

- Eversource Energy has proposed a 1.7 megawatt (MW) / 7.1 MWh energy storage project in New Hampshire that is estimated to save ratepayers \$6 million by avoiding the construction of a 10-mile distribution circuit.¹
- Arizona Public Service purchased a 2 MW / 8 MWh battery-based energy storage system for less than half the cost of the traditional investment of a wires alternative in August 2017.
- New York’s Con Edison is deferring a \$1.2 billion substation upgrade through its non-wires alternative program, the Brooklyn-Queens Demand Management Program, by contracting for 52 MW of demand reductions and 17 MW of distributed resource investments, including energy storage.
- PSEG Long Island has made similar solicitations to reduce peak demand as a means of avoiding network upgrades and has deployed two storage systems with a total capacity of 10 MW/80

¹ The project will also reduce peak demand, resulting in additional energy supply and transmission cost savings.

MWh in South Fork in 2018 for this purpose as well.

Energy storage can facilitate deferral and avoidance of transmission build out as well. Transmission deferral is an important value, of the many to consider for energy storage. For example:

- National Grid is deploying a 6 MW / 48 MWh (8-hour duration) energy storage system on the island of Nantucket that is expected to delay adding a third submarine transmission line by at least a decade.

Energy storage can enhance resilience of the distribution system at times of increasing extreme weather events.

Energy storage can also play a key role in grid resilience and emergency management planning. Energy storage is already providing resilience benefits, from backup power in schools and hospitals to the rapid storage deployment to mitigate the Aliso Canyon gas shortage in California. While the benefits of resilience are more difficult to quantify for the purposes of a cost and benefit analysis, it can provide benefits to many ratepayers. Energy storage sited at critical facilities such as community centers, fire stations, and government buildings can ensure that services are provided to an area during emergency events. Energy storage sited at non-critical facilities can mitigate the steep economic consequences that are caused by power outages and ensure that people whose paychecks depend on their businesses being open can continue to earn a living.

III. COST BENEFIT ANALYSIS

The Staff Report describes two sensitivities to include in cost-benefit analysis—a utility cost test and the regulatory test.

The MPSC’s proposal to require that projects pass a cost-effectiveness test at the onset do a disservice to ratepayers by disregarding the fact that the current benefit costs analysis (“BCA”) framework may not capture all the benefits that should be included in a cost-effectiveness test for energy storage. ESA would like to know if there is room to evaluate whether the current BCA methodology effectively captures the entire range of benefits to ratepayers. For example, is the value of optionality that can be achieved by the deferral of an investment on the distribution system so that there may be additional time to determine whether load growth projections are accurate before saddling ratepayers with expensive infrastructure explicitly included in the BCA? Is the mobility of the asset in terms of its ability to be moved to another location on the distribution system following the end of the deferral period for another deferral benefit incorporated? Finally, is there an opportunity to begin to explore the potential monetary value of reducing vulnerability to ratepayers and the electric system during inclement weather conditions and incorporate that into the BCA?

IV. POLICY OPTIONS TO ADDRESS BARRIERS TO DEPLOYMENT OF DERs INCLUDING STORAGE

Develop utility programs to allow behind-the-meter storage to provide services and receive compensation for them.

ESA respectfully suggests that the MPSC consider working with stakeholders to significantly expand utility programs for behind-the-meter energy storage systems to ensure those assets have an opportunity to compete for services and receive compensation for those services based on the value they provide. Program design should, where appropriate, describe mechanisms to produce the desired operation of storage resources, such as parameters of dispatch control, contracts for service, incentive structures, or other means. In addition to the pilot programs in Michigan, there are several programs currently operating or under consideration in New Hampshire, Massachusetts, Rhode Island, Vermont, New York, and Maryland. In terms of cost effectiveness, these programs leverage a customer's private capital investment in deploying resources on their premises, and provides compensation to those customers that are aligned with the savings they are providing to the entire system, and therefore all ratepayers. These programs are not incentive programs, where grants or rebates are provided to customers deploying assets. Rather, these programs are compensating customers for services provided to the system.

One such program is the "Bring Your Own Device" (BYOD) program currently available for Green Mountain Power in Vermont, Liberty's customers New Hampshire, and has been proposed by Eversource Energy for its New Hampshire customers. Under such a program, customers are able to provide traditional grid services and peak demand reduction benefits to the utility, and are compensated for the value they provide through an on-bill credit. The savings provided by customer-sited storage comes through the deferment of traditional distribution investment that would have otherwise been needed. The savings are realized to customers in several ways. Although not a formal definition, these BYOD programs are typically associated with mass market customers.

Encouraging non-wires alternatives solutions should include new rules to memorialize best practices for competitive procurement.

Given the immense potential for employing non-wires solutions and leveraging customer purchased resources to defer or replace the need for traditional investment in the distribution system, ESA respectfully recommends that the MPSC require that utility distribution investment plans give strong consideration to non-wires solutions and consider the feasibility and cost-effectiveness of non-wires solutions before the utility proposes a major distribution system investment. When doing a CBA, ESA asserts that the benefits should not be limited to deferred or avoided distribution costs, but also avoided wholesale costs and any other benefits that are included in the MPSC's preferred BCA framework. A non-wires solution can also be dispatched to avoid wholesale costs.

As ESA noted in our comments above, ESA recommends that a CBA for non-wires solutions should

include more than the deferred or replacement value of the storage solution. Below, ESA proposes the following the CBA framework as a starting point for further stakeholder engagement in developing a cost effectiveness framework. We note that not every single commercial model would include these benefits. In those instances, the benefit value would be zero.

Cost-Benefit Analysis Framework

1. Energy storage system costs (including O&M)
2. Deferral or avoidance of traditional investment
3. Optionality of delaying investments (seeing if load materializes)
4. Distributed generation hosting capacity enhancement
5. Grid services provided
6. Peak shaving (Reduction of capacity obligation)
7. Energy conservation during times of peak demand
8. Resilience (Back-up capabilities, critical customer locations)
9. Transmission cost reductions
10. Wholesale market revenues/benefits
11. Air Emissions & Public Health Benefits
12. Reliability enhancement

ESA understands that greater sophistication is required to evaluate energy storage resources compared to more traditional resources and that distribution utilities should be afforded the resources to conduct accurate modelling. ESA looks forward to working with the MPSC to create a CBA framework that would accurately account for the distinct costs and values associated with energy storage resources.

V. CONCLUSION

ESA appreciates the opportunity to provide these comments to the MPSC to support utility electric distribution planning in Michigan. We look forward to working with the MPSC and stakeholders to provide the residents of Michigan with the benefits of a more resilient and sustainable grid.