THE STATE OF NEW HAMPSHIRE
PUBLIC UTILITIES COMMISSION

Docket No. IR 20-166

ELECTRIC DISTRIBUTION UTILITIES

Investigation into Compensation of Energy Storage Projects for Avoided Transmission and Distribution Costs

JOINT COMMENTS OF REPRESENTATIVE LEE W. OXENHAM AND IAN R. A. OXENHAM, ESQ.

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I. INTRODUCTION

As the lead sponsor and the primary drafter of the bill initiating this proceeding,[1] HB 715, we appreciate the opportunity to jointly comment on the matter now before the Commission. The General Court passed HB 715, and the Governor signed it into law, in recognition of the state's heightened interest in updating its energy policy and regulatory framework in order to reduce costs to ratepayers and mitigate the impacts of climate change. Already extant statutory authority, identified below, empowers the Commission to implement many of the changes required to maximize the benefits energy storage offers. Nonetheless, existing regulatory barriers that retard or obstruct cost-effective energy storage projects must be scrutinized and, where necessary, amended or removed. Most importantly, energy storage must be authorized to access the multiple values associated with the full range of benefits and services it provides.

The successful completion of this docket should provide numerous benefits to all New Hampshire residents, from increased investment in critical energy infrastructure and job growth to reduced energy bills and greenhouse gas emissions. To these ends, Part II explains the policy concerns and research that motivated the bill's enactment. Part III discusses how the Commission could enable energy storage projects to both act as non-wires solutions ("NWSs") and participate in wholesale markets, thereby reducing the cost to ratepayers of meeting distribution grid needs. Part III identifies ways in which the Commission can do so using its

[1] Representative Lee Oxenham is a member of the House Science, Technology, and Energy Committee and was the lead sponsor of HB 715. Ian R. A. Oxenham, Esq. is a licensed New Hampshire attorney and holds both a Juris Doctor and a Master of Energy Regulation and Law degree from Vermont Law School. He was the primary drafter of both the originally introduced version of HB 715 and the Senate's amended version of HB 715 which the General Court ultimately enacted.

existing authority and ensure future investments in energy storage comply with RSA 374-F. Part III also recommends amendments to RSA 374-G that will enable NWS generation-plus-storage projects to capture wholesale market revenue, prompting optimal deployment and the greatest possible cost savings from this technology. Part IV briefly outlines general design principles for a bring-your-own-device ("BYOD") program, as we expect other commentors to address this topic in greater depth. Part V concludes our comments.

II. THE PURPOSE OF HB 715

The policy impetus behind HB 715 was a desire to enable energy storage systems to receive revenue for avoiding transmission and distribution ("T&D") costs while simultaneously participating in wholesale electricity markets. Research focusing on energy storage in states with restructured electricity markets has shown that limiting energy storage to *only* acting as an NWS to a T&D need *or* as *only* a wholesale market participant leads to gross economic inefficiencies. These inefficiencies in turn needlessly increase costs to ratepayers while also retarding private investment in a resource that plays a key role in the energy transition.

For example, a Brattle Group study on energy storage in Texas found that allowing storage projects to simultaneously perform and earn revenue from T&D and wholesale market functions could triple to quintuple energy storage deployment in the state.[2] More specifically, the Brattle Group found that at a cost of $350 per kWh of energy storage capacity, wholesale market revenues alone would only justify deploying 1,000 MW of energy storage in Texas.[3] Yet

[2] Judy Chang et. al., The Brattle Grp., *The Value of Distributed Electricity Storage in Texas: Proposed Policy for Enabling Grid-Integrated Storage Investments* 8, 11-12, 17 (2014), http://files.brattle.com/files/7589_the_value_of_distributed_electricity_storage_in_texas.pdf.
[3] *Id.* at 8. The Brattle Group study did not explicitly discuss the possibility of a pure NWS energy storage investment in Texas. However, their data indicates that in Texas the T&D deferral value of energy storage is significantly less than its potential wholesale market revenue,

a 5,000 MW energy storage deployment would maximize system-wide net benefits, and could be economically deployed "if the full value of wholesale-market and T&D-related electricity storage can be captured."[4] The study likewise found that a deployment of 3,000 MW to 5,000 MW would maximize net benefits to customers—an amount three to five times what energy storage investors would deploy if they were unable to combine T&D and wholesale market revenue.[5] Thus, limiting energy storage to acting only as either an NWS to a T&D need or as a wholesale market participant inefficiently limits energy storage deployment and harms ratepayers.

The Massachusetts Department of Energy Resources' 2016 *State of Charge* report similarly found that energy storage can provide significant ratepayer benefits.[6] Modeling work done for the report indicated that the optimized energy storage deployment level for Massachusetts would be about 1,800 MW.[7] That is enough storage capacity to reduce the state's effective peak electricity demand by nearly 10%.[8] Such an investment would also have a ratepayer benefit-cost ratio of anywhere between 1.7 and 2.4, ultimately saving Massachusetts ratepayers about $1 to $1.3 billion.[9] Furthermore, the energy storage investment would save ratepayers in other New England states another $250 million by reducing regional wholesale electricity market prices.[10] This level of energy storage would also reduce greenhouse gas

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which suggests that energy storage deployments for pure NWS purposes would be negligible. *Id.* at 12.

[4] *Id.* at 11-12, 17.

[5] *Id.* at 14.

[6] Mass. Dep't of Energy Res. et al., *State of Charge: Massachusetts Energy Storage Initiative* (2016), https://www.mass.gov/doc/state-of-charge-report/download.

[7] *Id.* at xi.

[8] *Id.*

[9] *Id.*

[10] *Id.*

("GHG") emissions by more than a million metric tons of carbon dioxide equivalent ("CO_2e") over a ten year period**,** which "is equivalent to taking over 223,000 cars off the road."[11]

Yet the *State of Charge* report also found that such a level of energy storage investment would not occur under current market and regulatory structures. These structures make it extremely difficult for energy storage project owners to earn revenue for the full range of benefits energy storage provides. As the report explains:

> from a ratepayer perspective, the system benefits alone justify an investment in storage. However, the existing revenue mechanisms that would encourage investment from a private storage developer are often insufficient. Private investors will simply not invest in building storage projects in Massachusetts without a means to be monetarily compensated for the value the storage resource provides to the system, even though doing so would result in cost benefits to ratepayers that substantially outweigh the cost of investment. **This finding explains why the Alevo Analytics modeling shows that Massachusetts ratepayers could benefit from a large potential of advanced energy storage deployed across the Massachusetts grid, yet today there is only a limited amount (less than 2 MW) of advanced storage actually operating in the Commonwealth.**[12]

The report therefore concluded that "**[t]he biggest challenge to achieving more storage deployment in Massachusetts is the lack of clear market mechanisms to transfer some portion of the system benefits (e.g. cost savings to ratepayers) created to the storage project developer.**"[13] Indeed, the report specifically identified barriers that prevent NWS energy storage projects from participating in wholesale markets as a contributor to this problem.[14]

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[11] *Id.*
[12] *Id.* at xiii (emphasis in original).
[13] *Id.* at xiii-iv (emphasis in original).
[14] *See id.* at 119 ("While [NWS] energy storage assets . . . are technically capable of participating in the ISO-NE wholesale market, there are existing barriers preventing them from doing so. For example, there are no clear rules guiding resources capable of providing both transmission and distribution benefits and selling services into the wholesale market.").

The *State of Charge* report's modeling of the economics of using front-of-the-meter energy storage to defer a traditional distribution infrastructure upgrade illustrates this challenge. That modeling indicates that total benefits to ratepayers from such an energy storage project would be two to three times greater than the project's cost when accounting for all potential benefits.[15] But the gross costs of such a project would exceed the savings from deferring a traditional distribution infrastructure upgrade by about 20% to 80%, depending on energy storage cost assumptions.[16] Thus, if a utility evaluated such an energy storage project *solely* as a NWS to a distribution grid need, the utility would likely deem it to be not cost-effective and opt for a traditional wires solution instead.[17] Though such a choice might minimize the distribution

[15] *See id.* at 117 (displaying the relevant data in Figure 5-3).

[16] More specifically Figure 5-3 of the report indicates total capital, financing, and operating costs for the modeled energy storage project are in the range of $550,000 to $850,000, and the savings from distribution upgrade deferral would be about $470,000. *Id.* The modeled project's costs thus exceed the modeled distribution deferral benefits by roughly 20% to 80%. The report's range of cost estimates is driven by modeling a hypothetical 1 MW/1 MWh lithium-ion battery system with differing capital costs assumptions of $300 per kWh, $450 per kWh, and $600 per kWh of energy storage capacity. *Id.* at 111, 113. For comparison, using real-world data Lazard calculated that storage capital costs in 2020 for a somewhat similarly sized 1 MW/2 MWh system range from $319 to $400 per kWh of storage capacity. Lazard, *Lazard's Levelized Cost of Storage Analysis—Version 6.0* at 15 (2020), https://www.lazard.com/media/451418/lazards-levelized-cost-of-storage-version-60.pdf.

[17] This is admittedly a simplified example, as a utility would likely also consider how the energy storage system would reduce its regional network service charges, local network service charges, and capacity payment obligations. Indeed, this is what Eversource did in its cost-benefit analysis of the front-of-the-meter battery component of its proposed Westmoreland Clean Energy Innovation Project. *See* Direct Testimony of Charlotte B. Ancel at 23-25, Westmoreland Clean Energy Innovation Project, No. DE 19-133 (N.H. Pub. Utils. Comm'n July 31, 2019). But the broader point is that not considering *all* benefits and potential revenue streams for an energy storage project undercounts the benefits and/or inflates the net cost of NWS storage projects to ratepayers. That in turn leads to situations in which a utility will likely select a traditional solution over an NWS storage project when the latter could have delivered greater net savings to ratepayers, even if the utility is considering *some* benefits beyond deferring a conventional distribution system upgrade.

components of its customer's electricity rates in the short term, foregoing the other savings the energy storage project could provide would ultimately lead to higher overall electricity rates.

Enabling such an NWS storage project to earn revenue from wholesale electricity market participation could avoid this dilemma entirely. Specifically, the *State of Charge* report's modeling indicates that an energy storage project built primarily to serve as an NWS to a distribution grid need could also earn enough revenue in wholesale electricity markets to cover 50% to 75% of its total costs.[18] If a distribution utility's ratepayers only had to cover the remaining 25% to 50% of the energy storage project costs, the net cost of the energy storage project to ratepayers would only be about 30% to 90% of the traditional wires solution's cost.[19] Yet the ultimate savings to ratepayers would be even greater, as the energy storage project would also suppress wholesale market prices and reduce transmission costs—benefits a traditional wires solution could not provide.[20]

Existing barriers to energy storage projects receiving revenue for avoiding T&D costs while also participating in wholesale markets severely curtail energy storage's potential and increase electricity costs for consumers. Indeed, the fact that wholesale market revenue could cover up to 75% of the cost of utility-procured NWS energy storage projects means that such

[18] Figure 5-4 in the report indicates that wholesale market revenue for the modeled projects would be roughly $420,000. Mass. Dep't of Energy Res. et al., *supra*, at 118. That is a little more 75% of the $550,000 low-end cost estimate for the modeled energy storage system, and just under 50% of the $850,000 high-end cost estimate. *Id.* at 117.

[19] As noted above, Figure 5-3 indicates that the benefit of deferring the traditional wires solution is about $470,000. *Id.* at 117. The $420,000 in wholesale market revenue covers all but $130,000 of the low-end energy storage system cost estimate of $550,000, and all but $430,000 of the $850,000 high-end energy storage system cost estimate. *Id.* at 117-18. As $130,000 is approximately 30% of $470,000, and $430,000 is approximately 90% of $470,000, the cost of the system born by the utility's ratepayers would only be about 30% to 90% of the cost of the traditional wires solution.

[20] *Id.* at 117.

barriers may effectively *quadruple* the net cost of NWS energy storage projects to ratepayers. Similarly, the lack of a mechanism to compensate private storage developers for avoided T&D costs inefficiently limits non-utility energy storage development. This also means that these then developers have no incentive to site their projects where they would maximize avoided T&D costs. These barriers therefore lead to unnecessarily high electricity costs and needlessly slow the transition to a cleaner, more modern electricity grid.

Representative Lee Oxenham introduced, and the General Court enacted, HB 715 in order to remove these barriers. This is why HB 715 directs the Commission to develop a potential regulatory structure or structures that would enable both utility-procured and non-utility energy storage systems to receive compensation for avoided T&D costs while also participating in wholesale electricity markets.[21] To that end, HB 715 also explicitly empowers the Commission to recommend statutory changes it determines would facilitate the implementation of such structures.[22] The General Court has thus given the Commission wide latitude to consider solutions, even if those solutions conflict with current New Hampshire law. The Commission should take that as a sign of how important the General Court considers the removal of these barriers to be.

III. ENERGY STORAGE AS A DUAL NON-WIRES SOLUTION AND WHOLESALE MARKET PARTICIPANT

The Commission can help unlock the potential of energy storage by creating a system that allows energy storage acting as an NWS to a distribution grid need to also earn revenue as a

[21] *See* RSA 374-H:2, I ("[T]he commission shall . . . investigate ways to enable energy storage projects to receive compensation for avoided transmission and distribution costs, including but not limited to avoided regional and local network service charges, while also participating in wholesale energy markets.").
[22] RSA 374-H:2, II(e).

wholesale market participant. Such a system would enable NWS storage projects to sell wholesale services to the bulk system that they can provide without compromising their ability to meet distribution grid needs. The NWS storage projects' operators would then use the resulting revenue to reduce the cost of the projects to ratepayers. We recommend that the Commission integrate such a system into the updated Least-Cost Integrated Resource Planning ("LCIRP") framework the Commission proposed in Order 26,358.[23] We further recommend that the Commission consider as a model the non-wires alternative ("NWA") framework the New York Public Service Commission ("NYPSC") adopted in December 2018,[24] with various modifications described below.

The design of any such system must address and resolve several issues. First, such a system must have a way to determine where and when storage can act as an NWS and efficiently convey that information to potential project developers. Second, such a system must clarify the various roles of project participants by determining who is responsible for procuring, developing, building, and maintaining NWS storage projects, as well as who will manage such projects to ensure they serve both distribution system and wholesale market needs. To do so, such a system must determine whether such projects should be utility or non-utility owned, how to translate wholesale market revenue into cost savings for ratepayers, who bears wholesale market risk, how non-utility owned projects would monetize the value of avoided T&D costs, and how to structure utility incentives to engage in and/or facilitate such projects. Finally, such a system must do all

[23] *See Investigation into Grid Modernization,* Order No. 26,358, at 20-21 (May 22, 2020) (providing guidance on integrating "grid modernization planning" into the LCIRP process and noting that LCIRPs should include "a comparison of solutions to meet [distribution system] needs and potential alternatives, including non-wire solutions where appropriate").
[24] *See generally* N.Y. Pub. Serv. Comm'n, *In re Energy Storage Deployment Program*, Case No. 18-E-0130, Order Establishing Energy Storage Goal and Deployment Policy, at 49-57 (Dec. 13, 2018) [hereinafter "NY Storage Order"].

of this in a way that does not unduly compromise New Hampshire's restructuring policy principles.

A. Implementing an Expanded LCIRP Process to Identify Opportunities to Use Energy Storage as NWSs

We believe the LCIRP-related provisions of Order 26,358 provide the necessary framework for identifying and publicizing opportunities for energy storage to act as an NWS. In that Order the Commission directed distribution utilities to include in their future LCIRPs

> a granular load forecast, DER forecast, and detailed description of foreseeable distribution system needs over the next five years, including five-year capital and operating expenditure plans; . . . a comparison of solutions to meet those needs and potential alternatives, including non-wire solutions where appropriate; . . . [and] a description of foreseeable system investments planned for the next 10 years . . . .[25]

As to NWSs specifically, the Commission also indicated that utilities should

> include NWS analysis in their initial project list and subsequent LCIRPs for each capacity-related capital project with an anticipated budget in excess of $1 million, or $500,000 for utilities with fewer than 100,000 customers. If a utility cannot identify planned investment for potential deferral or avoidance through deployment of NWS, we expect that the utility will explain why this is the case for each planned investment in capacity-related needs over $1 million, or $500,000 for utilities with fewer than 100,000 customers.[26]

Finally, the Commission also stated that in developing their LCIRPs utilities should solicit third party NWS proposals and provide detailed technical information to such parties that would enable them to develop viable proposals.[27] Provided that all of this guidance is implemented in

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[25] Order No. 26,358 at 21.

[26] *Id.* at 56-57.

[27] Specifically, the Commission stated that in both NWS solicitations and the final LCIRP, utilities should include information

> relating to (1) the type of distribution need that may be deferred or avoided, as well as any associated cost projections; (2) the mix of

practice—and that utilities always solicit and meaningfully consider NWSs as alternatives to capital investments that exceed the relevant cost thresholds[28]—the expanded LCIRP process Order 26,358 envisions should solve this first issue. The only addition we would recommend is requiring utilities to explicitly solicit and consider NWS proposals that leverage wholesale market revenue to reduce the portion of project costs that ratepayers must bear.

That said, we also believe that much of the promise of this expanded LCIRP process rests on the fact that it draws no false distinction "between grid modernization investments or business as usual investments."[29] Unlocking the full potential of energy storage and other distributed energy resources ("DERs") that can act as NWSs requires considering them on an equal basis with traditional solutions to distribution grid needs. Therefore, distribution utilities must not be allowed to disadvantage energy storage and other NWSs by restricting their consideration in

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> commercial and residential customers on the circuit; (3) the hourly usage load profile on the equipment at issue during the 10 peak days of the most recent year and the annual peak day for each of the most recent three years; and (5) [sic] the kW peak usage of the 10 largest customers during the past three years.

Id. at 56, n.26.

[28] We believe that it is important that utilities do not have a "gatekeeper" role that would allow them to unilaterally decide when and whether to solicit or consider NWSs. Many "grid modernization" technologies—especially energy storage—are relatively novel, rapidly evolving, and New Hampshire distribution utilities have limited experience with them. As such, non-utility developers may well have a better understanding of the technical capabilities of such technologies and therefore their ability to meet defined technical requirements than New Hampshire distribution utilities. It is therefore quite plausible that a non-utility developer could design a viable NWS storage project in situations where a utility would simply assume that only a traditional solution could satisfy a grid need. Consequently, only allowing consideration of NWS storage projects after a monopoly utility has unilaterally decided that such projects might be viable risks biasing utility investment towards needlessly expensive traditional solutions. Similarly, consistently requiring utilities to always solicit NWS proposals may produce a limited form of competition that helps check utility overinvestment in traditional distribution infrastructure. That in turn would increase the probability the LCIRP process results in utilities actually selecting the least-cost resources.

[29] Order No. 26,358 at 28.

"'business as usual,' core distribution planning activities."[30] The mere fact that a utility must prioritize addressing certain distribution grid needs to ensure reliable service does not justify allowing a utility to only consider those technologies or practices that happen to fit its traditional business model as potential solutions. To do so would be to unjustly and unreasonably allow utilities to abuse their monopoly power to bias ratepayer-funded investment towards needlessly expensive traditional infrastructure when an NWS could have met the same grid need at lower cost.

As such, we find Public Service Company of New Hampshire d/b/a Eversource Energy's ("Eversource") recent request that the Commission exempt what Eversource unilaterally decides constitutes its "core distribution planning activities" from Order 26,358's expanded LCIRP process deeply concerning.[31] The primary target of Eversource's motion for reconsideration of Order 26,358 is the proposed Grid Modernization Stakeholder Group ("GMSG") process and independent professional engineer,[32] issues that are beyond the scope of this docket. However, Eversource's motion also appears to demand that the Commission impose no change whatsoever to the processes governing its "business as usual" investments. Specifically, Eversource reiterates its earlier position—in bold-face type—"that **'business as usual investments,'** defined as expenditures that are needed primarily to ensure reliable operations or to comply with service

[30] Public Service Co. of New Hampshire d/b/a Eversource Energy's Motion for Reconsideration and/or Clarification at 2, *Investigation into Grid Modernization* (June 22, 2020) (Docket No. IR 15-296) [hereinafter "Eversource Motion"] (requesting that the Commission exempt what Eversource considers to be its "'business as usual,' core distribution planning activities" from elements of Order 26,358's expanded LCIRP process).
[31] *Id.* at 2, 12, 40.
[32] *See id.* at 2 ("Eversource is requesting that the Commission reconsider or clarify its findings in the Order so as to confirm that "business as usual," core distribution planning activities are **excluded** from the GMSG process and oversight of the independent engineer." (emphasis in original)).

quality and safety standards, **should continue to be evaluated as they have in the past.**"[33] The motion then added that "it has been Eversource's position that core, 'business as usual investments' are distinct from those pertaining to grid modernization[and] that such investments should continue to remain" subject to only those Commission review processes that they have been subject to in the past.[34] Eversource likewise appears to object to any sort of individual-project-level LCIRP requirements, which presumably includes Order 26,358's directives to solicit and consider NWSs as alternatives to "business as usual" investments.[35]

[33] *Id.* at 12 (quoting April 9, 2019 Comments of Eversource in Docket No. IR 15-296 at 5) (emphasis added by Eversource Motion).
[34] *Id.* at 12, n.6
[35] *See id.* at 40 (asserting that the LCIRP statutory "factors do not contemplate assessments of individual projects or investments" and that the LCIRP statute requires the Commission to "review and evaluate the utility's plan filing (as opposed to individual projects)"); *id.* at 39 (asserting the Commission had attempted "to improperly amend the requirements of the LCIRP statute"). Furthermore, Eversource's apparent claims the Commission lacks legal authority to require it to consider NWSs or other "grid modernization" approaches as alternatives to "business as usual" projects are meritless. RSA 374:3 grants the Commission the power to ensure utilities provide service that is in "all . . . respects just and reasonable" and only charge rates that are just and reasonable. *See* RSA 374:3 ("The public utilities commission shall have the general supervision of all public utilities and the plants owned, operated or controlled by the same *so far as necessary to carry into effect the provisions of this title*." (emphasis added)); RSA 374:1 (requiring utility service to be just and reasonable in all respects); RSA 374:2 (requiring utility charges to be just and reasonable). The Commission likewise has the duty and thus the authority to disallow cost recovery of a return on investments it is not satisfied were prudently incurred. *See* Order No. 26,358 at 29 (quoting RSA 378:28) ("The Commission is precluded by statute from including in permanent rates 'any return on any plant, equipment, or capital improvement which has not first been found by the Commission to be prudent, used, and useful.'"). A "business as usual" investment would be imprudent if an NWS could have met the same grid need at a lower cost, and the excessive cost of such an investment would render the utility's rates unjust and unreasonable if such an investment were to be included in its rate base. The Commission therefore has the authority to disallow cost recovery for a "business as usual" project if a utility fails to consider NWSs and thus cannot adequately explain why such a project could not be deferred or avoided through NWS deployment. In other words, the Commission can condition cost recovery for a "business as usual" investment on a utility considering NWSs or other "grid modernization" approaches as alternatives to "business as usual" investments.

Eversource thus apparently thinks the Commission should not require it to even consider much less solicit NWS alternatives to investments meant "to ensure reliable operations or to comply with service quality and safety standards."[36] But most if not all investments that a utility makes are presumably for such purposes. As such, it seems Eversource desires a system in which monopoly utilities *never* have to consider NWSs utilizing "grid modernization" technologies outside the occasional demonstration project. A system that allows a utility to categorically exclude non-traditional technologies from consideration is bound to miss opportunities to use energy storage to cost-effectively meet reliability needs.[37] The LCIRP process Order 26,358 envisions would therefore fail as a vehicle for identifying cost-effective energy storage opportunities if the Commission weakens it in the way Eversource desires.

We thus recommend using the LCIRP process as such a vehicle only if the Commission proceeds with a number of key reforms it presented in Order 26,358. Specifically, the LCIRP process would only be a viable vehicle for identifying energy storage opportunities if the Commission fully implements the NWS analysis and solicitation provisions of Order 26,358. We therefore urge the Commission to retain these features in any future order clarifying Order 26,358, or at the very least recommend requiring such NWS analysis and solicitation in the report HB 715 mandates.

[36] Eversource Motion at 12 (quoting April 9, 2019 Comments of Eversource in Docket No. IR 15-296 at 5).

[37] By extension, such a system would also likely lead to imprudent overinvestment in traditional infrastructure, as the Commission has itself implicitly recognized. *See* Order No. 26,358 at 28 ("We find that a utility that is not engaged in modernization of both its capital assets and its operations would be imprudent . . . . Based on the reasoning above, we expect that LCIRPs will not differentiate between grid modernization investments and traditional utility distribution system investments.").

B. Enabling NWS Energy Storage Projects to Capture Wholesale Market Revenue

Ideally, the Commission should develop a regulatory structure that allows NWS storage projects to capture wholesale market revenue without exposing retail ratepayers to wholesale market risks. As a starting point, we would suggest considering the approach the NYPSC has adopted, but with a few key changes in order to shield ratepayers from any wholesale market risks. Specifically, we suggest a model in which utilities solicit offers from third-party developers to build energy storage systems capable of deferring or avoiding traditional capital investments and then purchase the right to dispatch such systems as necessary to meet distribution grid needs and/or minimize transmission costs. Third-party developers would retain the right to use such projects to earn wholesale market revenue by providing wholesale market services that do not compromise the project's ability to be reliably dispatched to meet distribution grid needs. This provides two key benefits to ratepayers: the third-party developer rather than ratepayers bears all wholesale market risks, and the developer's ability to earn wholesale market revenue significantly reduces the portion of NWS storage project costs ratepayers must bear. Alternatively, the utilities could acquire outright ownership of such projects themselves and directly capture wholesale market revenue, provided that utility shareholders rather than ratepayers bear the entire risk of wholesale market underperformance.

1. The New York Approach

In December 2018, the NYPSC issued a comprehensive energy storage order establishing both energy storage targets and multiple energy storage deployment policies.[38] One of these policies was a directive for New York investor-owned utilities ("IOUs") to competitively procure

[38] The primary purpose of this Order was implementing the recently enacted New York Public Service Law (PSL) § 74, which directed the NYPSC "to establish a statewide energy storage goal for 2030, and a deployment policy to support that goal." NY Storage Order at 2-3.

dispatch rights to energy storage projects to act as NWSs (NWAs in NYPSC terminology).[39] The NYPSC further directed that utilities identify and capture potential wholesale market revenue streams for such NWS storage projects in order to reduce their net cost to ratepayers.[40] Under this approach, the utilities themselves exercise full operational control over contracted NWS storage projects, manage the project's wholesale market participation, and receive and share the project's wholesale market revenue with their ratepayers.[41]

Specifically, the NYPSC ordered New York utilities to issue Requests for Proposals ("RFPs") to "storage developers to build new storage resources that will be under contract with the utility for operation and dispatch rights."[42] These RFPs would solicit both NWS and other energy storage project proposals that could provide grid benefits.[43] Specifically, through each energy storage RFP issuance New York IOUs must

> competitively procure dispatch rights for bulk-level energy storage systems sited within their service territory to provide a combination of the following, based on local needs: (1) local

[39] *Id.* at 53-54.
[40] *See id.* at 53 ("[T]he Commission directs the utilities to continue identifying all potential revenue streams from . . . NWA opportunities, including . . . wholesale market values and services."); *id.* at 55 ("The IOUs shall account for their actual wholesale revenues earned from the asset as a benefit for ratepayers . . . .").
[41] *See id.* at 54 ("[T]he utility will have full dispatch rights to the asset."); *id.* at 55 ("To provide an incentive for the utilities to maximize the wholesale revenues of the storage asset, when revenues exceed contract costs on an annual basis, the Commission authorizes revenue sharing of 30 percent to utility shareholders and 70 percent to ratepayers.").
[42] *Id.* at 53-54.
[43] The NYPSC found that soliciting energy storage project proposals only in order to avoid or defer specific distribution capital projects would fail to maximize ratepayer benefits:

> While an expanded NWA scope is expected to open opportunities for storage deployment . . . , they may be limited by the operational needs and constraints of the specific NWA area. Therefore, the Commission finds that an additional utility scale storage procurement is necessary to provide the flexibility for such bulk-level storage applications to provide maximum benefits to ratepayers.

Id. at 53.

> reliability services; (2) local load relief; (3) local environmental benefits derived by reducing use of peaking units for contingency purposes; and, (4) wholesale services (e.g. capacity, spinning reserves, frequency regulation). The energy storage asset may be sited anywhere in the utility's transmission and distribution system. Specific locations of higher system value shall be indicated in the RFP.[44]

Developers would then competitively submit bids to build such energy storage projects and transfer dispatch rights to the utility issuing the RFP for a seven-year term.[45]

Though the utilities have full operational control over the procured storage projects for the contract term, the storage project itself remains the property of the developer.[46] The utilities thus effectively lease storage projects for seven years from third-party developers in exchange for fixed contractual payments.[47] The right to fully control the energy storage project then reverts to the developer at the end of the seven-year term.[48] In this model, the developer is the party responsible for securing (and repaying) the financing necessary for project development and construction.

For its part, the utility recovers the cost of its contractual payments to the developer from its ratepayers "in the same manner that NWA program costs are recovered."[49] Based on how the NYPSC allows the Consolidated Edison Company of New York ("Con Edison") to recover its NWA program costs, New York utilities can earn a profit on such contracts rather than merely

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[44] *Id.* at 54.
[45] *Id.*
[46] *Id.* at 54
[47] *Id.* Though the NYPSC indicated that a series of fixed payments would be the standard arrangement, it also noted "that proposals may include revenue sharing mechanisms in exchange for a reduced contract payment, or some other approach to the sharing of risks and rewards." *Id.*
[48] *See id.* at 54-55 ("After the contract term, the utility and developer may negotiate a new contract, the utility could continue to perform dispatch services for a fee, the developer could sell directly into the wholesale market, or another reasonable path forward may be identified.").
[49] *Id.* at 55.

treat them as a pass-through expense.[50] However, the NYPSC requires utilities to use the storage project's wholesale market revenue to offset contract costs and thereby reduce the cost of the project to its ratepayers.[51] In effect, ratepayers only pay the difference between the contract costs (plus a utility profit margin) and the storage project's wholesale market revenue. In the event that the project's wholesale market revenue exceeds contract costs on an annual basis, the utility is allowed to keep 30% of the surplus revenue while ratepayers receive the remaining 70%.[52]

In the New York model utilities' retail ratepayers thus bear all NWS storage project wholesale market risks. The developer benefits from fixed contractual payments, and the utility is able to recover the cost of those payments plus a profit margin through a combination of ratepayer cost recovery and wholesale market revenue. But ratepayers rather than utility shareholders make up any shortfall in wholesale market revenue, and thus they alone bear all of

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[50] As the NYPSC explained in a recent Con Edison rate case:

> NWA projects are intended to preserve the utility's earning opportunities. Here, the proposed treatment of NWA projects are appropriately designed to do just that, even where the NWA project may displace a capital investment on which the utility could otherwise earn its return. The proposed rate plan provides explicit direction of the manner in which the utility's earning opportunity will be preserved, while also insuring [sic] that customers will be protected from paying for both an NWA project and for the capital project it is displacing. For these reasons, these recommendations are approved.

New York Public Service Commission, *Proceeding on Motion of the Commission as to the Rates, Charges, Rules and Regulations of Consolidated Edison Company of New York, Inc. for Electric Service.*, Case No. 16-E-0060, Order Approving Electric and Gas Rate Plans, at 31-32 (Jan. 25, 2017).

[51] *See* NY Storage Order at 55 ("The IOUs shall account for their actual wholesale revenues earned from the asset as a benefit for ratepayers in recovering contract costs.").

[52] *See id.* ("To provide an incentive for the utilities to maximize the wholesale revenues of the storage asset, when revenues exceed contract costs on an annual basis, the Commission authorizes revenue sharing of 30 percent to utility shareholders and 70 percent to ratepayers.").

the resulting downside risk of the project's potential underperformance in the wholesale market. Yet despite this, ratepayers must share the upside potential of project overperformance with the utility. Though we think the New York approach has much to recommend it, we believe imposing wholesale market risks on ratepayers rather than shareholders is inappropriate and does not conform with New Hampshire's restructuring policy principles.

2. Proposed Approach for New Hampshire

We recommend an approach that is similar in many respects to the New York model, but which does not assign wholesale market risks to a distribution utility's captive ratepayers. To that end, we propose a structure in which a third-party developer maintains control of the storage project, manages the storage project's participation in wholesale markets, and bears all wholesale market risk. In exchange for payment(s) from the utility, the third-party developer would also follow the utility's dispatch signals, ensuring the NWS project provides the contracted benefits to the local grid. The utility would then recover the cost of such payments from its ratepayers, plus a rate of return to preserve its earning opportunity. Alternatively, the utility could own and manage the project itself, provided it both underbids any third-party developers and its shareholders bear all wholesale market risk. Such risk could be placed on utility shareholders by only allowing the utility to rate base a portion of NWS storage project costs that does not exceed the present value of avoided T&D costs.

Under our proposed model utilities would issue competitive RFPs for third-party developers to enter into what might be termed "shared storage" arrangements as part of the LCIRP NWS solicitations Order 26,358 contemplates.[53] Such RFPs would request bids for the

[53] *See* Order No. 26,358 at 56, n.26 (noting that the Commission expects utilities will solicit NWS proposals from third parties).

sale of dispatch rights to third-party-owned energy storage projects capable of avoiding or deferring traditional distribution system upgrades and/or reducing transmission costs.[54] The RFPs should also explain that a bidder's project could simultaneously participate in Independent System Operator New England ("ISO-NE") wholesale markets to the extent such market participation does not interfere with the project's ability to follow the utility's dispatch instructions.[55] The RFPs would likewise note that the bidder would retain all wholesale market revenue the project earns, along with the expectation that this separate revenue stream will result in lower bids. The utility would then select the proposal with the lowest bid it determines meets the necessary technical requirements, provided that the present value of the bid is lower than the present value of the costs the project avoids or defers.

Under our proposed model, a utility could also build and own NWS storage projects, providing it underbids all technically viable third-party proposals and its bid results in net savings to ratepayers relative to a traditional solution. A utility would underbid third-party proposals by proposing its own NWS storage project that results in a smaller increase to its

[54] The RFPs should also state that proposed projects could be front-of-the-meter systems, aggregations of behind-the-meter systems, or some combination thereof, as well as generation-plus-storage systems (e.g., solar-plus-storage systems). Indeed, in the context of an LCIRP NWS solicitation, such RFPs could and should also solicit proposals that involve using energy storage as part of a portfolio of DERs that also includes targeted energy efficiency, demand response, and/or distributed generation.

[55] Any contract between a utility and a third-party developer that results from this process should expressly require the latter to commit to meeting distribution grid needs and following the utility's dispatch instruction over performing any wholesale services. Thus, in the event of any conflict between meeting its contractual obligations to the utility and any wholesale market obligations, a developer would be obligated to default on the latter rather than the former. To ensure compliance the developer's financial penalties for failing to perform its NWS contractual obligations must exceed any penalties it faces for failing to perform in the wholesale market. Structuring the contract in this manner should incentivize the developer to proactively assume only those wholesale market obligations it can meet without jeopardizing its project's ability to serve as an NWS.

revenue requirement than accepting any proposed third-party bid would. From a practical standpoint, this would likely amount to the utility proposing to include only part of the project's capital costs in its rate base. The utility would then seek to recover the rest of the project's costs from its wholesale market revenue. This system would give the utility an opportunity to own an NWS storage project—if it can successfully compete with third-party developers—while still ensuring that its ratepayers do not bear any wholesale market risk.

Regardless of whether the utility or the third-party ultimately owns the NWS storage project, we believe that the utility should be able to earn a rate of return on the project. Providing such a profit opportunity would minimize utilities' incentives to discriminate against third-party proposals in favor of utility-owned projects or traditional capital investments that they could add to their rate base. In order to accomplish this, we recommend allowing utilities to include the present value of their contractual payments for dispatch rights to a third-party NWS storage project in their rate base. The utility would thus be able to recover the cost of the payments along with a rate of return over the contract's term.[56]

[56] If the utility is allowed to include these costs in its rate base, it may be better for ratepayers if the utility is directed to purchase dispatch rights in a single upfront payment rather than via a series of payments over the contract's life. Utilities generally have a lower cost of capital than firms in other industries, and such a lump sum payment approach could leverage that advantage to reduce the cost of financing the project. *See* Coley Girouard, *How Do Electric Utilities Make Money?*, ADVANCED ENERGY ECON. (Apr. 23, 2015), https://blog.aee.net/how-do-electric-utilities-make-money ("The average [return on equity] across 93 industries and almost 8,000 firms for the US market is 14.49%. As one might expect, utility companies – with an average of 10.13% – are on the lower end of the spectrum because they are viewed as less risky investments."). Such a payment approach would likely require any contract between the developer and the utility to stipulate significant financial penalties in the event of failure to perform to ensure the project developer meets its obligations. Alternatively, the contract could be structured so that the utility pays a significant fraction of the total price for the dispatch rights upfront but pays the rest over time in order to manage risks and incentivize project performance.

For similar reasons, we also propose the Commission consider allowing the utility to earn a higher rate of return on NWS storage projects that result in *significant* savings to ratepayers relative to a traditional distribution project. If NWS storage projects threaten to add significantly less to a utility's rate base than traditional distribution investments, then, all else being equal, utilities will have a strong incentive to hobble NWS storage proposals in order to maximize their profits. Allowing utilities to earn a higher rate of return on NWS storage projects that are significantly cheaper than traditional distribution upgrades should minimize this perverse incentive. Indeed, the Commission could increase the rate of return to a level that allows a utility to earn as much profit on a cheaper NWS project as it would on a traditional, higher cost distribution project, thereby eliminating the utility's incentive to pursue the highest cost project it can justify. However, any such increase in the rate of return should be limited to a level that ensures ratepayers still benefit from the cost savings the NWS storage project creates.[57]

To see how this approach would work in practice, consider the following scenario as an example. A New Hampshire utility determines that growing peak load on one of its distribution circuits will soon result in a planning criteria violation. The utility further determines that the cost of a traditional distribution infrastructure upgrade project to maintain reliability would be $5 million. As part of an expanded LCIRP process, the utility issues an RFP for NWSs. After reviewing the RFP, a third-party developer determines that it would need $7 million of revenue, discounted to present value, to cover the cost of developing, building, and operating an NWS storage project that meets the necessary technical requirements while turning a reasonable profit.

[57] This would still be possible even if the utility was making the same amount of profit in absolute terms as it would on a more expensive traditional project, because the utility would not need to collect as much revenue to cover the costs of the project. Thus, the NWS storage project overall would still add less to the utility's revenue requirement than a more expensive traditional distribution project.

The developer further determines that the present value of the wholesale market revenue the project could earn while acting as an NWS is $4 million. The developer therefore submits a bid to the utility for a storage project the developer will build, own and operate as an NWS for $4 million (either as a lump sum or as a series of payments the present value of which is $4 million),[58] subject to the developer retaining the right to all wholesale market revenue.

The utility then determines that the developer's $4 million bid is the lowest bid for an NWS project capable of meeting the necessary requirements and therefore accepts the bid. In reaching this decision, the utility also factors in how the proposed NWS storage million project will reduce the utility's regional and local network service charges by $1 million, discounted to present value, over the project's life. Upon receiving the Commission's approval, the utility then adds the contract's $4 million cost to its rate base, at an above-normal rate of return that enables the utility to earn approximately the same profit it would have earned on the $5 million traditional distribution project. Thus, for a cost of $4 million,[59] the utility is able to obviate the need for a $5 million traditional distribution project and save an additional $1 million in avoided transmission costs. The NWS storage project thus results in $2 million in ratepayer savings while still preserving the utility's earning opportunity.

[58] The developer can expect to earn $8 million of revenue ($4 million from the NWS contract and $4 million from wholesale market revenue) in present value terms even though it only needs $7 million to turn a profit. The developer's additional million dollars of revenue in this example represents the risk premium an actual developer would presumably demand in exchange for assuming all wholesale market risk.

[59] The total savings to ratepayers for rate basing the $4 million NWS storage contract instead of a $5 million traditional distribution infrastructure project would be $1 million if the utility is making the same amount of profit in absolute terms on the former as it would have on the latter. If instead the utility earns its normal rate of return on the NWS storage contract, it would gain less profit in absolute terms, but the savings to ratepayers would be greater than $1 million.

Alternatively, if the utility sought to own the NWS storage project and assume the wholesale market risk itself, it would need to submit its own NWS storage project bid. Such a bid should include the dollar value of project costs the utility proposes to add to its rate base and the rate of return it requests. Thus, if the utility's bid proposed including $3.9 million in its rate base at a rate of return that gives it as much profit as it would earn on the $4 million third-party NWS contract, it would win the bidding. The utility would then be allowed to directly own the NWS storage project and retain all the project's wholesale market revenue, which would also cover the costs of the project the utility will not recover from its ratepayers. In this scenario, ratepayers would save $2.1 million (a net saving of $1.1 million from avoiding the $5 million traditional distribution upgrade plus $1 million in avoided transmission costs), without any exposure to the risks of the utility's participation in wholesale markets.

In summary, this approach allows NWS storage projects to capture wholesale market revenue in a manner that reduces costs to ratepayers. Unlike the New York model, it does so without exposing ratepayers to wholesale market risk. It also allows both utilities and developers a fair opportunity to own such energy storage projects. Finally, it provides an earning opportunity for utilities regardless of who ultimately owns the project, thus reducing utilities' incentives to favor traditional distribution projects over more cost-effective but potentially third-party-owned NWS storage projects.

C. Legality of Proposed New Hampshire Approach and Suggested Statutory Changes

The Commission can implement most of the approach proposed above under the same statutory authority that permitted it to adopt Order 26,358's expanded LCIRP process. Specifically, RSA 374:28 and the LCIRP statute authorize the Commission to require utilities to

solicit proposals for NWS storage projects that participate in wholesale markets.[60] Furthermore, RSA 374-G allows utilities to both earn a profit on contracted, third-party-owned energy storage projects and to earn an above-normal rate of return on such projects at the Commission's discretion. And crucially, since ratepayers would bear no wholesale market risks, nothing in the proposed system would violate RSA 374-F. However, RSA 374-G:3 in its current form arguably prohibits the Commission from applying this approach to generation-plus-storage systems, as it prohibits such systems from participating in wholesale markets.[61] In order to avoid unduly limiting the cost-effectiveness of generation-plus-storage systems, the Commission should recommend that the General Court abolish the restrictions RSA 374-G:3 places on NWS distributed generation and generation-plus-storage systems.

1. Basis of Commission Authority to Implement Proposed Approach

The primary basis of Commission authority to require utilities to solicit and consider NWS storage project proposals is the prudence standard in RSA 374:28. The LCIRP statute further buttresses this authority by mandating that utilities assess how they can use energy storage and other DERs to help provide service at the lowest possible cost. Moreover, RSA 374-G:4-5 allows utilities to earn a return on DER investments, including energy storage, they do not own. RSA 374-G:5, IV further authorizes the Commission to grant utilities a higher return on equity on DER investments in order to incentivize utility investment. This combination of

[60] *See* RSA 374:28 ("The commission shall not include in permanent rates any return on any plant, equipment, or capital improvement which has not first been found by the commission to be prudent . . . ."); RSA 378:37 ("The general court declares that it shall be the energy policy of this state to meet the energy needs of the citizens and businesses of the state at the lowest reasonable cost . . . .").

[61] *See* RSA 374-G:3, I-III (restricting "electric generation equipment funded in part by a public utility" to a few narrowly defined use cases that do not include wholesale market participation if such equipment is either utility-owned, customer-owned, or located on a customer's premises).

existing authorities allows the Commission to implement the basic structure of the approach we propose.

First, RSA 374:28 prohibits the Commission from including "in permanent rates any return on any plant, equipment, or capital improvement which has not first been found by the commission to be prudent." The Commission therefore has a duty—and thus the authority—to prevent utilities from earning a rate of return on investments unless utilities can show that such investments were prudently incurred. Demonstrating prudence requires utilities "'to operate with all reasonable economies,' to charge prices based on 'lowest feasible cost' and to use 'all available cost savings opportunities . . . as well as general economies of management.'"[62] Therefore, "[t]o satisfy these affirmative obligations, a utility seeking cost recovery through rates must show that it 'went through a reasonable decision-making process to arrive at a course of action and, given the facts as they were or should have been known at the time, responded in a reasonable manner.'"[63] The Commission thus has the power to prohibit a utility from earning a return on an investment if the investment was the product of an unreasonable decision-making process.[64]

A utility that fails to consider NWSs or competitively solicit NWS proposals and instead only considers traditional solutions to distribution grid needs is not using a reasonable decision-

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[62] Scott Hempling, *Regulating Public Utility Performance: The Law of Market Structure, Pricing and Jurisdiction* 236 (2013) (quoting *El Paso Nat. Gas Co. v. Fed. Power Comm'n*, 281 F.2d 567, 573 (5th Cir. 1960); *Midwestern Gas Transmission Co. v. E. Tenn. Nat. Gas Co.*, 36 FPC 61, 70 (1966), *aff'd sub nom. Midwestern Gas Transmission Co. v. Fed. Power Comm'n*, 388 F.2d 444 (7th Cir. 1968); *Potomac Elec. Power Co. v. Pub. Serv. Comm'n of the D.C.*, 661 A.2d 131, 137 (D.C. 1995)).

[63] *Id.* (quoting *Cambridge Elec. Light Co.*, D.P.U. 87-2A-1, 86 P.U.R. 4th 575 (Mass. Dep't of Pub. Utils. Sept, 3, 1987)).

[64] *See Appeal of Pub. Serv. Co. of N.H,* 122 N.H. 1062, 1066, 454 A.2d 435, 437 (1982) (noting that the Commission's powers include those that are "fairly implied by statute" as well as those that are "expressly granted" by statute).

making process. Such a process would be incapable of identifying cost saving opportunities NWSs could provide through the use of modern technology and approaches. In other words, the utility's investment planning process would fail to consider how modernizing the utility's operations and capital assets could lower costs. Both such a planning process and the investment decisions it produced would be imprudent, as the Commission recognized in Order 26,358.[65]

The LCIRP statute further reinforces the conclusion that failure to consider NWS storage projects as alternatives to traditional, "business as usual" investments would render any resulting "business as usual" investment imprudent. The LCIRP statute expressly requires utilities to file LCIRPs with the Commission that assess DERs and "smart grid" technologies as options for meeting grid needs.[66] Insofar as energy storage constitutes a type of DER and/or "smart grid" technology, the LCIRP statute already requires utilities to expend time and effort assessing how they can use energy storage to help "meet the energy needs of the citizens and businesses of the state at the lowest reasonable cost."[67] A utility that only considers "business as usual" solutions to particular distribution grid needs is failing to either integrate this assessment process or its findings into its actual distribution system planning process. That utility would thus be

[65] *See* Order No. 26,358 at 28 ("We find that a utility that is not engaged in modernization of both its capital assets and its operations would be imprudent, as would any other company neglecting to modernize.").

[66] RSA 378:38, III-IV; RSA 378:39. Though RSA 378:38 merely states that LCIRPs must include "assessments" of these practices and technologies, RSA 378:39's reference to the Commission reviewing "each proposed option" shows that the LCIRP statute requires utilities to assess the various practices and technologies it lists as options for meeting grid needs.

[67] RSA 378:37. The assessments of DERs and "smart grid" technologies utilities must make as part of their LCIRPs are intended to effectuate the policy of meeting energy needs at the lowest reasonable cost. *See* RSA 378:38 ("*Pursuant to the policy established under RSA 378:37*, each electric and natural gas utility . . . shall file a least cost integrated resource plan with the commission . . . ." (emphasis added)); RSA 378:37 ("The general court declares that it shall be the energy policy of this state to meet the energy needs of the citizens and businesses of the state at the lowest reasonable cost . . . .").

unreasonably wasting opportunities to use the mandatory LCIRP process to identify ways energy storage might be the lowest-cost method of meeting specific distribution grid needs. Such a utility decision-making process and any investment made as a result of that process would therefore be imprudent.

The imprudence inherent in a failure to consider NWSs confers upon the Commission the effective power to require utilities to solicit and consider NWS storage project proposals. Specifically, the Commission can condition a utility's ability to earn a return on the investment in question being chosen as the result of a process that considered NWSs, including NWS storage projects. Insofar as a prudent business would competitively solicit NWS proposals to identify and minimize NWS project costs, the Commission may also condition a utility's ability to earn a return on the utility having conducted such a competitive NWS solicitation.[68] For the same reasons, the Commission can further require that utilities explicitly solicit and consider proposals that involve using wholesale market revenue to minimize the cost of NWS storage projects to ratepayers. Such authority stems directly from the Commission's duty to ensure no "return on any [imprudent] plant, equipment, or capital improvement" is included in a utility's permanent rates.[69]

[68] RSA 374-G:5 would also prevent a utility from recovering the cost of an NWS storage project unless the utility could show that it "used a competitive bidding process to reasonably minimize the costs of the project to its customers." RSA 374-G:5, I(d). This is because a utility must make such a showing as part of any rate filing seeking to recover the cost of utility investment in DERs. RSA 374-G:5, I; *see also* RSA 374-G:2, I(b) (defining energy storage as a DER for the purposes of RSA 374-G). Thus, a utility would need to competitively solicit proposals in order to ensure it could recover the costs of any NWS storage project it ultimately might decide to pursue.

[69] RSA 374:28.

RSA 374-G:4-5 also allows a utility to earn a profit on DERs, including energy storage,[70] regardless of whether the utility owns the DERS or not. Specifically, RSA 374-G:4, I provides that "a New Hampshire electric public utility may invest in or own distributed energy resources" and RSA 374-G:5, I further provides that a "utility may seek rate recovery for" such investments. The rate recovery a utility may seek also includes "a return on investment."[71] Given the juxtaposition of "invest in" with "own" in RSA 374-G:4, I, RSA 374-G clearly contemplates a utility investing in and earning a return on DERs the utility does not own. RSA 374-G therefore permits an arrangement in which a utility contracts third-party-owned energy storage projects to act as NWSs and then earns a return on the money invested under such contracts.

RSA 374-G:5 further authorizes the Commission to grant utilities a higher rate of return on NWS storage projects that provide significant savings to ratepayers relative to traditional distribution infrastructure projects. Specifically, RSA 374-G:5, IV permits the Commission to "add an incentive to the return on equity component as it deems appropriate to encourage investments in distributed energy resources." Thus, the Commission has discretionary authority to add an incentive to the return on equity component of rate recovery—and thus increase the utility's profit margin—in order to incentivize utility investment in DERs. Given that the Commission is to use this discretionary authority "as it deems appropriate," the Commission can also use this authority in a targeted manner. The Commission can therefore use this authority to only provide a greater return on equity to those NWS projects that would add significantly less to a utility's rate base than a traditional solution, as we propose above.

[70] *See* RSA 374-G:2, I(b) (defining energy storage as a DER for the purposes of RSA 374-G).
[71] RSA 374-G:5, III.

For these reasons, the Commission can implement all the basic elements of the approach we propose using its existing statutory authority. We therefore recommend that the Commission proceed with implementing such an approach and integrate it into the expanded LCIRP process the Commission proposed in Order 26,358 as soon as possible.

2. Compliance with RSA 374-F and Restructuring Policy Principles

The approach we propose is also consistent with the restructuring statute, RSA 374-F, and the policy principles it established. The only potential tension lies between the statute's functional separation principle and the prospect of a utility owning or investing in physical projects that compete in wholesale markets. Specifically, RSA 374-F:3, III provides that "[g]eneration services should be subject to market competition and minimal economic regulation and at least functionally separated from transmission and distribution services." As an initial matter, it is unclear whether bidding an energy storage project into wholesale markets constitutes providing "generation services" within the meaning of the statute. But even assuming it does, RSA 374-F would still not prohibit utility involvement in energy storage projects participating in wholesale markets provided ratepayers bear no wholesale market risk. As ratepayers would bear no such risk in the approach we propose, the Commission could implement it without violating the current RSA 374-F.

First, in the case of NWS storage projects owned by third parties, there would be structural separation rather than mere functional separation. Specifically, the entity managing the project's wholesale market participation would be entirely separate from the distribution utility. The utility would simply be paying the project to provide benefits to the local distribution grid, and neither the utility nor its shareholders would bear any wholesale market risk. As such structural separation insulates generation service from T&D service to a greater

degree than functional separation,[72] such an approach complies with the principle that "[g]eneration services should be . . . *at least* functionally separated from transmission and distribution services."[73] In this scenario, there would be no conflict with the functional separation principle and therefore no potential violation of RSA 374-F.

However, a utility directly owning and operating an energy storage project participating in wholesale markets arguably does violate the functional separation principle, at least assuming such wholesale market participation constitutes generation service.[74] The need for operational coordination between an NWS energy storage project's wholesale market participation and T&D functions likely precludes the kind of operational separation of regulated and competitive utility

[72] *See Appeal of Algonquin Gas Transmission LLC*, 170 N.H. 763, 779, 186 A.3d 865, 878 (2018) (Hicks, J., dissenting) (noting that functional separation is "a less drastic alternative to" structural separation or divesture).
[73] RSA 374-F:3, III (emphasis added).
[74] It is possible that the General Court was narrowly referring to just *retail* generation service when it used the term "generation service" in RSA 374-F:3, III. Under that interpretation, the functional separation principle arguably only requires functional separation of T&D services from the selling of electrical energy at retail. It would therefore not apply to utility involvement in *wholesale* electricity markets, particularly when said participation does not involve an asset that constitutes a traditional generation facility. Indeed, this is arguably part of the reason why New Hampshire utilities can bid the "negawatts" they "generate" from energy efficiency assets into the Forward Capacity Market without running afoul of RSA 374-F.
Yet the Commission has previously construed the term "generation service" more broadly. In Order 25,950 the Commission concluded that securing natural gas pipeline capacity for natural gas generation facilities constituted a component of generation service. *Petition for Approval of Gas Infrastructure Contract with Algonquin Gas Transmission, LLC*, Order No. 25,950, at 9 (Oct. 6, 2016), *rev'd on other grounds sub norm. Appeal of Algonquin Gas Transmission LLC*, 170 N.H. 763, 186 A.3d 865 (2018). More specifically, the Commission found that the cost of a pipeline capacity contract constituted "a generation-related cost" and therefore including such a cost in distribution rates would "conflict with the functional separation principal [sic]." *Id.* Thus, under that precedent, arguably all "generation-related" activities that affect the cost of generation service constitute components of "generation service." As all wholesale electricity market activity affects the cost of providing generation service to retail customers, energy storage participation in wholesale markets could be a generation-related activity to which the functional separation principle applies.

segments that functional separation requires.[75] Specifically, an NWS energy storage project that a utility owns and operates probably can only participate in wholesale markets without comprising its ability to deliver T&D benefits if the utility personnel responsible for the former are coordinating their operations with the latter. Thus, there may be no way for utility-owned NWS energy storage projects to capture wholesale market revenue without violating the functional separation principle if wholesale market participation constitutes generation service.

Yet this does not mean that RSA 374-F necessarily prohibits utility-owned energy storage projects from participating in wholesale markets. RSA 374-F:3, III immediately qualifies the functional separation principle by stating that "distribution service companies should not be absolutely precluded from owning small scale distributed generation resources as part of a strategy for minimizing transmission and distribution costs." Thus, the text of the restructuring statute indicates that utilities may engage in some activities that constitute "generation service" provided the purpose of such activities is to minimize T&D costs.[76] The New Hampshire Supreme Court likewise held in *Appeal of Algonquin Gas Transmission LLC* that RSA 374-F does not require functional separation "in all circumstances."[77] Rather, the Court found that the functional separation principle can be overridden if the Commission determines "that the other

[75] *See Algonquin*, 170 N.H. at 779, 186 A.3d at 878 (Hicks, J., dissenting) (quoting Paul L. Joskow & Roger G. Noll, *The Bell Doctrine: Applications in Telecommunications, Electricity, and Other Network Industries*, 51 STAN. L. REV. 1249, 1304 (1999)) (explaining that functional separation involves "costs separations and certain operational separations between competitive and regulated segments" of a business).

[76] It is also worth noting that though RSA 374-F:3, III refers to functionally separating "generation services" from T&D services, the purpose section's statement of the same principle refers to functionally separating "*centralized* generation services" from T&D services. RSA 374-F:1, I (emphasis added). This further indicates that RSA 374-F's functional separation principle does not rigidly prohibit utility involvement in "generation service" activities that involve distributed generation or other DERs.

[77] *Algonquin*, 170 N.H. at 774-75, 186 A.3d at 874-75.

policy principles identified in the statute clearly outweigh[] functional separation and that [a] proposal [contrary to the functional separation principle] would produce more reliable electric service at lower rates for New Hampshire consumers than presently exists without any significant adverse consequences."[78]

Allowing utility-owned NWS storage projects to participate in wholesale markets subject to the proposed safeguards would both serve to minimize T&D costs and satisfy the *Algonquin* test. First, using wholesale market revenue to reduce the cost to ratepayers of an NWS storage project built primarily to avoid T&D costs constitutes a strategy for minimizing T&D costs. As to the *Algonquin* test, those lowered T&D costs would translate to lower rates for ratepayers, thereby advancing RSA 374-F:3's rate relief principle and what the New Hampshire Supreme Court has determined to be the restructuring statute's primary purpose.[79] Stimulating more energy storage deployment would also advance RSA 374-F:3's environmental improvement and renewable energy resource principles,[80] per the General Court's findings in HB 715.[81] Thus,

[78] *Id.* at 775, n.4.
[79] *See* RSA 374-F:3, XI (stating that restructuring is "expected to produce lower prices for all customers" and that "utilities . . . should work to reduce rates for all customers"); *Algonquin*, 170 N.H. at 774, 186 A.3d at 874 ("[W]e discern that the primary intent of the legislature in enacting RSA chapter 374-F was to reduce electricity costs to consumers. We disagree with the PUC's ruling that the legislature's 'overriding purpose' was 'to introduce competition to the generation of electricity.'" (citation omitted)).
[80] *See* RSA 374-F:3, VIII ("Continued environmental protection and long term environmental sustainability should be encouraged."); RSA 374-F:3, IX ("Increased future commitments to renewable energy resources should be consistent with the New Hampshire energy policy as set forth in RSA 378:37 . . . . [I]ncreased use of cost-effective renewable energy technologies can have significant environmental, economic, and security benefits.").
[81] *See* HB 715, Chapter 11:1 (2020) ("Energy storage has the potential to increase the utilization of renewable energy in New Hampshire . . . . Enabling greater use of renewable energy reduces air pollution, including both toxic chemicals and particulate matter, thereby lessening the electricity system's negative impacts on both public health and environmental quality.").

multiple restructuring policy principles weigh against strict adherence to the functional separation principle in this context.

Moreover, the safeguards we propose should prevent any non-trivial adverse effects on ratepayers or competitive markets, and thus avoid undermining New Hampshire's pro-competition restructuring policy principles. Specifically, a utility would only be allowed to own an NWS energy storage project that participates in wholesale markets if it underbids competitive developers, such that the cost of the project to its ratepayers would be lower than if any third party were to develop and own the project. Furthermore, the utility's shareholders—not its ratepayers—would be required to bear all wholesale market risk. The safeguards in this approach thus prevent the utility from abusing its monopoly power or exploiting its captive ratepayers to gain an unfair competitive advantage. As such, there should be little to no adverse effects from allowing utility-owned NWS storage projects to participate in wholesale markets under these conditions either on ratepayers, competitive markets, or restructuring policy principles favoring competitive markets.

The benefits of allowing such participation and other restructuring policy principles outweigh strict adherence to the functional separation principle in this context. Thus, under *Algonquin*, the Commission could allow utility-owned NWS storage projects to participate in wholesale markets under these conditions even if it determines such wholesale market participation constitutes providing "generation services."[82] The Commission can therefore implement the approach we propose without any change to the current version of RSA 374-F.

[82] Note that the *Algonquin* test leads to this result *only* if the utility bears all wholesale market risk and is thus unable to force its ratepayers to cross-subsidize the "generation service" component of the NWS storage project. In addition to the functional separation policy principle, ten out of the remaining fourteen restructuring policy principles emphasize or incorporate the importance of fostering competition. *See* RSA § 374-F:3, II, IV-VIII, XI, XIII-XV. It is

3. RSA 374-G's Limitations on Proposed Approach and Suggested Amendments to RSA 374-G.

Nothing about our proposed approach violates RSA 374-G, provided the Commission only applies it to NWS projects that do not include distributed generation. However, as currently written RSA 374-G prohibits applying this approach to NWS storage projects that incorporate generation-plus-storage systems (e.g., solar-plus-storage systems). The reason for this is that RSA 374-G:3 prohibits any "electric generation equipment" owned by or receiving funds from a utility from participating in wholesale electricity markets. Consequently, utilities can use generation-plus-storage systems as part of an NWS only if such systems are not participating in wholesale markets. Such a blanket restriction severely hobbles the ability of generation-plus-storage systems to cost-effectively act as an NWS, as the restriction's practical effect is to require ratepayers to bear *all* NWS generation-plus-storage project costs rather than just a portion of them. The Commission should therefore recommend eliminating this restriction, as well as other related restrictions in RSA 374-G that unduly limit the ability of distributed generation and generation-plus-storage systems to avoid or reduce T&D costs.

RSA 374-G:3 severely limits the allowed operations and thus the cost-effectiveness of *any* "electrical generation equipment" that receives *any* funding from a utility if the equipment in

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therefore logically impossible for "the other policy principles identified in the statute [to] clearly outweigh[] functional separation" if functional separation is violated in a manner that also undermines effective competition. *Algonquin*, 170 N.H. at 775, n.4, 186 A.3d at 874, n.4. Forcing captive ratepayers to bear wholesale market risks undermines effective competition by enabling a utility to use its ratepayers to cross-subsidize its wholesale market activity. *See* Jonathon A. Lessor & Leonardo R. Giacchino, *Fundamentals of Energy Regulation* 71-72 (2d ed. 2013) (explaining how enabling a utility to recover the costs of an unregulated activity from ratepayers allows it to undercut its non-utility competitors). Therefore, any violation of functional separation that also imposes wholesale market risks on ratepayers fails the *Algonquin* test and is thus impermissible under RSA 374-F.

question is either (1) utility-owned, (2) customer-owned, or (3) sited on a customer's premises.[83] Specifically, utility-owned electrical generation equipment can only be used to offset distribution system losses or supply power to the utility's own facilities.[84] Utility-owned electric generation equipment therefore cannot participate in wholesale markets, or even act as a NWS when doing so would require generation to exceed distribution system losses. Likewise, customer-owned or customer-sited generation receiving utility funding may only be used to reduce the customer's own load, though renewable generation is allowed to "occasionally" exceed a customer's consumption.[85] Thus, any customer-owned generation receiving utility funding cannot participate in wholesale markets, or even export energy to the local grid except "occasionally" in the case of renewable generation.

As such, RSA 374-G:3 prohibits utilities from using any "electric generation equipment" that participates in wholesale markets as an NWS or as part of an NWS. In order to use such generation equipment as part of an NWS, a utility would either have to own such generation equipment outright or fund third-party-owned generation that acts as an NWS.[86] Either approach

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[83] *Id.*
[84] RSA 374-G:3, I.
[85] RSA 374-G:3, II-III.
[86] RSA 374-G does not clarify or define what kind of relationship must exist between a utility and a third party for third-party-owned electric generation equipment to be "funded" by a utility for RSA 374-G:3 purposes. However, RSA 374-G:4 refers to a utility either investing in or owning DERs and RSA 374-G:5 refers to utility investment in DERs. Reading RSA 374-G:3 together with these sections, it is logical to presume that third-party-owned electric generation equipment is utility-funded when the utility somehow invests in that electric generation equipment. "[T]o invest" means "to put money . . . into something to make a profit." *Invest*, CAMBRIDGE DICTIONARY, https://dictionary.cambridge.org/dictionary/english/invest (last visited Dec. 28, 2020). Thus, a utility funds third-party-owned electric generation equipment within the meaning of RSA 374-G:3 when it provides money to such equipment as part of arrangement in which it expects to make a profit. That logically encompasses any NWS project that uses third-party-owned electric generation equipment while still preserving an earning opportunity for the utility.

would violate RSA 374-G:3. Thus, as the generation component of any generation-plus-storage system constitutes "electric generation equipment," RSA 374-G:3 prohibits utilities from owning or funding NWS generation-plus-storage systems that also participate in wholesale markets. Consequently, in the absence of statutory change the Commission would have to exclude generation-plus-storage systems from the proposed approach.

RSA 374-G:3 also effectively prohibits utilities from funding *any* third-party-owned, front-of-the-meter generation interconnected to their distribution grid. Any third-party-owned, front-of-the-meter generation project would probably be hosted either on a utility customer's property or constitute a customer of the utility itself. RSA 374-G:3 would thus prohibit them from generating energy in excess of onsite load (except occasionally in the case of renewable generation). But front-of-the-meter generation routinely exceeds onsite load by definition; thus RSA 374-G:3 prohibits utility-funded,[87] front-of-the-meter generation that is either sited on a customer's property or owned by a customer. To the extent that paying third-party-owned generation to act as an NWS constitutes funding such generation, RSA 374-G:3 thus effectively

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It also specifically includes the approach we propose, in which the utility would be allowed to earn a profit on its NWS contract expenditures. If the NWS in question involved distributed generation or generation-plus-storage systems, the contracting utility would be investing in electric generation equipment. The contracted distributed generation would thus constitute "electric generation equipment funded in part by a public utility," even if it was owned and financed entirely by a third-party developer.

[87] Note that here "utility-funded" means utility-funded only in the sense RSA 374-G uses the term, which is to refer to electric generation equipment that the utility has invested in and thus on which it is earning a return. RSA 374-G:3's restrictions do not apply to electric generation equipment the utility is not earning a return on, such customer-owned electric generation equipment participating in a BYOD program on which the utility makes no profit.

prohibits utilities from using third-party-owned, front-of-the-meter generation and therefore generation-plus-storage projects as an NWS.[88]

The practical effect of RSA 374-G:3's blanket restrictions on the allowable operations of NWS generation and generation-plus-storage systems is to simultaneously limit the value they can provide to the grid while increasing their cost to ratepayers. Generally prohibiting third-party-owned and behind-the-meter NWS generation-plus-storage systems from exporting energy to the grid artificially limits such systems' ability to reduce peak demand and thus their ability to provide value to the grid.[89] It also puts such systems at an unfair disadvantage compared to utility-owned, front-of-the-meter generation-plus storage systems, which are not subject to the same limitations. Likewise, by prohibiting all NWS generation-plus-storage systems from participating in wholesale markets, RSA 374-G:3 prevents them from accessing a source of revenue that could significantly reduce their cost to ratepayers.

Furthermore, these restrictions provide little to no marginal benefit given the other safeguards that protect competition and ratepayers in RSA 374-F and RSA 374-G. First, for the

[88] Admittedly, a third-party developer that was not otherwise a customer of the distribution utility might get around this restriction by acquiring property on the distribution system, constructing a generation facility with black-start capability, and eliminating any potential flow of electricity from the distribution grid onto the property, thereby rendering it not a customer of the utility. However, as a practical matter, this is unlikely to be a viable option in most circumstances. Alternatively, the developer could site the project on utility-owned land to bypass RSA 374-G:3's restrictions on customer-owned and/or sited generation, but that also may not be a viable option.

[89] The Commission itself has found that such exports should be encouraged rather than prohibited. Indeed, this is one of the reasons why the Commission rejected the "instantaneous netting" proposal when it developed the current net metering tariff. *See Dev. of New Alt. Net Metering Tariffs and/or Other Regulatory Mechanisms and Tariffs for Customer-Generators*, Order No. 26,029, at 52-53 (June 23, 2017) ("[I]nstantaneous netting is likely to result in . . . . financial incentives for maximum on-site electric consumption during periods when the benefits of [distributed generation] exports to the system may be greatest, such as at the time of late afternoon system peaks, thereby decreasing the potential system-wide benefits of those energy exports.").

reasons discussed in the previous subsection, RSA 374-F prohibits any arrangement that would require ratepayers to bear the wholesale market risks of any generation project that participates in wholesale markets. That in turn also prevents utilities from using such a project to undermine effective competition in such markets. RSA 374-G:3's blanket prohibition on wholesale market participation thus does not prevent any undesirable utility involvement in wholesale markets that RSA 374-F does not already prevent. Second, RSA 374-G:5, II provides that the Commission must find any utility investment in DERs to be in the public interest before a utility may recover such an investment. As part of that public interest determination, the Commission must consider whether the costs of such an investment outweigh its benefits and whether the investment will negatively affect competition.[90] Thus other processes in RSA 374-G:5 ensure that utility-funded distributed generation and generation-plus-storage systems will not unduly harm ratepayers or undermine effective competition, obviating the need for RSA 374-G:3's blanket restrictions.

The Commission should therefore recommend abolishing these restrictions in its report to the House and Senate standing committees with jurisdiction over energy and utility matters. Specifically, the Commission should recommend striking paragraphs I, II, and III of RSA 374-G:3.[91] Such a statutory change would allow the Commission to apply the approach we propose to all NWS storage projects, rather than just those that limit themselves to using standalone storage. It would also eliminate arbitrary limitations on the ability of generation-plus-storage systems to contribute to peak demand reduction. Together, these changes will ensure that the

[90] *See* RSA 374-G:5, II(f)-(h).

[91] Though less important, we would also recommend exempting third-party-owned generation and generation-plus-storage systems from the cap established in RSA 374-G:4, II by striking the phrase "or receiving investments from" from the paragraph. We do not believe it wise nor appropriate to arbitrarily limit the number of third-party-owned generation or generation-plus-storage systems that are allowed to act as NWSs.

NWS projects can utilize the full capabilities of generation-plus-storage systems to benefit the grid at the lowest possible cost to ratepayers.

IV. General Design Principles for a Bring Your Own Device Program

We support developing a BYOD program or programs to compensate energy storage and other DERs deployed outside of LCIRP NWS solicitations for the costs they avoid. A well-designed BYOD program would provide private individuals and businesses with much needed price signals to incentivize both efficient deployment and utilization of energy storage and other DERs. However, as we anticipate other commentors and/or parties to this proceeding will address BYOD program design parameters in depth, we do not address the details of such a program here. Rather, we only discuss several general design principles we believe a BYOD program should incorporate.

First, an ideal BYOD program or set of programs should be open to any DER technically capable of supplying verifiable peak load reductions and/or dispatchable injections of energy into the grid. That of course includes energy storage itself, both in the form of standalone and generation-plus-storage systems. But it also includes demand response and potentially certain energy efficiency measures as well. However, measuring and verifying the contributions of demand response and energy efficiency assets may present greater technical challenges that could complicate such a program. As such there may be value to launching a BYOD program targeted specifically to energy storage projects (including generation-plus-storage projects) before expanding it to include other DERs.

Second, a BYOD program should allow aggregations of energy storage systems (and other DERs) as well as individual energy storage systems or DERs to participate. Allowing aggregations of small energy storage systems and/or other DERs to participate is crucial to

ensuring that such resources are also capable of accessing wholesale market revenue streams.[92] Most DERs, including residential and small commercial behind-the-meter energy storage systems, are too small to participate in wholesale markets as individual resources. However, any DER aggregation larger than 100 kW will be able to access wholesale markets.[93] Allowing aggregations to participate in a BYOD program thus ensures BYOD resources can stack the value of wholesale market revenue with compensation for avoiding T&D costs. That in turn should benefit all ratepayers by efficiently incentivizing DERs to both avoid T&D costs and suppress wholesale market prices.

Third, a BYOD program should also compensate energy storage systems and DERs that do not participate in wholesale markets for avoided peak energy and capacity costs.[94] This will

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[92] The Federal Energy Regulatory Commission's ("FERC") recent Order 2222 requires each Regional Transmission Organization ("RTO") and Independent System Operator ("ISO"), including ISO-NE, "to revise its tariff to . . . [a]llow distributed energy resources that participate in one or more retail programs to participate in its wholesale markets." Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators, 85 Fed. Reg. 67,094, 67,122 (Oct. 21, 2020) (to be codified at 18 C.F.R. pt. 35). Order 2222 thus prevents ISO-NE from barring a DER aggregation from participating in its markets simply because it is also participating in a state BYOD program. ISO-NE may however place "narrowly designed" restrictions on such a DER aggregation's participation to prevent it from being compensated more than once for providing the same service. *Id.* at 67,122-23.

[93] In Order 2222 FERC required "each RTO/ISO to implement a minimum size requirement not to exceed 100 kW for all distributed energy resource aggregations." *Id.* at 67,124.

[94] Order 2222 appears to expect that RTO/ISO tariff provisions will prevent DER aggregations that reduce the amount of energy and capacity a distribution utility or other load serving entity must procure from selling energy or capacity in wholesale markets. *See id.* ("[I]t is appropriate for RTOs/ISOs to place restrictions on the RTO/ISO market participation of . . . a distributed energy resource aggregation [that] is . . . included in a retail program to reduce a utility's or other load serving entity's obligations to purchase services from the RTO/ISO market."). That in turn suggests that any DER aggregation ISO-NE may allow to participate in its energy and capacity markets will not reduce ISO-NE energy or capacity charges for the hosting utility or utilities. As such, it is appropriate for a BYOD program to limit compensation for DER aggregations participating in energy and capacity markets to avoided T&D costs only. However, as DERs and DER aggregations that do not participate in such markets do reduce ISO-NE energy and capacity charges, it is appropriate to compensate them for doing so. *See* Attachment A to Letter from

ensure that unaggregated energy storage systems and other DERs that avoid energy and capacity costs still receive appropriate price signals. For the same reason, a BYOD program should also compensate DER aggregations that for whatever reason do not participate in wholesale energy and capacity markets for avoided energy and capacity costs.

These general principles are by no means an exhaustive list of the elements a well-designed BYOD program must include to provide efficient price signals that will properly incentivize energy storage and other DERs. However, no BYOD program that lacks these design features will fully achieve these goals. We therefore urge the Commission to incorporate these principles into any BYOD program design it develops or recommends as a result of this proceeding.

V. CONCLUSION

Enabling energy storage projects to earn revenue for avoiding T&D costs while also participating in wholesale markets will reduce electricity bills and provide significant environmental benefits. By enacting HB 715, the General Court and the Governor made it clear that removing barriers to the fullest utilization of cost-effective and efficient mechanisms that can reduce ratepayer bills and help mitigate the climate crisis are significant state policy priorities. As noted above, the Commission already has the necessary statutory authority to implement many such mechanisms, but barriers remain absent amendments to RSA 374-G.

Monica Gonzalez, Esq., Assistant Gen. Counsel, Operations & Planning, Indep. Sys. Operator New Eng. Inc., to Kimberly D. Bose, Sec'y, Fed. Energy Regulatory Comm'n, at 18 (Oct. 7, 2019), https://www.iso-ne.com/static-assets/documents/2019/10/rm18-9_resp_to_der_data_req.pdf ("DERs that do not participate in the wholesale markets as supply resources reduce the net load served by the bulk power system, which reduces wholesale clearing prices and costs allocated to Market Participants serving retail customers.").

We respectfully urge the Commission to use this investigation as an opportunity to formulate specific mechanisms, including those proposed above, to compensate energy storage for the full range of values and services it can provide. The Commission should then act to implement such mechanisms in an appropriate proceeding at the earliest available opportunity. Doing so will help ensure that New Hampshire maximizes the manifold benefits of energy storage as soon as possible.

Respectfully submitted,

/s/ Lee W. Oxenham
Representative Lee Oxenham
92 Methodist Hill Road
Plainfield, New Hampshire
603-727-9368
leeoxenham@comcast.net

/s/ Ian R. A. Oxenham
Ian R. A. Oxenham, Esq.
Attorney at Law
92 Methodist Hill Road
Plainfield, New Hampshire
603-443-2465
ian.r.a.oxenham@gmail.com

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