BEFORE THE STATE OF VERMONT
PUBLIC UTILITY COMMISSION

Case No. 19-0855-RULE

Proposed revisions to Vermont Public Utility Commission Rule 5.100	

OPENING COMMENTS OF ADVANCED ENERGY ECONOMY

Pursuant to the *Order Requesting Comments on Draft Rule* issued by the Vermont Public Utility Commission ("Commission") on April 29, 2022, Advanced Energy Economy ("AEE")[1] appreciates the opportunity to provide comments. AEE generally supports the spirit of the rules to streamline processes and simplify administration of the program, but is concerned about a proposed addition to the rules that would presumptively bar net-metering systems from participating in both Vermont's retail net-metering program and the region's wholesale markets unless authorized by the Commission. AEE respectfully requests that proposed new Section 5.135 be struck from the rules as it creates a direct barrier preventing distributed energy resources (DERs)[2], which include net-metering systems located in Vermont, from participating in aggregations in the New England Independent System Operator ("ISO-NE") markets. Such a

[1] AEE is a national association of businesses that are making the energy we use secure, clean, and affordable. AEE is the only industry association in the United States that represents the full range of advanced energy technologies and services, both grid-scale and distributed. Advanced energy includes energy efficiency, demand response, energy storage, wind, solar, hydro, nuclear, electric vehicles, and more.

[2] As FERC stated in Order No. 2222: "We define a distributed energy resource as any resource located on the distribution systems, and subsystem thereof or behind a customer meter. These resources may include, but are not limited to, electric storage resources, distributed generation, demand response, energy efficiency, thermal storage, and electric vehicles and their supply equipment." *Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators,* 172 FERC ¶ 61,247 (2020) ("Order No. 2222"), at n1.

presumption against the participation of net-metering systems in wholesale markets would put in place barriers to the ability of customers to receive additional value for the wholesale services their net-metering systems can provide (e.g., capacity and ancillary services), limit the ability of DER providers to use wholesale market participation to lower the overall costs of net-metering systems to customers, and erode the cost and reliability benefits of the Federal Energy Regulatory Commission's ("FERC") Order No. 2222.

I. Background on DER Participation in Wholesale Markets

In 2018, FERC opened a rulemaking to address and remove barriers to the participation of distributed energy resources in Regional Transmission Organization ("RTO") and Independent System Operator ("ISO") wholesale markets. Over the course of this rulemaking, FERC grappled with the question of allowing net metering systems to participate in wholesale markets, ultimately concluding that a blanket ban on such dual participation is unwarranted.

FERC's Notice of Proposed Rulemaking ("NOPR") acknowledged that many DERs were too small to participate individually in most wholesale markets and would be unable to qualify given qualification and performance criteria. While taking an expansive view of enabling DERs, the NOPR did express a concern that DERs participating in aggregations should not receive compensation for the same services as part of another program. Specifically, the NOPR proposed that it would be appropriate for each RTO/ISO to "limit the participation of resources in the organized wholesale electric markets through a distributed energy resource aggregator that are receiving compensation for the same services as part of another program."[3] FERC proposed that "distributed energy resources that are participating in one or more retail compensation programs

[3] *Electric Storage Participation in Markets Operated by Regional Transmission Organizations and Independent System Operators* 157 FERC ¶ 61,121 (2016), at P134.

such as net metering… will not be eligible to participate in the organized wholesale electric markets as part of a distributed energy resource aggregation."[4]

On September 17, 2020, FERC issued Order No. 2222, which adopted a final rule that removed this blanket prohibition against dual participation in retail and wholesale programs. In considering the issue of dual participation by DERs, FERC determined that the initial prohibition in the NOPR was too broad and decided instead to require RTOs and ISOs to "allow [DERs] that participate in one of more retail programs to participate in its wholesale markets," while allowing "appropriate restrictions" that are "narrowly designed to avoid counting more than once the services provided by distributed energy resources in RTO/ISO markets."[5] FERC concluded that a blanket prohibition could undermine the effectiveness of retail programs, block current participants from continuing, and lead to unjust and unreasonable rates by reducing competition and reliability in RTO/ISO markets.[6] Ultimately, Order No. 2222 tasked RTO/ISOs with addressing double-counting concerns by establishing narrowly-tailored conditions on dual participation in wholesale markets and retail programs.[7]

II. Proposed Rule Section 5.135 Would Create Unjust and Unreasonable Barriers to the Ability of Customers to Enhance the Value of Their Net-Metering Systems Through Wholesale Market Participation.

[4] *Id*.

[5] Order No. 2222 at P160-61.

[6] *Id,* at P163.

[7] *Id,* at P161.

Many DERs can provide a range of valuable services, including energy, capacity, and in some cases ancillary services.[8] Viewed from the perspective of a net-metering customer, FERC Order No. 2222 represents an opportunity to enhance the value of adopting solar or another DER (such as energy storage or an electric vehicle) by being compensated for the full range of capabilities that the resource is able to provide, which may not be compensated through retail programs alone. It also offers an opportunity for providers of these DERs to maximize their value through wholesale market participation and lower the cost of the devices for consumers, helping expand access to DERs.

Indeed, the intent of Order No. 2222 was not to create a choice between retail programs (including net metering) and wholesale market access, but to facilitate a mutually beneficial and self-reinforcing relationship between DERs that can provide benefits and services at both the retail distribution level and the RTO/ISO wholesale level. In doing so, Order No. 2222 carefully acknowledges the confluence of federal and state jurisdiction involved, and expressly preserves states' authority over net metering itself. In the order, FERC explicitly recognizes that net metering does not involve a sale of electricity subject to FERC jurisdiction unless there is a net sale over an applicable billing period, leaving that program and the parameters of that program at the discretion of the state.[9]

Establishing a blanket ban on net-metering participation in wholesale markets, as is proposed in the rule revisions, forfeits potentially available benefits to net-metering customers and may suppress the ability of the net-metering program to maximize the benefits it can bring

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[8] Advanced Energy Economy, *FERC Order No. 2222 and the Use Cases it Can Unlock* (June 2021), https://www.aee.net/hubfs/FERC%202222%20Use%20Cases%20Report.pdf.

[9] Order No. 2222 at n89 ("the Commission's jurisdiction would arise only when a facility operating under a state net metering program produces more power than it consumes over the relevant netting period").

by positively influencing wholesale rates. Order No. 2222 contemplated that states could determine that their retail net-metering and other programs already compensate for certain services, and could require customers participating in them to agree not to participate in the wholesale market (thus giving customers a choice of the retail program or the wholesale market).[10] Thus, the Commission can investigate whether net-metering systems are or are not already being compensated for certain wholesale services (e.g., energy, capacity, and ancillary services). However, the proposed rule at issue here does not do that, and makes no attempt to distinguish services already being compensated. Instead, it would harm retail customers in the state, failing to compensate them for services their net-metering systems are providing and denying other customers without net-metering systems the reliability and cost benefits of full utilization of these resources by categorically barring net-metering systems from wholesale participation.

Moreover, FERC directly contemplated that it would be the RTO/ISOs, not the states, that established the conditions under which dual participation by DERs in both retail and wholesale markets would be allowed. For example, PJM Interconnection ("PJM") similarly considered an absolute bar on participation in wholesale capacity markets by NEM systems, but withdrew that absolute stance when it filed its compliance filing on February 1, 2022.[11] AEE submitted a letter to the PJM Board of Managers on January 24, 2022, urging PJM to remove this prohibition and recognize that DERs that are likely to be paired with solar are often not

[10] FERC concluded in Order No. 2222, however, that states could not "opt-out" and issue blanket bans on DERs participating in wholesale markets.

[11] Order No. 2222 Compliance Filing of PJM Interconnection, L.L.C., FERC Docket No. ER22-962 (Feb. 1, 2022), Transmittal Letter at 29 (explaining the conditions under which DERs participating in a net energy metering retail program can participate in the PJM energy or capacity markets; no restrictions are placed on participation in the PJM ancillary services markets).

monetized through net energy metering programs, especially for capacity purposes.[12] While AEE does not believe PJM went far enough in its filing to create clarity for how net-metered systems might participate in capacity markets, it is noteworthy that PJM left the door open to dual participation and explicitly avoided the sort of blanket ban proposed here.

Of even more relevance, ISO-NE's Order No. 2222 compliance filing does not include a prohibition on dual participation in net metering and wholesale markets. In fact, there are multiple examples within ISO-NE of net-metered DERs in other states that are participating in the Forward Capacity Market as passive demand resources, even before Order No. 2222 was issued.

Given the harm that the blanket prohibition on net-metering systems participating in wholesale markets could cause to consumers in the state, and the lack of analysis of the services and benefits these systems are already being compensated for, AEE requests that the Commission strike proposed Section 5.135. If the Commission continues to have concerns regarding net-metering systems participating in wholesale markets, despite the substantial benefits it could provide to customers and local and regional system reliability, it should conduct further proceeding to analyze what services are already being compensated by its net-metering program and, if warranted, develop a narrowly tailored restriction on wholesale market participation. A recent report by AEE and Grid Lab developed with input from utilities and DER Aggregators outlines considerations for retail regulatory authorities seeking to establish dual participation requirements and provides examples of retail programs that have successfully enabled dual participation while avoiding double compensation. The report recommends that

[12] AEE letter to PJM Board of Managers, January 24, 2022, available at https://www.pjm.com/-/media/about-pjm/who-we-are/public-disclosures/20220124-aee-and-aema-letter-to-pjm-board.ashx.

retail regulators "proactively collaborate with utilities, DERs, Aggregators, and RTOs/ISOs to develop dual participation rules that are transparent and accommodate DER capabilities."[13] If the Commission finds that further consideration of net metering systems participating in wholesale markets is warranted, AEE urges that it undertake a proactive and collaborative approach as recommended by participants of the AEE and Grid Lab collaborative.

III. The Proposed Rule Constrains the Use of Energy Storage Paired with Net-Metered Solar PV

The limits that the proposed rule appears to place on valuable energy storage devices paired with net-metered solar systems provide an independent reason to strike the proposed ban on participation of net-metered systems in the wholesale markets. The existing net-metering rule is silent on the use of energy storage paired with net-metering systems. Under existing rule 5.103, a "net-metering system" is defined as "a plant for generation of electricity." Proposed Section 5.137 will now make explicit that an energy storage facility must be paired with a renewable net-metering system and be exclusively charged by that system for discharges from the storage facility to receive net-metering credits. Absent a federal tax credit for stand-alone battery storage, most residential solar plus storage devices would be configured in this way to claim the federal investment tax credit available for residential solar. The proposed Section 5.137 is reasonable to the extent that it codifies what should be existing practice to ensure that net metering credits are appropriately reflected from qualifying generation.

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[13] Advanced Energy Economy and GridLab, *FERC Order 2222 Implementation: Preparing the Distribution System for DER Participation in Wholesale Markets* (Jan. 2022), available at https://info.aee.net/hubfs/AEE%20GridLab%20FERC%20O.2222%20Campaign%20Final%20Report.pdf, at 67.

The presumptive bar against net-metering systems participating in wholesale markets in proposed Section 5.135, however, ignores the characteristics and functionality of energy storage devices and overlooks existing practices in ISO-NE.

First, battery storage is already being paired with rooftop solar to participate in net metering and additional programs, such as Green Mountain Power's BYOD program. This program recognizes that battery capabilities are distinct and can be relied upon to provide an active response when system conditions call for battery dispatch to address times of system capacity constraint. Customers are compensated for using their batteries to provide a service—reliable dispatch of capacity—that standalone net-metered solar cannot provide.

Second, ISO-NE rules have allowed batteries paired with net metering systems throughout its footprint to participate in the forward capacity market, years before FERC issued Order No. 2222. Thus, existing practice in the region, and specifically in Vermont, has shown that energy storage devices paired with net-metering systems are capable of providing distinct services and that it is appropriate to separately compensate net-metering customers who can perform those vital system functions.

Net-metered systems with energy storage devices that are prohibited from providing the most valuable service they can provide (the flexibility to provide capacity at times of system constraints through use of their energy storage) are intrinsically less valuable to customers and the system. Indeed, customers will be perversely disincentivized from adding energy storage devices to net metering systems if such a prohibition is adopted. For example, assuming that an exporting battery that is paired with a net metered solar system will only be charged from the solar (this should be the standard practice now and will be explicitly required under the proposed rules so as to prevent using grid power for net metering credits), the customer will ultimately get

to use less of the generation from the net-metering system to offset onsite usage or to receive a net-metering credit for injections to the grid than it would absent the battery. This is because round-trip efficiency losses to charge the battery storage device mean that there are fewer electrons for the customer's own personal use. Even with losses, the ability to store energy and dispatch it at a time of critical system peak and delivery constraints adds significant value to the grid, and is a vital reason to encourage **more** net-metered systems to be paired with storage, not fewer. Without some other means to compensate for the benefits provided by the addition of the energy storage device, the customer is financially better off with just the solar – and other ratepayers do not receive the benefit of the storage dispatches. Foreclosing dual participation in net metering and other programs, specifically wholesale programs that are already available in ISO-NE, sends the wrong signal to net-metering customers and discourages participation in programs that provide demonstrable benefit to all consumers.

Importantly, FERC has stated that restrictions on dual participation in both retail programs and wholesale markets should be narrowly-tailored so as to not bar additive value or services being provided. In the above examples, the electrons generated by the solar are compensated via net metering, even if shifted in time via a battery. Separately, the battery dispatch is compensated via the BYOD program or ISO-NE capacity market, depending on which program the customer is participating in. This is not double counting – in fact, the customer receives fewer net metering credits due to the round-trip losses and has incurred significant cost, often doubling the cost of the solar installation – to install and dispatch the battery. These types of heterogenous resources are exactly what Order No. 2222 intends to encourage, and they highlight the importance of ensuring that restrictions to prevent double-counting must be narrowly drawn.

AEE asks that the Commission reconsider the distinct functionality of energy storage when paired with net-metered systems and, to preserve that functionality in the future, strike the presumptive bar on dual participation in retail and wholesale programs.

IV. CONCLUSION

For the foregoing reasons, AEE respectfully requests that the Commission strike proposed Rule Section 5.135. AEE appreciates the opportunity to provide these comments.

Respectfully submitted,

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