

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF MINNESOTA

**In the Matter of a Commission Investigation into the Potential Role of
Third-Party Aggregation of Retail Customers**

PUC Docket Number: E999/CI-22-600

COMMENTS OF ARMADA POWER, LLC - Filed March 13, 2023

Armada Power, LLC (“Armada Power”) is a U.S.-based company that develops and manufactures control devices to be installed on any electric resistance water heater. These devices, manufactured in the United States, provide a two-way millisecond shift of the aggregated load of residential water heaters to respond to distribution grid reliability requirements. This response capability includes but is not limited to advanced sub-second demand response multiple times a day, firm load response to renewable generation, cold load pick-up and frequency stabilization.

Armada Power is able to aggregate residential water heaters to respond to the needs of the grid in a measurable manner. Each individual device can shift approximately 1 kW with a lab-rated maximum of 5.5 kW. Businesses that own multifamily properties have been using Armada Power in the PJM market as a demand response resource with third-party aggregators.

Armada Power appreciates the opportunity to participate in the Public Utilities Commission of Minnesota’s (Commission) investigation into the potential role of third-party aggregation of retail customers, and as a stakeholder with direct experience on this topic, respectfully submits the following comments:

Issue: Should the Commission take action related to third party aggregation of retail customers?

Topics Open for Comment:

1. Should the Commission permit aggregators of retail customers to bid demand response into organized markets?

Yes - The Commission should permit aggregators of retail customers to bid into organized markets.

Armada Power encourages the Commission to not restrict the ability to use an aggregator solely for commercial customers with a single utility account such as large commercial and industrial customers. Rather the Commission should consider allowing commercial businesses like individually metered offices and multifamily property owners the option to aggregate their tenants utility account load with an aggregator. The Commission should also consider options for individual residential customers to participate in an aggregation similar to California.

The option for customers to invest in their own technology and receive market revenue to offset the costs will only serve to increase the availability of load control. When combined, as we note later with a utility control option, reduces costs for a utility to deploy technology while still providing the utility with distribution system benefits of use.

Aggregators of retail customers already play an important role in most organized energy markets in the United States. By utilizing ancillary services such as demand response, aggregators provide the grid services needed to cost-effectively maintain system balance as more intermittent resources are added to the grid.

At multifamily properties, the benefits of aggregation are easy to discern. Multifamily properties are commercial properties where property owners can educate and enroll their residents in a myriad of demand response programs at lease signing. The aggregated units instantly become a valuable grid asset while providing residents with lower monthly energy bills and demand charges on day one.

The aggregation of devices and energy storage systems for demand response is clearly the future of the power grid. Federal Energy Regulatory Commission (FERC) Order 2222 requires that each Regional Transmission Organization (RTO) and/or Independent System Operator (ISO) develop market participation constructs that compensate demand response (DR) and distributed energy resources (DER) for the grid services they provide.

As done in other RTOs/ISOs, aggregation of residential and commercial devices and technologies creates the size of load needed that, as per FERC 2222, can participate in the wholesale market. This participation is accelerating the transition to a safer and cleaner power grid while delaying the need to build expensive new power plants, reducing existing power

congestion, providing needed frequency regulation, and aiding cold load pick-up following power outages.

2. Should the Commission require rate-regulated electric utilities to create tariffs allowing third-party aggregators to participate in utility demand response programs?

Yes - Is the answer to the threshold question of whether aggregators should be permitted to participate. However, Armada would like to be clear that this should not be interpreted to prevent a utility-offered program. Rather, it should be an additional option regulated in a similar way to California Rule 32. CA Rule 32 allows a customer to choose to participate in either a utility or aggregator program.

Aggregators under California Rule 32 are licensed by the California commission and subject to specific performance and credit requirements. In return, the utility provides the information directly to the ISO. The utility remains the meter data management agent, and as such, holds the customer information in its protected platform.

Armada recommends tariffs include the following:

1. Ways in which a customer enrolled with an aggregator may be compensated to give the utility first right to call upon a customer/customer's technology for local distribution grid services when it is not in conflict with a MISO program.

Not all distribution level peaks necessarily align with the MISO peak. Extreme weather events or voltage concerns or even cold load pickup after a localized outage are examples where the distribution utility may have a need to curtail load outside of a MISO program. The Commission should consider tariff programs where a customer may opt-in with the utility to receive a bill credit or incentive during a distribution level need but wouldn't create a 'double dip' with the wholesale market.

The ability to use aggregators and receive market revenue will increase the investment by customers into technologies that can support the grid. Armada encourages the Commission to provide for the maximum benefits of technologies by offering not only an aggregator option but also allowing the utility to pay for a control option for its local grid.

Armada recommends that the utility control option tariff allow a customer to consent to their technology provider (which must be certified by the utility) to receive local distribution grid calls either directly or through a designated utility platform.

Compensation may work in one of two ways: the technology provider would be compensated by the utility for MW provided and compensate the customer in a private agreement. Or the utility provides direct compensation to the customer as a bill credit.

2. The tariff must require clear and simple enrollment criteria to prevent customer confusion. Use of a commission-approved enrollment form and a utility portal by the customer for enrollment offers a simple process. A customer should not have to pull all of their load and usage history for enrollment, but rather consent and allow the utility to provide the necessary data to the ISO. This retains the utility as the platform and control source for customer data and information to licensed aggregators and the MISO markets.
3. Programs must recognize the different types of commercial activity and expand access for rental households by allowing aggregation of residents at a multifamily premise by the property owner. Design a multifamily tariff where residents can choose to enroll or opt-out when they lease the rental unit. As more fully explained below, this program will incent property owners to provide access to technologies and provide renters incentives up front without disruption due to move-in/move-out timing.

The Commission must consider renter households in multifamily communities. Nearly all residential tariff programs are aimed at account holders who own their homes, but these programs ignore those who lease apartments and can't install metered devices or control what goes into the property. By focusing on account holders who own homes, typical residential tariff programs ignore the multifamily property owner who is the purchaser and installer of technology for their rental housing units. Ignoring multifamily property owners eliminates any economic incentive for them to install aggregatable devices in rental units because the payback benefits flow to the resident.

In addition, while a premise may remain energized and available to the grid, programs that rely on individual account holders rather than commercially owned premise addresses often result in limited capabilities due to the move-in/move-out effect. The move-in/move-out effect occurs

when a reliable source of load and demand is technologically available, however, the account number may be lost due to the resident moving out or there are lengthy delays to signing up the new account number at move-in due to account turn procedures, the research and review of available programs, and administrative procedures during enrollment. All of these factors result in administratively unreliable load control.

Given that a multifamily property can achieve aggregated load control in megawatts, properly designed tariffs that use premise-based enrollments can bridge the incentive gap between the property owner and resident thereby achieving greater participation and available load certainty.

Residents can be enrolled by the property owner based on consent at lease signing and retain the premise address in a program rather than the resident's utility account. In turn, the resident experiences no delay in participation and incentives for their consent and the property owner receives an incentive based on participation consent for their investment in technologies. This not only helps close the incentive gap between property owners and residents but also ensures a reliable source of load control with limited to no disruption. All leading to investment and innovation.

3. Should the Commission verify or certify aggregators of retail customers for demand response or distributed energy resources before they are permitted to operate, and if so, how?

Yes – Aggregators should be verified and certified. The Midcontinent Independent System Operator (MISO) recognizes aggregators as Curtailment Service Providers (CSP). In addition, the Commission should consider whether additional requirements or licensing is required to ensure that a third-party aggregator has the operational capabilities to meet the required tariffs and programs. For example, CA Rule 32 has both a Commission licensing requirement and performance bond requirements.

However, it must be made clear that the technology providers are not aggregators. The CSP should submit information about their technology partners and how they enroll customers, but the technology, and even those that work to enroll customers, should not be subject to a Commission certification process. Armada concurs with other commenters that for technology

partners and enrollers, the court system and the state's Attorney General are best suited to protect customers from deceptive and unfair trade practices.

4. Are any additional consumer protections necessary if aggregators of retail customers are permitted to operate?

Working within existing state and federal consumer law, and the confines of MISO's governance, aggregators can predictably build diverse customer portfolios with diverse capabilities which are critical to performance success. Since aggregators are not utilities and do not control poles, wires, or substations they do not need traditional oversight and rate regulation, but Armada agrees that clear licensing and tariff requirements are necessary to ensure transparency, operational capabilities, and Commission insights into programs.

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Respectfully submitted,

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