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PROJECT NO. 52373

**REVIEW OF WHOLESALE
ELECTRIC MARKET DESIGN**

**§ PUBLIC UTILITY COMMISSION
§ OF TEXAS**

**COMMENTS OF
ADVANCED ENERGY MANAGEMENT ALLIANCE**

COMES NOW the Advanced Energy Management Alliance (AEMA) and files these Comments in response to the Commission's Questions for Comment filed in this proceeding on October 25, 2021. AEMA is a trade association under Section 501(c)(6) of the Federal tax code whose members include national distributed energy resource companies and advanced energy management service and technology providers, including demand response (DR) providers, as well as some of the nation's largest demand response and distributed energy resources (DERs) and consumers. The comments herein represent the views of the organization as a whole rather than those of any individual member.

Introduction

Demand response is an extremely valuable asset for any electricity grid. Loads participating in DR are dispatchable resources that can contribute to higher reserve margins and levels of reliability, improve market efficiency, and result in lower energy costs to customers than relying entirely on new generating resources to meet total customer demand. Demand response resources can be brought online in a few short weeks--far less time than it takes to develop conventional generation resources. We strongly urge the Commission to ensure that demand response and DERs are included as key elements of any market redesign by accounting for their

benefits in grid planning, allowing them to participate in resource adequacy and/or procurement obligations, and knocking down barriers to the expansion of DR and DERs.

Comments

4. Are there alternatives to a load serving entity (LSE) Obligation that could be used to impose a firming requirement on all generation resources in ERCOT?

A centralized procurement framework, or hybrid central procurement framework, can serve as an alternative to generation firming through individual LSE obligations. Centralized procurement may provide market efficiencies relative to individual LSE procurements by establishing a unified framework for determining procurement targets, ensuring uniform implementation of qualifying capacity rules across LSEs, and ensuring consistent monitoring and reporting of auction results for proper comparison and application of market reforms. Moreover, a central procurement framework may mitigate a given entity's ability to exercise market power. While an LSE obligation with an audit/bulletin board function will promote visibility into clearing prices and forward price formation, a central clearing house would ensure that market rules are implemented uniformly across all resource types, avoiding inconsistencies among the diverse array of LSEs in the Texas market.

ERCOT-procured services for firming and flexibility could be sufficient to cost-effectively maintain reliability. However, the present iteration of this procurement does not provide enough pathways for load management and DERs to support these functions. A new suite of flexibility services designed for both load and generation participation to firm intermittent resources on a day-ahead (as weather and load are forecast), and up to real-time basis could provide a technology neutral markets-based solution.

9. How can the LSE Obligation be designed to ensure demand response resources can participate fully and at all points in time?

As a threshold matter, it is AEMA's position that demand side management, including demand response, must be a component of the Texas market redesign. Regardless of whether Texas adopts an LSE Obligation, centralizes capacity procurement, or develops an alternative model, it is imperative that any solution recognizes the role of demand management, demand response, and customer-sited DERs and allows them to fully participate in the market. Load is half of the energy market equation (generation comprising the other half), and often resources on the load side provide more efficient and less expensive options compared to firm generation products.

AEMA strongly encourages the PUCT to adopt the same guiding principles for ensuring demand response participation whether the PUCT develops an LSE Obligation structure or chooses another pathway:

- Procurement obligations must include specific demand response/customer-sited DER targets;
- LSEs and third-party aggregators must both have pathways to count their DR programs and resources towards procurement obligations; and,
- Performance and availability expectations should align with DR resource capabilities and system needs.

First, procurement obligations must include a specific target of customer-sited resources such as demand response. In previous comments, AEMA and others have argued that there is a need to set a goal of developing demand response programs that total at least 10% of system peak load.¹ This goal is necessary due to the untapped potential of demand response that is not yet participating in REP programs or other ERCOT- or TDSP-managed aggregator programs. For example, AEMA has stated that it believes less than 10% of the residential thermostat load shed

¹ August 16, 2021 Comments of Advanced Energy Management Alliance, Project No. 52373, at p. 1 and September 9, 2021 Comments of Advanced Energy Management Alliance, Project No. 52373, at p. 4.

potential is actively enrolled and participating in load management programs.² A major contributor to the lag in enrollment is due to participants and providers not being sufficiently compensated for the value they deliver through constructs like the ERS. It is not clear whether the adoption of an LSE Obligation will functionally increase the value of DR. Until the market has been fully designed and an analysis conducted of the impact the market redesign will have on procurements and resources available to meet system needs, it is imperative that a goal for DR is maintained to ensure that the percentage of load management participating in DR programs increases.

Second, LSEs and third-party aggregators must both have pathways to count their DR programs and resources towards any procurement obligations. There are a handful of LSEs that have existing thermostat demand response programs; AEMA has highlighted Austin Energy's Power Partner program and CPS Energy's Wi-Fi Thermostat Rewards program previously. These demand response programs administered by LSEs should have the ability to count towards any procurement obligation. These programs have proven to be successful at engaging and retaining customers (due to fair compensation of the value the customers are providing) *and* have proven to generate reliable load reductions. They should therefore be recognized for the capacity and flexibility that they are functionally providing the grid.

Likewise, third-party aggregators have proven adept at enrolling customers in the portfolio of DR programs available across Texas, including ERCOT ERS and the TDU load management (LM) programs. However, as AEMA has also noted, an aggregator's ability to deliver the full grid service potential of the resources at its disposal has been limited, especially in light of the ERS spending limit, and TDU LM program cost caps under the energy-efficiency framework. If a procurement obligation is adopted, third-party aggregations should be made eligible to count

² August 16, 2021 Comments of Advanced Energy Management Alliance, Project No. 52373, at p. 6.

towards the obligation of an LSE. This construct would enable aggregators to aggressively market to customers, enroll them in DR programs, and compete to sell these aggregations to LSEs. The overarching effect should be a drastic increase in available and participating DR.

Third, performance and availability expectations should align with DR resource capabilities and system need. The LSE Obligation, as defined by Chairman Lake, would be based on the LSE's share of forecast net peak load. It would therefore be critical that procured resources are available during the net peak load periods. However, it would unnecessarily preclude many resources (not just DERs) to require a form of 24/7 availability. DR aggregators are very adept at building aggregations of resources with different profiles that are able to meet variable grid needs and provide extremely reliable load reductions when the resources are called upon to do so. Clearly defining ERCOT's system-wide and localized generation-firming needs, while balancing the capabilities of non-weather-sensitive and weather-sensitive resources will allow DR resources to effectively provide grid services.

In addition, it is important that the market appropriately recognize the performance benefits that DERs bring. As AEMA stated in its September comments, "load resources are also capable of being extremely responsive and flexible, responding to events in a matter of minutes, because DR actions can be triggered remotely by a REP, TDU, or aggregator without requiring direct customer action."³ These benefits should be appropriately valued in an obligation construct.

AEMA cautions that these principles may not be sufficient to fully grow DR. We have previously argued that limits like budget caps on ERS and TDU LM programs and technical requirements for resources in ERCOT's markets impede the expansion of DR. The PUCT should

³ September 9, 2021 Comments of Advanced Energy Management Alliance, Project No. 52373, at p. 3.

strive to break down these other barriers, because an LSE Obligation in isolation may not be sufficient to provide grid reliability, depending on how it is constructed and implemented.

16. Are there relevant “lessons learned” from the implementation of an LSE Obligation in the SPP, CAL-ISO, MISO, and Australian markets that could be applied in ERCOT?

AEMA and its constituents have been deeply involved in the development of resource adequacy (RA) market constructs through policy-driven and technical working groups and stakeholder processes in CAISO, MISO and SPP. AEMA notes several “lessons learned” as the Commission considers alternative approaches to generation firming in the ERCOT market.

Systems must plan for DERs/DR to play a significant generation-firming role out of the gate. It is critical that an LSE Obligation, or any market for firming intermittent resources, allow entities carrying an obligation to leverage DER and demand-side resources to fulfill their obligation, and that the role of DER/DR is fully contemplated and implemented from the initial stages of the market design process. AEMA members that have participated in the development of the RA program at the California PUC since 2006 note that the CAISO- and CPUC-led exercise of establishing procurement targets during early RA implementation proceedings did not incorporate DER/DR resources as part of system- or local-level planning needs. If generation-firming resources are procured without planning for demand-side resource contribution, it becomes a self-fulfilling prophecy that no demand-side resources are needed to fulfill procurement targets. The CPUC’s RA program planning starts with a 10-year study of resource needs in the Integrated Resource Planning Proceeding conducted by the California Energy Commission, which does not account for the growth of demand-side resources over the study horizon. Any generation-firming construct will be most effective when incorporating the proliferation and future growth of demand-side resources; for example, the PUCT could evaluate distributed energy resource growth

trajectories to inform DER/DR penetration targets as part of an LSE Obligation. This would ensure diversity in the portfolio of procured resources, mitigating the risk associated with any individual resource type and capturing the value of the large, latent demand-side resource available for grid services.

The RA program in California did not do enough at the outset to provide RA credit for demand-side resources so that they could be procured and dispatched in the applicable RA compliance periods. Thus, the California market has found itself short on dispatchable resources, having utilized load shedding in the form of forced rolling blackouts to maintain grid stability in 2020. Reliance on forced outages is especially regrettable considering the significant customer-sited load flexibility potential that is available through DERs/DR. During periods of stress on the transmission system, customers have stepped up to the plate to maintain stable grid operations (e.g., voluntary behavioral response to Flex Alerts), but in a world with deeper penetration of low-cost renewable energy, customers cannot be counted on to relieve emergency conditions via regular, uncompensated voluntary action. Aggregation of customer grid service capabilities with the proper incentives better ensures the load side of the resource adequacy equation is engaged and willingly participates in grid reliability.

Market redesign requires comprehensive, thoughtful planning up front. Conceptually, an LSE Obligation appears straightforward; however, implementing an LSE Obligation on an ongoing basis carries significant complexity and requires a tremendous amount of resources. The RA program in California requires resources dedicated to the evaluation of system-wide, local and flexible capacity needs (e.g., annual CAISO-led evaluations), regulatory processes (e.g., year-round cadence of CPUC procurement proceedings with deep stakeholder participation), the development of complex qualifying capacity and other rules (e.g., California Energy Commission

working groups), regular tracking and reporting on RA procurement and associated pricing (e.g., detailed RA annual compliance reports), and continuous improvement of the RA program (e.g., separate “Tracks” dedicated to iterative reform) – all of which simultaneously require significant investment from stakeholders. It will be critical that any LSE Obligation or similar generation-firming model plans out each of these elements and develops a thoughtful implementation schedule, rather than jumping into a new market construct with a piecemeal approach, should the Commission go down this path.

Consider early on the pros and cons of a central procurement framework versus an LSE-specific procurement model. As mentioned in AEMA’s response to question 4 above, there are lessons to be gleaned from other implementations of a central procurement framework. If implemented correctly, a central procurement framework could provide additional market efficiencies and consistent monitoring of the procurement. It is much easier to decide on the appropriate course now than to try and change course once a procurement model has been adopted. For example, California underwent a multi-year process to shift *just* its Local RA obligations from all LSEs to the three Investor-Owned Utilities.

Conclusion

AEMA appreciates the opportunity to provide these Comments and looks forward to working with the Commission and other interested parties on these issues.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Katherine Hamilton". The signature is fluid and cursive, with the first name being more prominent.

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**COMMENTS OF
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Executive Summary

- Demand response is an extremely valuable asset for any electricity grid. Loads participating in DR are dispatchable resources that can contribute to higher reserve margins and levels of reliability, improve market efficiency, and result in lower energy costs to customers than relying entirely on new generating resources to meet total customer demand. As the PUCT looks at any market reform measures, it must ensure that reliability stems from both load- side as well as supply- side measures.
- In times of grid stress, customers have stepped up to the plate to help out the grid. But in a world with deeper penetration of low-cost renewable energy, they cannot be counted on to do this voluntary action repeatedly. Aggregation of customer capability with the proper incentives better ensures that the load side of the equation is engaged.
- A centralized procurement framework, or hybrid central procurement framework, can serve as an alternative to generation firming through individual LSE obligations.
- Demand side management, including demand response, must be a component of the Texas market redesign. Regardless of the resource adequacy construct that Texas chooses, load should play a role in grid reliability. Load is half of the energy market equation, and often resources on the load side provide more efficient and less expensive options compared to firm generation products.

- AEMA strongly encourages the PUCT to adopt the same guiding principles for ensuring demand response participation whether the PUCT develops an LSE Obligation structure or chooses another pathway:
 - Procurement obligations must include specific demand response/customer-sited DER targets, including a goal of developing demand response programs that total at least 10% of system peak load;
 - LSEs and third-party aggregators must both have pathways to count their DR programs and resources towards procurement obligations; and
 - Performance and availability expectations should align with DR resource capabilities and system need.

- AEMA notes several “lessons learned” as the Commission considers alternative approaches to generation firming in the ERCOT market.
 - Systems must plan for DERs/DR to play a significant generation-firming role out of the gate. Investments customers make in on-premise DERs and load control systems--such as programmable thermostats, solar/storage on rooftops and any generation and microgrid resilience measures--should be incentivized to provide resiliency and service to the grid.
 - Market redesign requires comprehensive, thoughtful planning up front. LSE-based obligations come with significant complexity, and it is important to plan out all the elements up front instead of doing it piecemeal.
 - Consider early on the pros and cons of a central procurement framework versus an LSE-specific procurement model.