Filing Receipt

Received - 2021-09-09 02:25:09 PM
Control Number - 52373
ItemNumber - 100

PROJECT NO. 52373

REVIEW OF WHOLESALE ELECTRIC MARKET DESIGN	**§**	**PUBLIC UTILITY COMMISSION OF TEXAS**

HUNT ENERGY NETWORK, L.L.C.'S RESPONSE TO COMMISSION STAFF'S REQUEST FOR COMMENT ON SEPTEMBER 2, 2021 QUESTIONS CONCERNING DEMAND RESPONSE

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September 9, 2021

EXECUTIVE SUMMARY

Below is a brief summary of Hunt Energy Network, L.L.C.'s (HEN) response to the Public Utility Commission of Texas's request for comment on Commission Staff's questions concerning demand response (DR) programs in preparation for the Commission's September 16, 2021 work session. A more thorough discussion of these ideas begins on the next page.

- Demand-side programs and distributed energy resources (DERs) provide significant economic and reliability benefits, and HEN appreciates the Commission's leadership on these issues.
  - The decentralized nature of these resources increases resiliency by complementing both thermal and renewable transmission-level generation (not by replacing them) and reducing impacts of transmission-level events.
  - Demand-side programs and DERs augment the utilities' regulated distribution networks by enhancing system stability at the distribution level and surgically responding to voltage fluctuations, frequency deviations, and reactive power needs at a local level.
  - Greater availability and use of these resources create opportunities for customers by encouraging broader market participation and increasing development of resources at the point of demand.
  - Benefits to the system are magnified through the aggregation and networking of distribution-connected generation, controllable loads, DR, and BTM small assets.
  - Customers can actively participate in the market, encouraging broader economic growth by increasing market capacity and facilitating the development of innovative energy management programs and smaller energy assets, while remaining protected against price spikes due to a diversification of tools and resources.
- HEN recommends the Commission investigate regulatory policy and market solutions to provide greater opportunities to integrate customer aggregation and automated DR programs into management of the grid.
- The Commission should consider eliminating restrictions that limit participation by DERs and load resources in responsive reserve services (RRS).
- HEN recommends that ERCOT establish a taskforce to define the metering standards to allow for low-cost, reliable methods of using communication technology from advanced metering systems (AMS) to send and receive operational data to allow for reliable dispatch of resources.

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Hunt Energy Network, L.L.C. (HEN) submits this response to the Public Utility Commission of Texas ("Commission") Staff's request for comment on questions concerning demand response (DR) programs in preparation for the Commission's September 16, 2021 work session.

I. INTRODUCTION AND GENERAL COMMENTS

The Texas electric market structure should support electric reliability in an economically effective way and facilitate competitive choices by energy customers and producers that contribute to grid reliability. Successful wholesale competition has attracted significant investment in renewable resources, energy storage, load management systems, and behind-the-meter (BTM) resources. Much of the discussion since Winter Storm Uri has focused on the supply side of the equation and how to incentivize the appropriate mix of generator resources in ERCOT. While this traditional approach to solving the problem can be effective, the trickle-down effect of this type of reliability measure likely will increase costs to customers, with a disproportionate impact on those who have more limited financial resources. Investments in ERCOT have also brought technological innovations—including demand-side programs and distributed generation (DG) or more generally distributed energy resources (DERs)[1]—to the State, and it is beneficial to consider these aspects of the market. Focus on these types of resources will reduce the overall risk to the market and provide a balanced approach to safeguarding the future prosperity of the State and all its citizens.

In particular, demand-side programs and DERs provide significant economic and reliability benefits throughout the supply chain. First, the decentralized nature of these resources increases resiliency by complementing both thermal and renewable transmission-level generation (not by replacing them) and reducing impacts of transmission-level events.

[1] The Federal Energy Regulatory Commission has stated that "DERs are small-scale power generation or storage technologies (typically from 1 kW to 10,000 kW) that can provide an alternative to or an enhancement of the traditional electric power system. These can be located on an electric utility's distribution system, a subsystem of the utility's distribution system or behind a customer meter. They may include electric storage, intermittent generation, distributed generation, demand response, energy efficiency, thermal storage or electric vehicles and their charging equipment." FERC Order 2222 Fact Sheet at 1. *See also Participation of Distributed Energy Resource Aggregations in Markets Operated by Regional Transmission Organizations and Independent System Operators*, FERC Order No. 2222, 17 FERC ¶ 61,247 at P 114 (Sep. 17, 2020).

Second, demand-side programs and DERs augment the utilities' distribution networks by enhancing system stability at the distribution level and surgically responding to voltage fluctuations, frequency deviations, and reactive power needs at a local level. Third, greater availability and use of these resources create opportunities for customers by encouraging broader market participation and increasing development of resources at the point of demand. Benefits to the system are magnified by the aggregation and networking of distribution-connected generation, controllable loads, DM, and BTM assets. Aggregators of these resources will provide ERCOT the ability to balance and tune the grid at both ends of the electric system (from conventional generation sources to customers) by optimizing marginal supply and demand. From an economic perspective, customers can actively participate in the market, encouraging broader economic growth by increasing market capacity and facilitating the development of innovative energy management programs and smaller energy assets, while remaining protected from price spikes due to a diversification of tools and resources. Further, through strategically developed programs, opportunities can be created to transform socio-economically disadvantaged sectors into energy innovation hubs.[2]

Given these advantages and the rapid increase in technology options for DERs, the Commission should ensure that interconnection and market rules do not unduly limit their integration. HEN appreciates the Commission's recent request to open a rulemaking to clarify and reform the interconnection process for DERs. In a time of rapid demand growth, increasing integration of intermittent resources, and technological advances, the Commission should continue to encourage competitive solutions for the electric grid by removing legal and market barriers and facilitating the efficient use of ancillary services, increasing capacity, and improving DR programs, thereby reducing risk. The Commission Staff's September 2 questions concerning DR identify key issues concerning DR that should be explored to improve the economic incentives for participating in the ERCOT market and enhance the resiliency of the ERCOT grid. HEN looks forward to meaningfully contributing to creating a more robust grid—to the benefit of all Texans—and appreciates the opportunity to work with the Commission, Commission Staff, and stakeholders to develop effective and practical solutions to improve DR programs in Texas.

HEN is a Dallas-based developer and operator of distributed energy resources. HEN currently has 100 megawatts (MW) of energy storage resources (ESRs) in advanced stages of development throughout Texas targeting operation by first quarter 2022, with an additional 400 MW to be deployed over the following 36 months. These resources are expected to play

[2] *See, e.g.,* ACEEE White Paper, "Siting Electric Vehicle Supply Equipment (EVSE) With Equity in Mind" (Apr. 2021), *available at* https://www.aceee.org/white-paper/2021/04/siting-electric-vehicle-supply-equipment-evse-equity-mind.

a valuable role in efficiently managing resources interconnected with the ERCOT electric grid. Distributed ESRs provide several benefits to the grid and market, including (1) improving grid reliability, (2) providing ancillary services to the market, (3) paving the way for the two-way distribution system of the future, and (4) deferring transmission and distribution infrastructure upgrades over time.

HEN does not currently utilize residential DR, reliability products or TDSP-administered load management programs described in Questions 2 and 3, and, therefore, defers to other market participants to provide in-depth responses to those questions. HEN offers comments to Questions 1, 4, and 5 and appreciates the opportunity to do so. Further, HEN is a member of the Texas Advanced Energy Business Alliance (TAEBA) and supports TAEBA's comments filed in this project.

II. RESPONSE TO DEMAND RESPONSE QUESTIONS

Question 1: Describe existing and potential mechanisms for residential demand response in the ERCOT market.

a. **Are consumers being compensated (in cash, credit, rebates, etc.) for their demand response efforts in any existing programs today, and if not, what kind of program would establish the most reliable and responsive residential demand response?**

b. **Do existing market mechanisms (e.g., financial cost of procuring real time energy in periods of scarcity) provide adequate incentives for residential load serving entities to establish demand response programs? If not, what changes should the Commission consider?**

HEN Response: Despite the availability of various DR products in ERCOT,[3] the existing regulatory framework prevents the ERCOT market from fully leveraging the capabilities existing and future DERs. For example, recent legislation prohibiting retail electric providers (REPs) from offering indexed products to residential customers, requirements for distributed renewable generation owners to sell any surplus electricity to their REP at a rate to be negotiated (PURA § 39.916(j)), the need for most entities to qualify as a REP before providing DR services to residential and small commercial customers are all well-intentioned and provide protections to customers. However, in some cases they impose barriers to market entry and make it impracticable to fully utilize available tools to harden the electric grid.

Question 4: Outside of the programs contemplated in Question 3, what business models currently exist that provide residential demand response?

a. **What impediments or obstacles in the current market design or rules prevent these types of business models from increasing demand response and reliability?**

[3] *See* 2020 Annual Report of Demand Response in the ERCOT Region (Dec. 2020), available at http://www.ercot.com/services/programs/load.

HEN Response: There are opportunities to expand DR programs by allowing more loads—including residential customers and aggregated BTM loads and resources—to use DR products at all times, including outside of energy emergencies. Using additional eligible load resources to both decrease demand and respond to frequency deviations have advantages over conventional frequency response services because they have fast response times. The ability to aggregate existing customers and encourage new customers to install and deploy these incremental resources can buttress economic growth and reliability by efficiently increasing market capacity, while small asset owners will have more opportunities to participate in the market and remain hedged against extreme volatility. If the Commission were to remove market barriers to allow aggregation of customer loads, the additional capacity would (i) provide additional reserves, reducing the need for involuntary load shed, (ii) reduce market volatility by slowing the rate of climb along the ORDC, and (iii) encourage further competition between generators and aggregators of DERs. The Commission should facilitate participation by customer-aggregated, automated DR, and other DERs as dispatchable resources included in SCED.[4] The existing market rules do not permit this type of participation, however, leaving these resources inaccessible to ERCOT. HEN recommends the Commission investigate regulatory policy and market solutions to expand opportunities to integrate customer aggregation and automated DR programs into management of the grid. Effective solutions will require additional visibility of available DERs, with some level of command-and-control capability by ERCOT. In addition, some standardization of the multiple data sets used in managing these distributed resources is called for.

Question 5: What changes should be made to non-residential load-side products, programs, or what programs should be developed to support reliability in the future?

HEN Response: Non-residential, demand-side products are currently limited in participating in ERCOT's RRS, with Non-Controllable Resources (NCLR) being prorated at 40 percent of their offering because of the high level of participation. The Commission should consider increasing the percentage of NCLR allowed to participate in RRS.

Another barrier to load participation in RRS relates to BTM DERs. Currently, BTM DERs are not allowed to participate in RRS as an NCLR/CLR. It is HEN's understanding that the definition of Load Resource is being interpreted to prevent these BTM resources from providing RRS. Load Resource is defined as "[a] Load capable of providing Ancillary Service to the ERCOT System and/or energy in the form of Demand response and registered with ERCOT as

[4] *See* Advanced Energy Economy, "FERC Order No. 2222 and the Use Cases it Can Unlock" (June 2021), *available at* https://info.aee.net/ferc-order-no.-2222-and-the-use-cases-it-can-unlock; Advanced Energy Economy, "Putting Distributed Energy Resources to Work in Wholesale Electricity Markets" (September 2019), *available at* https://info.aee.net/der-in-wholesale-electricity-markets.

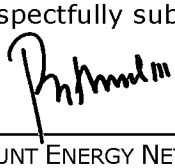
a Load Resource." The term "Demand response" in that definition is not interpreted to include BTM DERs. The definition should be clarified to ensure that DR can be provided not only in the form of underfrequency relays, but also with load modifications using variable speed motors, load shifting facilitated by cycling of HVAC system, BTM storage systems such as ice storage or batteries, and other BTM technologies that facilitate DR. These BTM resources should be used to their full advantage.

Finally, Winter Storm Uri revealed opportunities to more effectively utilize the existing advanced metering system (AMS) infrastructure. Most AMSs in ERCOT have the ability to measure separate channels of inflows and outflows of energy, at the same revenue-level of accuracy as ERCOT Polled Settlement (EPS) meters. Recent advancements in wireless communication technologies (5G) and existing AMS infrastructure provide a low cost, high speed environment to communicate operational data. Metering protocols can be revised to allow for aggregation of resources and use in overall settlement, providing ERCOT much-needed visibility into and operational command-and-control dispatch (or load-reduction) capability of what is now considered unregistered generation. HEN recommends that ERCOT establish a taskforce to define the metering standards to allow for low-cost, reliable methods of using communication technology to send and receive operational data to allow for reliable dispatch of resources.

III. CONCLUSION

HEN appreciates the Commission's consideration of these comments and looks forward to further discussions with the Commission, Commission Staff, and stakeholders to develop effective and practical solutions to enhance system reliability by developing appropriate regulatory policy concerning DR programs available in ERCOT.

Respectfully submitted,



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