Filing Receipt

Received - 2021-09-09 05:16:47 PM
Control Number - 52373
ItemNumber - 120

PROJECT NO. 52373

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

COMMENTS OF TEXAS PUBLIC INTEREST GROUPS

COMES NOW Environment Texas, Public Citizen, Citizens Climate Lobby and Indivisible Texas and files these Comments in response to the Commission's Questions for Comment filed in this proceeding on September 9, 2021.

Executive Summary

The undersigned appreciate the Commission's focus on residential demand response. This is a key missing piece in the ERCOT market. Consumers should have options to participate in demand response programs and be compensated for demand reductions.

Demand response works better when paired with energy efficiency. Energy efficiency and demand response are proven strategies for meeting our energy needs and saving consumers money, while also improving public health. According to Tetratech, in 2019 existing energy efficiency programs reduced demand by 654,397 MWh. According to Texas A&M's Energy Systems Laboratory, between 2002 and 2019, energy efficiency programs saved consumers $8.6 billion[1].

But we've barely scraped the surface of our potential to use energy efficiency and demand response. According to the American Council for an Energy Efficient Economy, nationwide reported savings from utility and public benefits electricity programs in 2019 equaled 0.70% of sales, with 14 states saving at least 1%. Yet in Texas, efficiency programs offset just .19% of sales[2].

Despite the fact that solar, storage, energy efficiency and demand response can act in concert as virtual power plants, there is little value ascribed to these resources at ERCOT. We urge the Commission to increase funding for efficiency, demand response, and distributed energy resources.

Key recommendations:

- Increase utility energy efficiency programs and focus on HVAC, building shell improvements, and both commercial *and* residential load management to reduce winter and summer peaks. The Commission has the authority to do this and used it in 2010.

---

[1] *Energy Efficiency and Renewable Energy Impacts on NOx Emission Reductions in Texas PPT,* Texas A&M Energy Systems Laboratory, https://oaktrust.library.tamu.edu/handle/1969.1/191217

[2] *The 2020 State Energy Efficiency Scorecard*, American Council for an Energy Efficient Economy, https://www.aceee.org/research-report/u2011

- Increase Emergency Response Service beyond the $50m cap currently in place; create new ERS products focused on weather sensitive, residential loads.
- Study the potential for demand response and energy efficiency. The last potential study was produced by Itron in 2008.[3] Smart thermostats didn't even exist yet at that time.
- Include demand response in the definition of dispatchability when creating new ancillary service products.
- Create a minimum 10% goal for retail electric providers and load serving entities for demand response. After studying the potential for DR, adjust the goal upward, if needed.
- Change 4CP to 12CP to capture economic demand reductions in the winter.

Introduction

Demand response and energy efficiency complement each other. Building shell improvements and upgraded HVAC systems reduce overall load AND enable deeper, longer participation in demand response programs. Nearly two-thirds of Texas homes were built before a building code was in force in Texas. Leaky homes and buildings with inefficient electric strip heating in sustained extreme cold drove the February peak to a high unimagined by ERCOT. This must be addressed. Without addressing energy efficiency, it is highly likely February will be repeated.

Demand response can be dispatchable. Any definition of dispatchability adopted by the Commission should include demand response programs. Aggregated demand response and distributed energy resources (DERs) can act as virtual power plants, "firing up" to meet grid needs year round, including, but not limited to, winter and summer peaks. Aggregated DERs don't go down for planned maintenance, a major issue in shoulder months, like this past April when conservation alerts had to be issued.

Further, aggregated DERs can use energy when it's abundant and cheap. Think of electric water heaters and electric vehicles: heat the water and charge the car overnight when capacity is often unused. This will bring additional revenue into the electric system while lowering unit costs.

Comments

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?

Existing mechanisms for residential demand response are extremely limited. Most transmission and distribution service provider (TDSP) load management programs are commercial.[4] Most Emergency Response Service (ERS) programs are commercial and industrial; only about 4% of

[3] *Assessment of the Feasible and Achievable Levels of Electricity Savings from Investor Owned Utilities in Texas: 2009-2018.*

[4] see *Energy Efficiency Accomplishments of Texas Investor-Owned Utilities Calendar Year 2019*

ERS is "weather sensitive" (only 41MW out of 1000MW)[5] even though about half of winter and summer peak demand is weather sensitive.[6] We have barely begun to tap this resource.

A few commenters suggested that existing price signals provide enough incentive for retail electric providers (REPs) to provide demand response (DR) options to their customers. Unfortunately, the data does not support that claim. ERCOT has surveyed REPs for years. In 2020, 104,705 customers were in peak rebate or direct load control programs. There are about 7 million residential meters in the TDSP service territories. **Less than 2% of REP customers are in DR programs.** By contrast, NOIEs (municipally owned utilities or co-ops who have not opted in to competition), serve one-fourth the number of residences and have more than twice the number enrolled (212,336) according to ERCOT data.[7]

For this reason, the Commission should consider a goal for retail electric providers to meet a percentage of their load with demand response. Some commenters have suggested 10%. We think that might be too low but could be a good starting point while the Commissions determines the economically feasible and achievable levels of demand response.

2. What market design elements are required to ensure reliability of residential demand response programs? a. What command/control and reporting mechanisms need to be in place to ensure residential demand response is committed for the purpose of a current operating plan (COP)? b. Typically, how many days in advance can residential demand response commit to being available?

The organizations on this letter defer to companies operating DR programs and offer no comment on these questions.

3. How should utilities' existing programs, such as those designed pursuant to 16 TAC §25.181, be modified to provide additional reliability benefits? a. What current impediments or obstacles prevent these programs from reaching their full potential?

Energy efficiency and load management programs operated by TDUs have a 20-year track record of success in Texas. The evaluation, measurement, and verification (EM&V) reports consistently show they deliver value to the market. For example, in 2019, the last year for which data is available, energy efficiency programs have a benefit to cost ratio of 2.7.[8] The lifetime cost of the efficiency programs averages ***one cent per kWh***.[9] The cost benefit ratio is based solely on the avoided cost of energy and doesn't count a single external benefit (e.g., grid reliability, jobs, health, indoor air quality, deferred T&D spend, etc).

---

[5] see *Monthly ERCOT Demand Response from ERS: 2021 JunSep_ERCOT_Demand Response_from_ERS.xls Accessed here: https://mis.ercot.com/public/data-products/services?id=NP3-107*

[6] ERCOT slides included in *IOU Energy Efficiency Program Collaborative*. Slides 3 and 4. Winter peak was 44% weather sensitive in 2017. That figure was higher in Feb. 2021. Summer peak in 2016 was 53% weather sensitive.

[7] *2020 Annual Report on Demand Response in the ERCOT Region.* Page 17. Accessed here: https://mis.ercot.com/public/data-products/services?id=NP3-110

[8] *Volume 1. Statewide Energy Efficiency Portfolio Report Program Year 2019*. Page 20.

[9] *Ibid,* page 16

Despite their consistent proven savings and despite delivering 480MW of demand reduction in 2019, and an average of 445MW/year for the last five years,[10] **these programs have not been increased since 2011**. The Commission increased them in 2010 *without a legislative mandate to do so (*see Docket No. 37623). A massive source of the problem in February (and in April and in June) was high demand driven by extremely inefficient homes and buildings. The state needs to put a focus on reducing demand. The energy efficiency programs—for both energy efficiency and load management—is the most straightforward, proven way to do so. Energy efficiency reliably delivers cost savings to customers and demand reduction year round *and* at peak in the case of efficiency programs focused on HVAC and building shell improvements (e.g., insulation), and at peak for dispatchable load management. Note that the National Renewable Energy Laboratory (NREL) estimated $1.36 billion in *annual savings for Texans* from HVAC and building shell improvements alone and an additional $75m/year in savings from smart thermostats.[11]

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?

Retail electric providers can provide demand response but to date have realized only a tiny fraction of the potential (see answer to question 1). The biggest impediment is the lack of value ascribed to distributed energy resources. Despite the fact that solar, storage, and demand response can act as a virtual power plant, moving load up and down in all seasons (with no seasonal maintenance required as with actual power plants), there is little value ascribed to these resources at ERCOT. Home and business owners may invest in some technologies for reliability or sustainability purposes but without a market signal and market payments, these resources will never reach their full potential, leaving the grid more vulnerable, less resilient, and more expensive than it would otherwise need to be.

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?

(1) ERS should be expanded and the artificial cap of $50m should be lifted.
(2) The four coincident peak (4CP) pricing for large customers should be changed to 12CP. This may slightly lessen some summer demand response but will reduce peak by 2-3GW, perhaps more, in the winter months.
(3) Non-residential load management in the TDU energy efficiency programs should be increased (along with residential LM and energy efficiency).

Conclusion

_____ appreciates the opportunity to provide these Comments. We continue to encourage the Commission to listen to customers by engaging in deliberative polling[12] or at least holding a town hall or two so Texans can have some input into the process. A complete market overhaul deserves at least a modicum of public input.

---

[10] *Ibid,* page 16.
[11] *Texas Residential Energy Efficiency Potential. NREL.*
[12] *Listening to Customers: How Deliberative Polling Helped Build 1000MW of New Renewable Energy Projects in Texas.* NREL June 2003. The last time the market was redesigned the PUCT held eight (8) all-day sessions in eight different Texas cities.

Respectfully submitted,

Luke Metzger
Executive Director
Environment Texas

Adrian Shelley
Texas Office Director
Public Citizen

Susan Adams
Regional Coordinator, Texas
Citizens' Climate Lobby

Heiko Stang
Environmental Huddle Leader
Indivisible TX Lege