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PROJECT NO. 52373**REVIEW OF WHOLESALE ELECTRIC § PUBLIC UTILITY COMMISSION
MARKET DESIGN § OF TEXAS****COMMENTS OF SIERRA CLUB**

COMES NOW the Lone Star Chapter, Sierra Club and files these Comments in response to the Commission's Questions for Comment filed in this proceeding on September 2, 2021.

Executive Summary

The Lone Star Chapter of the Sierra Club has nearly 30,000 members throughout Texas most of whom are located in the ERCOT region. We and our members have long advocated at the PUC, ERCOT, legislature and at local utilities and cities for demand response and other distributed energy technologies, energy efficiency and adoption of building codes, as ways to reduce energy demand. Energy efficiency is the cheapest, cleanest and quickest way to meet our energy needs. Consumers should have access to and have the option to participate in programs and where appropriate be paid for demand reductions. Customers, particularly those with limited incomes, should also have access to energy efficiency programs and new technologies like customer-sited and community-sited storage and solar resources.

Recent ERCOT data has shown that well more than half of our peak in the summer and winter occurs because of cooling and heating needs from residential and commercial buildings. Yet, nearly two-thirds of Texas homes were built before a building code was in force in Texas and HVAC and heating systems are often inefficient and not sized correctly for the needs of the building. In fact, homes and buildings with inefficient insulation and outdated electric strip heating in sustained extreme cold drove the February peak. Without addressing energy efficiency, it is highly likely February will be repeated, as well as high prices and reliability incidences in the hot summer months, even with other market reforms.

Energy efficiency and demand response are proven strategies for meeting our energy needs and saving consumers money, while also avoiding harm to public health. According to Texas A&M's Energy Systems Laboratory, between 2002 and 2019, better HVAC systems and better building code compliance saved consumers \$8.6 billion, while city, school, county and utility efficiency programs saved tens of thousands of additional MWhs.¹ In addition, a recent 2017 study by EPRI found that Texas had an economic potential of 87,500 GWhrs of energy savings by 2035 - about 18.8 percent of expected sales -- a volume of potential electric savings larger than any other state.²

Moreover, Texas has yet to move forward on full integration of demand response, solar, storage and other distributed technologies in its ancillary and energy markets. While some progress on allowing distributed storage (settlement-only) more access to our markets, and we welcome the recent ERCOT-sponsored NPRR that would allow non-controllable loads to participate in non-spin ancillary services, allowing full access to distributed demand response and distributed generation into our markets, including through aggregation has yet to occur through ERCOT and PUC Rules and protocols.

¹ Haberl, Jeff; Baltazar, Juan-Carlos; Yazdani, Bahman (2020). Energy Efficiency and Renewable Energy Impacts on NOx Emission Reductions in Texas PPT. Available electronically from <https://hdl.handle.net/1969.1/191217>.

² *State Level Electric Energy Efficiency Potential Estimates*: EPRI, Palo Alto, CA: 2017. 3002009988.

Demand response and other distributed energy resources (DERs) 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.

In summary, we believe there are seven areas in which the PUCT and ERCOT can make major improvements that will allow the growth of energy efficiency, demand response, and related distributed energy resources, including:

- Expanding and reforming the commercial and residential EERS (Energy Efficiency Resource Standard) goals to grow energy efficiency and demand response largely through action by the Transmission and Distributed Utilities, including adopting a one-percent savings goal by 2025 on top of the current 0.4 % peak demand goal³;
- Reducing barriers to third-party demand response companies through better access to customers and SMART Meter Texas;
- Adoption of a statewide five-percent of peak winter and summer demand by 2025 market-based goal for residential demand response by all Load-Serving Entities, including Retail Electric Providers;⁴
- Doubling the annual budget for Emergency Response Services from \$50 million to \$100 million to allow growth, including for weather-sensitive loads.
- Assuring that all energy markets, ancillary services and the ERS (Emergency Response Service) allow for controllable and where appropriate non-controllable load participation⁵ ;
- Beginning a rulemaking (“DGR-heavy”) to allow both in-front-of-the-meter and behind-the-meter Distributed Generation Resources - including aggregation of distributed resources and demand response technologies to be able to participate in both energy markets and ancillary services, with a goal for full integration of these aggregated resources in markets by 2025;
- Changing ERCOT costs from a 4-CP to a 12-CP cost-basis to incent seasonal load reduction.

Specific 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?

There is very limited residential and small commercial demand response in Texas. Several of the larger Retail Electric Providers such as TXU and Reliant do offer some demand response programs, and report a small amount of DR programs to the Energy Information Administration. However, according to recent

³ During the 87th Regular Legislative Session, legislation was filed that would have required that PUC adopt such a goal through SB 243, HB 2359 and HB 4556.

⁴ During the 87th Regular Legislative Session, a similar goal was suggested through HB 3362, SB 2109 and SB 2052.

⁵ During the 87th Regular Legislative Session, a bill - SB 1479 -- was introduced that would have required the PUCT and ERCOT to implement such a policy by a date certain.

surveys, **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.⁶ Most of this NOIE participation is contained within Austin Energy and CPS Energy which have historically been leaders on DR and energy efficiency programs.

Thus, most DR in Texas is through very limited transmission and distribution utility (TDU) load management programs through the required EERS.⁷ It is important to note that most of these programs are only used when called upon during EAA events, and while the statutes call on the TDUs to consider both winter and summer peak, most TDU programs are focused on summer alone.

Most Emergency Response Service (ERS) programs are commercial and industrial; only about 4% of ERS is “weather sensitive” (only 41MW out of 1000MW)⁸ even though about half of winter and summer peak demand is weather sensitive.⁹ We have barely begun to tap this resource. Indeed, ERS is capped at \$50 million per year through PUCT rules.

b. We believe that the Commission should consider opening up a rulemaking or at least a project to reconsider the way our TDU-required EE programs are operated, by considering an additional energy savings goal of one percent, and more carefully considering both winter and summer peaks. We believe the state should also consider creating a Demand Response goal for residential DR of five percent for the state, and create a trading program among load-serving entities. Recent legislative proposals would have significantly expanded both Energy Efficiency and Demand Response, which we believe could be accomplished through rulemaking.

In addition we believe that to increase the integration of DR into our market we should reconsider the rules around access to SMART Meter Texas. Through previous rulemakings, the PUCT limited the ability of third-parties to provide services to residential and commercial customers and for Home Area Networks. The PUCT should consider reopening these decisions.

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?*

These questions are better handled by demand response companies.

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?*

While Texas was the first state to adopt an Energy Efficiency Resource Standard as part of the decision to deregulate the market, today of the 29 states that require an EERS we are last. According to the American

⁶ 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>

⁷ see *Energy Efficiency Accomplishments of Texas Investor-Owned Utilities Calendar Year 2019*

⁸ 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>

⁹ 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.

Council for an Energy Efficient Economy, nationwide reported savings from utility and public benefits electricity programs in 2019 totaled 26.92 million MWh, equivalent to 0.70% of sales, with fourteen states saving at least 1%. Yet in Texas, efficiency programs offset just 0.19% of sales.

We last raised our EERS goal in 2011, and have a goal that is very focused on summer peak demand -- 0.4 percent of average peak demand. Our TDU programs combine energy efficiency and demand response, but the amount of residential demand response programs through the required EERS are small, and are generally only used as part of an EAA event. 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 2.7.¹⁰ The lifetime cost of the efficiency programs averages *one cent per kWh, which is solely based on the avoided cost of energy.*¹¹

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,¹² **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) (which was later modified slightly in 2011 through passage of SB 1125 to a different metric though the size of the overall goals did not change).

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.

Sierra Club suggests adopting an additional one percent savings goal by the end of 2025, with some interim steps, and putting more emphasis on residential and small commercial demand response for use in both the summer and winter through PUCT rulemaking. Table 1 shows expected results.

Table 1. Levels of Peak Demand and Energy Savings in EERS, 2019-2025

Category	2019 Peak Demand Achieved	2019 Savings Achieved	Estimated 2025 1% Goal (inclusive of 2019 Savings)
ERCOT Utilities	420 MWs	547 GWhrs	2,150 GWhrs
Texas Total	481 MWs	654 GWhrs	2,436 GWhrs(1)

(1) We estimate these savings would also lead to an additional 505 MWs within ERCOT and 580 MWs in demand reduction at peak statewide.

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?

¹⁰ *Volume 1, Statewide Energy Efficiency Portfolio Report Program Year 2019*, Page 20.

¹¹ *Ibid*, page 16

¹² *Ibid*, page 16.

Retail electric providers can provide demand response but to date have realized only a tiny fraction of the potential (see answer to question 1). We believe that the Commission could create a five-percent residential summer and winter peak demand reduction goal by creating a trading-program among load serving entities, similar to the way that the state created a REC program for renewable energy.

Providing improved access to third-parties to SMART Meter Texas including for HANs (Home Area Networks) could increase demand response in Texas. The PUCT should reopen rules on third-party access to encourage demand response growth.

Another 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. PUCT should move forward with ERCOT to allow aggregation and participation for all distributed resources so they can participate fully in ancillary services and energy markets.

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?

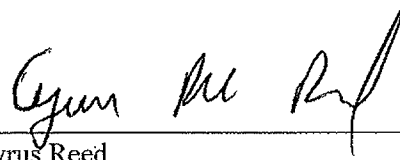
- (1) ERS should be expanded and the artificial cap of \$50m should be doubled to \$100m.
- (2) SMART Meter Texas should be made more accessible to third-parties (with consumer agreement) both for Home Area Networks but also for commercial and industrial businesses;
- (3) PUCT and ERCOT should pursue a "DG-heavy" option for aggregation of DR And DG for both behind-the-meter and front-of-the-meter DG to allow full access to ancillary service and the real-time-market. We favor requiring aggregators and larger DGs to register with ERCOT and the PUC as power generation companies, but making it as easy as possible.
- (4) The four coincident peak (4CP) pricing for large customers and Load Serving Entities should be changed to 12CP. This will reduce peak by 2-3GW in the winter months.
- (5) Energy efficiency goals in the TDU energy efficiency programs should be expanded to meet an energy savings goal of 1 percent by 2025, including specific winter and summer load management programs and overall EE programs that help reduce demand overall. These programs cover both residential and commercial consumers.

Conclusion

The Sierra Club, Lone Star Chapter appreciates the opportunity to provide these Comments. We believe that before any major changes to our market are made, the PUCT should involve the public more, including by allowing public input at workshops and having at least one public hearing with the ability for any person to address the commission on market design issues. We also continue to encourage the Commission to listen to customers by engaging in deliberative polling.¹³ A complete market overhaul deserves more public input.

¹³ *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,

A handwritten signature in black ink, appearing to read "Cyrus Reed". The signature is written in a cursive style with a long, sweeping tail on the final letter.

Cyrus Reed

Cyrus.reed@sierraclub.org

512-888-9411

Conservation Director

Lone Star Chapter, Sierra Club

6406 North I-35, Suite 1805

Austin, Texas 78752