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PROJECT NO. 52373

**REVIEW OF WHOLESALE ELECTRIC MARKET
DESIGN**

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**PUBLIC UTILITY COMMISSION
OF TEXAS**

COMMENTS OF OHMCONNECT TEXAS LLC

These comments are submitted on behalf of OhmConnect Texas LLC, a Retail Electric Provider and subsidiary of OhmConnect, Inc., which has experience providing advanced residential demand response in California, PJM, Ontario and Australia markets. OhmConnect's core Texas retail offering will be fixed commodity pricing coupled with technology enabled load response. We respond here to the first 4 questions posted by the PUCT on September 2, 2021, with respect to residential demand response. An executive summary is attached as a separate page, as requested.

The Commission has addressed the fact that achieving the critical higher levels of reliability may have a cost, and recognized it is therefore incumbent on the Commission to seek the most efficacious and cost-effective alternative solutions. Residential energy end uses are the very loads driving ERCOT's peak demand challenges, yet residential load flexibility remains a vast, largely untapped resource. Tapping the real potential of residential load flexibility in Texas is very likely to be more cost-effective than many other options, it may actually reduce over-all costs to ERCOT, and it certainly will lower consumers' bills.

Response to Questions

- 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?**

While complete description of existing and potential mechanisms for residential demand response in the ERCOT market cannot be had in 5 pages, the immediate options fall into four categories, any of which could permit further innovation, and all of which offer a reliable and responsive resource:¹

¹ We do not discuss more advanced, granular TDU outage management operations, but rather options to avoid the necessity of outage management, while acknowledging this is a resource that also bears examination.

1) Retailer Rates and Program Offerings. This category includes behavioral programs (such as targeted education), dynamic rates (such as time of use rates), and incented participation programs of demand flexibility. The impact of any of these offerings is improved by provision of hardware or software applications to better enable consumers to respond. OhmConnect is in the process of standing up a new Retail Electric Provider (“REP”) in ERCOT, which is a direct means to capture the value of creating an aggregated residential load response resource. Compensation and participation vary by REP program.

2) Third Party Program Offerings. These are currently limited in ERCOT because a (non-REP) third party must be compensated directly by the consumer (unless part of a TDU program, see 3., below). There is no ERCOT energy market mechanism for compensating a third-party demand response aggregator for reducing energy demand, and to create that option would require significant systems upgrades. This might be worthwhile, would give consumers choice of programs not tied to retailers or utilities, and should be evaluated as a long-term option. Some vertically integrated utilities offer demand response programs to their customers, either directly or through contracted third-party programs, or more flexible “bring your own device” programs in collaboration with device manufacturers or demand response aggregators or both.

3) TDU Load Management Programs. ERCOT IOUs are currently charged with achieving certain annual demand and energy reductions under PURA 39.905, and associated PUCT Rule 25.181. Current TDU load management programs help meet the utility demand reduction goal, and today are used to complement ERCOT Emergency Response Service. Utilities are broadly authorized to work with REPs and Third-Party Providers to acquire demand response, but program focus has been on C&I customer loads, through which it is relatively easy to achieve the utilities’ modest goals and optimize their own performance bonus. Participation is not expanding significantly and tends to rely upon the same C&I participants year after year. Residential programs that are in effect are fully subscribed, but have limited participation, largely because they provide shrinking compensation which is inadequate per unit of demand reduction, and insufficient overall to achieve widespread participation, and real market impact.

4) ERCOT Demand Response Markets. Several years ago the Emergency Response Service rules were modified to allow a separate category of loads to participate in the Emergency Response Service market. As we discussed in our comments of August 16, 2021, residential load resources are currently primarily thermal resources: homes which can maintain comfort for one or two hours can curtail air conditioning on signal. Storage-type water heaters and refrigeration are also effectively thermal storage

devices that can reduce or curtail loads for a short period without causing user disruption. The ERS rules were modified to recognize these load resources behave differently than industrial loads, and so some residential loads were attracted into the market. However, the spending cap on the ERS program has pushed prices very low, because so much additional demand response is available and much is turned away each period, discouraging new entry. Even now, while the PUCT asks how to expand this resource, ERCOT is proposing to treat residential and other weather sensitive loads as if they were industrial demand.² This is headed 180 degrees in the wrong direction. It makes far more sense to expand funding for the weather sensitive load component of ERS, or create a new product, whether in ERS or separately as an ancillary service—a one- or two-hour peaking resource. Removing the \$50 million annual funding cap for ERS is fully within the power of the PUCT, and given the cost of inadequate resources, this seems a significantly underfunded product. The market could establish the price fairly if residential demand response, storage, and generation resources could compete, and ERCOT was allowed to simply purchase the amount required, as it does for all ancillary services.

- 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?**

There are two keys to residential demand response providing a reliable resource. The primary factor is that it must be considered in the aggregate. The larger the population participating in a demand response aggregation, the more reliable and predictable will be the resource—presuming participants are well-informed and prepared, and the provider is able to engage participants when necessary. To address the second part of that statement, normal market operational considerations (registration, and a demonstrated capacity to interact in real time with ERCOT and participants of the aggregation) are already in place. And, load resource aggregators should be paid only for demonstrated savings. ERCOT has also already developed baselines and protocols for evaluating the load reduction of large populations, that are national best practices. To move residential demand response into the day-ahead or real-time markets, these protocols would simply have to be adjusted to suit the new application.

OhmConnect currently participates day-ahead in other markets, as well as in real time energy markets, as it is preparing to do in Texas. We can predict the size of our resource with confidence in this window,

² NPRR 1090, by ERCOT

and also could, with appropriate market incentive, offer resources within a wider time window.

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 impediments or obstacles prevent these programs from reaching their potential?

Oncor and CenterPoint have developed the requisite market relationships, and programmatic and administrative experience to expand their current programs, which they have essentially piloted for several years. AEP has more limited experience. The Commission would simply need to assign a more ambitious goal for the utility acquisition of residential demand response, under its existing authority, to test the utilities' full capacity, and quickly create a much more significant resource. Their annual plans and budget can be expeditiously adjusted to discover this capacity. And, the utilities have authority, under the law and PUCT rules, to request additional research funds up to 10% of their normal program spend, to develop additional information or experience they require.

Our recommendation, should the PUCT choose to expand these programs, in order to develop residential load flexibility, is that programs not prohibit price responsive behavior in the energy market. Developing the capacity to do the latter, helps develop and maintain the capacity when emergencies require. The law intended that utilities work primarily through Retail Electric Providers or other third-party service providers to fulfill their obligations under PURA 39.905 and the associated PUCT rule 25.181. REPs should be encouraged to enable and assist price responsiveness of their customers—to reduce the REPs' market price exposure, reduce the cost of service and thereby customer bills, and, to generally improve the efficiency of the ERCOT market, including the utilization of TDU assets as load shapes flatten.

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?

ERCOT currently allows the participation of certain large loads to participate as a Load Resource in its frequency Regulation market, or in Non-spinning Reserve Service markets. In addition, ERCOT administers an Emergency Response Service (ERS) market. ERS protocols permit the participation of large commercial and industrial loads, distributed generation (alone or associated with customer load), and weather-sensitive loads, which include residential and commercial buildings or aggregations.

ERCOT has evolved a range of baseline methodologies to determine what customer demand would have been in the absence of a load response, to value that response appropriately and fairly, and recognize

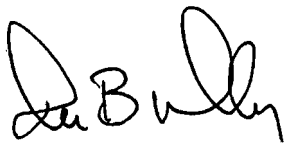
the different load types. It has also created somewhat different participation and performance requirements for weather-sensitive loads in recognition of their unique character. This experience and knowledge base is itself an incredibly valuable state resource.

ERCOT is allowed to determine the appropriate level of each ancillary service to be purchased, to achieve reliable and affordable electric service in its region—except in the case of ERS, where a previous PUCT limited the total spend on emergency supplies to no more than \$50 million. Based on experience, this is a too small investment in the insurance ERS provides, which can be very quickly remedied by PUCT action to allow ERCOT to acquire the amount appropriate for each season. And, as we have commented previously, it would be entirely logical to establish a separate ERS to clearly address peak demand, in which market weather-sensitive loads like residential demand response would be very competitive. An alternative would be a separate, peak response ancillary service. As was our recommendation for the Section 25.181 TDU efficiency programs, participation in an ERS emergency program should not be prohibited to customers with the capacity and inclination to also help reduce demand more routinely, which helps maintain their own reliability.

In addition, a wide variety of programs have been implemented by states and nations outside Texas. As stated in our previous comments, perhaps the most important additional steps the Commission could take are: 1) expand the weatherization investments under the Section 25.181, TDU efficiency programs, to help increase the thermal capacity and safety of residential structures statewide; and 2) use the PUCT's platform as a bully pulpit to educate consumers, and help validate and highlight the importance of residential demand response as a market resource.

Thank you for the opportunity to comment on these issues.

Best regards,



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EXECUTIVE SUMMARY OF COMMENTS BY OHMCONNECT TEXAS LLC

Residential energy end uses are the very loads driving ERCOT's peak demand challenges, yet residential load flexibility remains a vast, largely untapped and economical resource. There are four general mechanisms immediately available to deliver additional residential demand response, each of which could allow for further innovation, and all of which, considered at the aggregate level, offer a reliable and responsive resource opportunity for Texas:

- 1) Retailer Offerings: The ERCOT market is designed to allow a REP to monetize timely load response of its own customers, by reducing demand during high-price periods. REP program offerings can include customer communications, dynamic pricing such as time-of-use rates, or other incentives, with or without enabling hardware or software. Broad consumer education by the PUCT would greatly improve consumer participation. Expanded funding for weatherization would improve the capacity of Texans to participate in demand response as well as ride out the worst weather in safety.
- 2) Third-Party Offerings: Customers can obtain products and services from third parties to help them respond to incentives from retailers, utilities, or the market, but, third-parties cannot today be compensated by the market directly for aggregating residential load response. Significant ERCOT systems changes are required for this, although it may merit consideration in the longer term.
- 3) TDU load management programs: Larger TDUs have experience acquiring aggregated residential demand response, which could be leveraged by the PUCT for the benefit of ERCOT. To attract significant participation by REPs or Third Parties, and thereby significant demand response resources, however, would require a major increase in funding via the TDUs. This is within the power of the PUCT, without further legislative authorization. If expanded, programs should pay only for performance, but not prohibit participation of customer loads that are also price responsive.
- 4) ERCOT Demand Response Markets: The PUCT should remove the artificial \$50 million spending cap on the Emergency Response Service market, and allow ERCOT to acquire the appropriate amount of this resource, as it does all ancillary services. ERCOT should continue to recognize the different character of residential demand response; we recommend a separate weather-sensitive load resource service under ERS, or creation of a new one- or two-hour peaking energy ancillary service in which resources, including residential load resources would compete.