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**PROJECT NO. 52373**

**REVIEW OF WHOLESALE  
ELECTRIC MARKET DESIGN**

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**PUBLIC UTILITY COMMISSION  
OF TEXAS**

**EXECUTIVE SUMMARY OF  
COMMENTS OF  
OCTOPUS ENERGY**

**Executive Summary**

1. High scarcity prices in today's market encourage REPs to develop demand response with their residential customers as a hedge against those high prices in the absence of other countervailing considerations. Dampening scarcity pricing will reduce the incentive to increase economic residential demand response. If scarcity prices are reduced, additional incentives to encourage residential demand response would be helpful.
2. Greater customer awareness of retail prices is key to encouraging customer participation in demand response.
3. All distributed energy storage assets should be IEEE2030.5 capable and should be controllable by third parties, not just the manufacturer, to enable the growth of more residential demand response in ERCOT. This will allow for customers to receive maximum financial benefits and reduce likelihood that assets are under-utilized. Optimally, all assets, including thermostats and other devices that can contribute to a robust demand response program, should be controllable by third parties through open access standards.

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MARKET DESIGN**

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**PUBLIC UTILITY COMMISSION  
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**COMMENTS OF  
OCTOPUS ENERGY**

COMES NOW Evolve Retail Energy LLC d/b/a Octopus Energy (Octopus Energy), REP License #10262, and files these Comments regarding the Commission Staff's Questions for Comments regarding demand response issues filed in this proceeding on September 2, 2021.

**Comments**

Octopus Energy started as a Retail Electric Provider (REP) in ERCOT in 2019 as Evolve Energy which was renamed as Evolve Retail Energy. In 2020, Octopus Energy, based in the UK, purchased Evolve Retail Energy, and the Commission approved the company's name change just after Winter Storm Uri on February 22, 2021. Octopus Energy serves over 2 million customers globally and has been significantly expanding its operations in ERCOT.

Octopus Energy is one of the few REPs that have made demand response a central tenant in the services we offer to our customers. Octopus Energy has significant software engineering that enables us to control new and evolving technology, including smart thermostats, appliances, electric vehicles, rooftop solar, and even energy storage. We use the combination of that software and technology to help our customers benefit from low energy prices most of the time and reduce their consumption during higher-priced periods and reduce stress on the grid. We also allow customers who do not have a smart thermostat to participate by texting us a picture of their manually adjusted thermostat. Octopus Energy passes on financial benefits in the form of bill credits or lower prices to customers who respond to grid alerts.

Octopus Energy informs its customers on variable rates the price they will pay the following month so they are aware and can better participate in demand response. This is just like other products customers purchase. For example, coffee shops don't tell you the price of the coffee after you drink it. You know in advance of ordering it. This allows you to make an informed decision before you order if you want to get the latte or the drip coffee. Demand response is the same - customers need to know what price they are currently paying for electricity before the month starts. If the electricity is out of their budget, they can engage in price reduction strategies, such as demand response, to reduce their usage. Without them knowing ahead of time what rate they can expect to pay, we can't expect the customers will engage any differently in demand response in the future.

As Octopus Energy expands its presence in ERCOT, we increasingly will enable our customers to be partners with the Commission and ERCOT to ensure reliable operations in ERCOT rather than just being

“load” that must be served as if it has no price elasticity. In fact, residential customers may have more demand flexibility than large industrials who may require intense coordination and pre-planning among departments to execute a single demand response event.

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

There are two basic forms of demand response in the ERCOT market: (1) economic demand response, where customers act voluntarily to reduce demand as an economic response to avoid or reduce exposure to high electricity prices or to engage in other economically beneficial activities; and (2) reliability-based demand response, where grid operators or distribution grid operators create programs that pay customers to be available to reduce demand when an emergency arises on the electric grid or to meet independent system operator (ISO) commitments when required to do so under a capacity market program.

Both forms of demand response contribute to the reliable operation of the electric grid, but there is a fundamental difference. With economic demand response, the ISO, or ERCOT, may not know in advance that the demand response activities definitely will occur since there are multiple factors that can impact an economic response in real time. But, based on historical experience, ERCOT can estimate the amount of economic demand response that will occur in particular situations, such as industrial load reductions in anticipation of periods to be designated as one of the four coincident peaks (4CP) of the system. In contrast, reliability-based demand response represents a commitment in advance by one or more customers to reduce their demand in response to a specific signal or event. ERCOT’s Emergency Response Service (ERS) and Load Resources’ participation in Responsive Reserve Service (RRS) are examples of this form of demand response.

REPs have direct wholesale market exposure and should have a strong incentive to deliver demand response if there are not countervailing considerations, such as associated generation affiliates. Having a technology platform that can support customer participation in demand response is a key component to successful demand response. The REP needs to ensure there is streamlined execution on in the backend and a good mobile-centric interface to help engage customers, so they know what is going on. Current retail energy business models do not enable demand response to thrive as much as they can. Opaque variable rate pricing and lack of notifications is a business model that is centered around the customer “forgetting”. In these business models, it is not surprising that retailers do not encourage demand response because the retailers would rather have the customer “asleep at the switch” than participating in the market. Notifying variable rate customers each month what their monthly rate will be before the month starts will build the right relationship to unlock significant residential demand response.

- 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?**

Octopus Energy compensates its customers for their demand response efforts today through lower retail prices and credits applied to their bills. We are always looking for new ways to engage our customers to be active participants in demand response activities. Not only have we given cash credits to our customers for responding to real-time grid conditions, we also have rewarded them with a happy hour to get them out of their house so they don't care what temperature their thermostat is set to.

- 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?**

High scarcity pricing encourages load serving entities (LSEs), especially those without affiliated generation companies, to develop economic demand response capabilities. This capability is a hedge that can reduce the need to procure high-priced energy. At the same time, though, reliance on that hedge is counter to the interests of generation resources that want to sell energy at those high prices. We understand the Commission's concerns about scarcity pricing in the ERCOT market but dampening those market signals will dampen the incentive to further develop economic demand response.

One of the market mechanisms which reduces demand response is the lack of notifications about variable rate prices. A large percentage of customers are on variable rates and, in order for these rates to be effective, the retailer generally prefers customers to be disengaged. By notifying customers each month what their variable rate energy price is before the month starts, it creates a culture of engagement with the end user which can then be amplified with demand response later in the month as the customer looks for ways to reduce their costs.

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?**

Today, residential customers participate in reliability demand response to a very limited extent, primarily as aggregated weather sensitive loads in ERCOT's ERS program. In theory, the Commission could gain an element of "command and control" as contemplated by this question over economic residential demand response by enabling aggregated customer loads to bid as resources into SCED. By submitting an offer in the Day Ahead Market (DAM) to dispatch in real time the next day at a particular price, a bidder would provide a direct signal to ERCOT regarding the provider's ability to deploy reliably

and also support price formation. But impediments such as telemetry requirements have been an issue with loads participating in SCED, as well as the prohibition against third parties being allowed to offer aggregated customers into SCED. Other practical limitations also undermine this as a solution, and Octopus Energy does not recommend this route.

For example, bids for demand response offered into the DAM would be constrained due to the current delay in access to customers' meter data via Smart Meter Texas (SMT). This delay means that a potential bid into the DAM on Wednesday morning can only be informed by customer usage from customer usage on Monday, at least two days prior (Monday data is available at earliest on Wednesday and at best can inform a DAM bid due Wednesday morning for a Thursday event), and changes to weather patterns in the interim increase uncertainty. (While there is some access to real-time data from customers' advanced meters, the volume of available inquiries is very limited and will not support a robust ability to bid residential demand response into SCED. Increasing this feature with SMT will be very valuable for retailers.) The delay in access to data to verify timely performance to a dispatch also limits how quickly a REP can reward a customer for their participation, and quickly linking feedback to actions is the best way to ensure repeat performance with residential customers.

As a practical matter, a key impediment of bidding an aggregation of residential customers into SCED for dispatch is the fact that a REP can realize much of the same value using that same aggregation as a hedge within its own book, but that approach will avoid the ERCOT operational requirements of participating in SCED as well as potential regulatory liabilities. A retailer who ultimately has exposure to wholesale power markets, in particular real-time markets, can most optimally manage for real-time grid conditions. Even demand response programs based around baselines have good intentions but usually produce unintended incentives to "game the baseline". Real-time benefits and penalties are the most efficient tools to balancing the grid for unexpected grid conditions (i.e., a thunderstorm is delayed as it moves through the Dallas area, creating a higher peak than expected in the DAM).

- 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?**

Octopus Energy is dedicated to providing world-class customer experiences and that includes enabling voluntary participation in demand response. We bake demand response into the rates customers pay. This also is a feature traditionally found in rates Octopus Energy offers for charging electric vehicles in other countries. This increased participation in demand response directly benefits reliability of the grid.

As discussed above, increased notification to customers of the prices they will pay when on variable rate products is a key to increasing customer engagement in their energy procurement and a key strategy to developing a platform for increased participation in demand response products.

Limited access to distributed energy storage resources and other technologies like thermostats prevents the growth of demand response. If only the manufacturer can control use of a device to support demand response (and the customer may not have even been aware they would be subject to such limitations when they purchased the product), then the ability of that customer's REP to include that device in demand response activities for the benefit of that customer are eliminated. Octopus Energy recommends that, at a minimum, all distributed energy storage assets be IEEE2030.5 capable and controllable by third parties, not just the manufacturer, in order to support the growth of residential demand response in ERCOT.<sup>1</sup> This should be more broadly applied to other technologies as well for the benefit of the consumers.

### **Conclusion**

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

Respectfully submitted,



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<sup>1</sup> See, Michael Lee and Michael Murray, The danger of walled gardens: What Apple can teach us about devices in the energy sector, Utility Dive, June 17, 2021, available at <https://www.utilitydive.com/news/the-danger-of-walled-gardens-what-apple-can-teach-us-about-devices-in-the/601862/>.