



Filing Receipt

Received - 2021-08-18 11:30:11 AM

Control Number - 52373

ItemNumber - 69

PROJECT NO. 52373

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

PROJECT NO. 52268

**CALENDAR YEAR 2021 – § PUBLIC UTILITY COMMISSION
WORKSHOP AGENDA ITEMS § OF TEXAS
WITHOUT AN ASSOCIATED §
CONTROL NUMBER §**

**COMMENTS OF
RESIDEO TECHNOLOGIES, INC.**

Resideo Technologies, Inc. (“Resideo”) hereby files these Comments in response to the Questions for Comment filed in the above-captioned proceedings on August 2, 2021 by the Public Utility Commission of Texas (“Commission”). As a Demand Response (“DR”) provider in the Electric Reliability Council of Texas, Inc. (“ERCOT”), Resideo thanks the Commission for the opportunity to provide insight and recommendations for improving ERCOT’s current ancillary services and demand response programs. We believe that ERCOT has an incredible amount of installed DR capacity that is ready to be deployed. The full value of these resources can easily be realized by both the market operator and consumers through the implementation of small changes to the current rules and procedures.

Resideo supports the comments submitted in the above-captioned proceedings by the Advanced Energy Management Alliance (“AEMA”) and incorporates those comments by reference in this filing. Specifically, Resideo supports AEMA’s recommendation that the Commission (1) encourage the development of DR programs that total at least 10% of system residential peak load; and (2) that key stakeholders from all sectors should meet to develop programs to achieve this goal.

I. RESIDEO

Resideo is a DR provider offering distributed energy resource and advanced energy management services and technologies for residential customers. Resideo is an independent company that was spun-off from Honeywell in 2018. It specializes in residential products, including home thermostats and security technology. Resideo's energy services arm, Resideo Energy Management, provides residential demand-side management services that optimize connected devices capable of providing demand response. Resideo specializes in integrating cutting-edge data science with smart home controls in an effort to drive deep demand and energy savings. After entering the wholesale markets in 2010, Resideo has grown to become one of the leading load aggregation providers with participation in almost every residential smart thermostat program available in the United States. Resideo is one of the largest aggregators in the ERCOT market, with over 90 megawatts ("MW") of load under its control.

II. DEMAND RESPONSE IN ERCOT

Demand response provides critical reliability benefits by lowering the likelihood and consequences of forced outages that impose financial costs and inconvenience on customers. DR programs lower wholesale market prices by averting the need to use the most costly-to-run power production facilities during periods of high demand or instances of extreme weather. Over the long term, demand response lowers aggregate system capacity requirements, thereby reducing utilities' need to build additional capacity. In sum, demand response provides performance-based and economic benefits to the market operator, wholesale market participants, and retail customers.

ERCOT's current market design includes various demand response products, including ancillary services, emergency response service, and programs administered by transmission/distribution service providers. Load resources can participate in ERCOT's Ancillary

Services and Real-Time energy markets through offering Responsive Reserve (“RRS”), Regulation Service, and Non-spinning Reserve services. Load resources may also participate in ERCOT’s Security-Constrained Economic Dispatch (“SCED”). Emergency Response Service (“ERS”) is available to loads, aggregations of loads, and certain types of small generators (so long as they are not a Generation Resource or a source of intermittent renewable generation). ERS is used as a load reduction service and is intended for deployment in the late stages of grid emergency, i.e. when ERCOT experiences a capacity insufficiency and declares an Energy Emergency Alert. Pursuant to Public Utility Commission Substantive Rule 25.507(b)(2), ERCOT may spend a maximum of \$50 million per year on ERS capacity.

The Transmission/Distribution Service Provider (“TDSP”) Load Management Programs are administered by the various TDSPs in the competitive choice areas of the ERCOT footprint. The program capabilities are reported to ERCOT and available to be deployed through ERCOT-issued instructions to the TDSPs. TDSP DR programs permit end-use customers to receive payment from a TDSP in exchange for reducing peak demand for a specified duration upon request by the TDSP.

III. RESIDEO’S RESPONSES TO THE COMMISSION’S REQUEST FOR COMMENTS

- 1. What specific changes, if any, should be made to the Operating Reserve Demand Curve (ORDC) to drive investment in existing and new dispatchable generation? Please consider ORDC applying only to generators who commit in the day-ahead market (DAM). Should that amount of ORDC-based dispatchability be adjusted to specific seasonal reliability needs?**

[No Comment]

- 2. Should ERCOT require all generation resources to offer a minimum commitment in the day-ahead market as a precondition for participating in the energy market?**
 - a. If so, how should that minimum commitment be determined?**
 - b. How should that commitment be enforced?**

[No Comment]

3. **What new ancillary service products or reliability services or changes to existing ancillary service products or reliability services should be developed or made to ensure reliability under a variety of extreme conditions? Please articulate specific standards of reliability along with any suggested AS products. How should the costs of these new ancillary services be allocated.**

The Commission should ensure that new ancillary service products or reliability services created as a result of this inquiry define both demand response and distributed energy resources (“DER”) as eligible technologies capable of providing such services. As the Commission is considering whether to add new ancillary service products or reliability services, Resideo encourages the Commission to include flexibility in order to accommodate as many resource types as possible. Efforts to force multiple resource types into a single, non-flexible product may limit the choices available to resource owners and aggregators. Instead, the Commission should consider designing ancillary service and/or reliability products that incorporate resources based on their respective strengths.

To that end, Resideo encourages the Commission to consider introducing a new weather-sensitive ancillary service product that includes meaningful opportunities for DR and DER participation on a year-round basis. The product should be capable of accommodating weather-sensitive loads, including generation and non-generation resources. A weather-sensitive product would allow both industrial and residential demand response to provide immediate benefits by capitalizing on the capability of DR to provide value during hours of peak demand. A weather-sensitive product would also acknowledge the inherent capabilities of DER and seek to compensate those resources accordingly.

The Commission should utilize ERCOT’s existing Contingency Reserve Service (“ECRS”) as a template for creating a weather-sensitive product. ECRS permits both off-line and on-line generation resources, controllable load resources, and load to be ramped to a specified

output level within ten minutes, and operate at a specified output for the entire duration of the ECRS obligation. The product is utilized in response to loss-of-resource contingencies, load forecasting errors, or other contingency events on the system.¹ Similar to ECRS, a new ancillary service product should be capable of accommodating weather-sensitive loads (not just generation), that are capable of responding to grid operator instructions within a ten-minute time frame, and operating at the specified output for the duration of the obligation. Additionally, to remove barriers to entry for demand response and DERs, the product should not require the use of real-time telemetry data. Instead, ERCOT should rely on advanced metering infrastructure (“AMI”) for data management and dispatch capabilities. AMI, through an integrated system of smart meters, has already been extensively deployed throughout Texas.

Importantly, the Commission should not incorporate a weather-sensitive product within ERCOT’s existing RRS construct. RRS includes both a Primary Frequency Response component and a 10-minute energy deployment component, and can accommodate both load and generation resources. However, RRS has proven to be an inflexible product that is not conducive to the entry of new participants or new resource types.² To the extent that a weather-sensitive ancillary service product utilizes Primary Frequency Response, Resideo recommends that resources receive compensation independent of the RRS program.

¹ See Nodal Protocol Section 6.5.7.6.2.4, Deployment and Recall of ERCOT Contingency Reserve Service.

² See NPRR 883, available at http://www.ercot.com/content/wcm/key_documents_lists/144694/863NPRR-01_Creation_of_Primary_Frequency_Response_Service_Product_and_Revisions_to_Responsive_Reserve_010118.doc (Explaining that the RRS product forces generation resources to provide an uncompensated service to ERCOT, resulting in increased wear and tear on the resource as well as regulatory compliance risk).

As the Commission considers comments from other parties regarding changes to ERCOT's wholesale market design, Resideo encourages the Commission to ensure that any new products incorporate design features that can accommodate future resource types, aggregations of different resources, and flexible compensation schemes in order to reduce or eliminate barriers to entry.

4. Is available residential demand response adequately captured by existing retail electric provider (REP) programs? Do opportunities exist for enhanced residential load response?

No. The majority of REPs do not participate in residential demand programs in Texas, however, there is an abundance of available residential demand response that is not adequately captured by existing REP programs. The primary barrier to participation is the lack of sufficient compensation commensurate with the value DR resources provide to the market. Significant opportunity exists for the Commission and ERCOT to expand on current DR capabilities through either a series of changes to existing programs or the buildout of new programs. For example, the leading smart thermostat vendors collectively have at least 500,000 eligible smart thermostats already installed in customer homes within the ERCOT regional footprint. These smart thermostats are ready to be deployed immediately and can provide meaningful load reduction to the grid.

The few REPs that do participate in residential DR programs in Texas are large, diversified companies, yet even those companies typically have less than 15 MWs under management. The Commission should consider programs to directly incentivize smart thermostat original equipment manufacturers ("OEM") to participate directly in DR programs, rather than focusing on REPs. OEMs have an existing relationship with those customers within ERCOT who would be interested in a DR program by virtue of their purchase of a smart thermostat. As compared to REPs, who experience a high amount of turnover in their customer base, incentivizing device manufacturers would encourage a steadier participation rate. For example, Resideo's smart thermostats have the

ability to shift over half of HVAC usage during peak times when participating in a DR program. This action can be triggered remotely and does not require direct customer action. Resideo currently has over 25 MWs of deployed residential DR within ERCOT's footprint that is actively participating in ERS and TDSP. Through improvements to compensation and incentive programs, Resideo is confident that participation would increase dramatically. If the Commission incentivized participation by all smart home OEMs, the increase in combined capability could result in gigawatts of deployable technology on the grid.

The Commission can also incentivize participation in REP programs by ensuring that device manufacturers are compensated through ERS in a manner that provides incentives for enrollment. The ERS program currently compensates participants on a 4-month performance period basis. After the performance period is completed, ERCOT conducts settlements of each Qualified Scheduling Entity's ("QSE") availability and performance factor as an overall portfolio, and the availability and performance of each individual load resource in the portfolio in order to determine compensation. ERCOT provides monetary compensation to QSEs within seventy (70) days after the end of the performance period. Importantly, as mentioned above, ERCOT's ERS procurement budget is capped at \$50 million annually. As more resources are added to DR programs, this budget significantly curtails the compensation that each resource can receive for the services it provides.

Generally, the ERS payment structure is exceedingly disconnected from the value delivered by DR resources. Accordingly, in extreme events, DR resources are not compensated based on actual performance. As an example, during the February 2021 Extreme Weather Event, ERCOT winter DR paid \$10 per kilowatt hour ("kWh") of capacity in the afternoon and \$22/kWh of capacity in the morning. The price of electricity during the event was \$9/kWh over the course

of approximately four days. The estimated DR capacity per smart thermostat is approximately 0.2 kW, equaling approximately 22 kW per thermostat over the course of the four-day event. This equates to roughly \$198 in compensation for each participating smart thermostat had those resources been compensated by actual value delivered. However, because DR resources bid in advance of the season at approximately \$0.12/kW per home, each thermostat realized approximately \$2.57 in compensation per home for the winter weather event. If 50,000 thermostats had participated in the ERS program last winter, the vendors would have earned \$128,000 for delivering \$10 million in capacity value to ERCOT. As this example demonstrates, not only does ERCOT's current compensation scheme fail to adequately compensate resources based on value provided, any returns on performance are further undercut as a result of DR resources being forced to bid in advance of the season.

DR is utilized for providing benefits during extreme weather events, however, ERCOT continues to not compensate the product accordingly for providing those services, thereby eliminating incentives for participation. If ERCOT more closely aligned its payments to actual value delivered, the DR aggregators and thermostat OEMs would generate enough revenue that they would be able to properly incentivize customers to enroll in DR programs.

Accordingly, Resideo recommends that the Commission modify ERCOT's ERS program by increasing payments per MW to more closely track with delivered capacity value. This would provide adequate incentives to enable REP providers to increase customer enrollment. The Commission should also consider the option of providing customer enrollment incentives, such as a \$100 sign-on bonus, and working directly with OEMs to incentivize participation. To effectuate these changes, the total ERS program budget must be increased from its current \$50 million cap.

5. **How can ERCOT's emergency response service program be modified to provide additional reliability benefits? What changes would need to be made to Commission rules and ERCOT market rules and systems to implement these program changes?**

Resideo supports AEMA's position that the Commission has the authority and should significantly increase ERCOT's annual budget for ERS procurement to be more than the current limit of \$50 million. Resideo additionally urges the Commission to increase the payment per kW compensation scheme in a manner that (1) adequately compensates DR resources for the value those resources provide to the market and (2) provides meaningful incentives for participation.

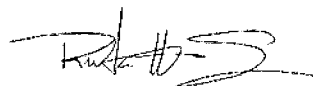
6. **How can the current market design be altered (e.g., by implementing new products) to provide tools to improve the ability to manage inertia, voltage support, or frequency?**

[No Comments]

IV. CONCLUSION

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

Respectfully submitted,



Ruta Kalvaitis Skučas, Esq.
Maeve C. Tibbetts, Esq.
K&L Gates LLP
1601 K St., NW
Washington, DC 20006
ruta.skucas@klgates.com
maeve.tibbetts@klgates.com

Attorneys for Resideo Technologies, Inc.

Dated August 16, 2021