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TEXAS
ADVANCED ENERGY
BUSINESS ALLIANCE

PROJECT NO. 52373

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

TEXAS ADVANCED ENERGY BUSINESS ALLIANCE'S RESPONSE TO COMMISSION STAFF'S OCTOBER 26, 2021 QUESTIONS

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November 1, 2021

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Texas Advanced Energy Business Alliance (TAEBA) appreciates the opportunity to submit comments in response to the Public Utility Commission of Texas (PUCT or Commission) Staff's memo filed on October 26, 2021. In accordance with the Memo, these comments are due by noon on November 1, 2021; therefore, these recommendations are timely filed.

I. Introduction and General Comments.

TAEBA is a state business association composed of local and national energy companies seeking to make Texas' energy system more secure, clean, reliable, and affordable. Our members provide products and services across the advanced energy spectrum, including large-scale renewables and storage, distributed generation (DG) and storage, demand response (DR), energy efficiency (EE), electric vehicle (EV) charging equipment and software, and grid management services. In the wake of events that transpired last winter, Texas has a significant opportunity to refocus its policies, practices, and procedures to encourage the use of advanced energy resources in a manner that enhances system flexibility and reliability while enhancing affordability. TAEBA appreciates the opportunity to work with the Commission, Commission Staff, and other stakeholders as the Commission continues to develop policies to strengthen the reliability of the electric grid while optimizing flexibility and affordability for all market participants.

The October 26, 2021 Memo requests written comment on sixteen detailed questions (some with subparts) regarding a variety of complex wholesale market design issues. Because it is impossible to fully address these questions in the four business days allotted and within a 15-page limit, TAEBA provides comment on only a subset of the questions. Before doing so, it is important to step back and reflect on the overall objectives of the Commission and respond to frustrations about the major design proposals discussed at the most recent work session. Question 5 in the Memo alludes to this frustration, and during the October 21 Work Session, noting her frustration that the Commission is "looking for reliability in all the wrong places," Commissioner Cobos called for ideas to be brought forward. Similarly, Commissioner Glotfelty noted that the Commission should embrace innovation and technology (such as batteries and EVs) to build a system that is forward-looking, not reliant on outdated, regulated-utility ways of thinking,

which boil down to building more power plants as the traditional solution. TAEBA agrees with the Commissioners on these points. As has been noted by other commenters, ERCOT does not have a system-wide capacity problem; therefore, solutions that are intended to procure capacity above a certain target do little to ensure that the system is reliable. TAEBA suggests that what would be in the best interest of Texans would be for the Commission to focus its efforts on enhancing grid flexibility: ensuring adequate energy production at strategically-focused times within each day (which by extension also means at the right times in different seasons). In these comments, we provide information on how, collectively as a community of stakeholders in the ERCOT marketplace, we can and should be reevaluating how we think about resource adequacy for a 21st Century electricity system that can adapt to rapidly changing technology and global economics. Continued Texas leadership in energy necessitates new ways of thinking.

On October 19, 2021, a group of ERCOT Stakeholders, including TAEBA, filed with the PUCT a set of Texas Reliability and Market Design Improvements, which included a set of "no-regrets" recommendations for immediate actions to be taken along with suggestions for a phased approach to consider additional solutions.[1] TAEBA submits that the "no-regrets" recommended actions in that filing, taken together, provide immediate, actionable solutions to address problems with the grid and market made apparent by Winter storm Uri. In these comments, we provide additional detail regarding how to implement these changes. TAEBA further recommends that the Commission require Brattle and the ERCOT Independent Market Monitor (IMM) to prepare, and make public, analyses of the costs, potential risks, and benefits of proposals that have been submitted, including the ERCOT Stakeholders' proposal submitted on October 19, 2021, prior to making the important policy decisions that will impose these currently unknown costs and risks on Texans. Finally, TAEBA responds specifically to a subset of the Commission Staff's questions posed in the October 26 Memo.

II. New Methods for Defining Resource Adequacy are Required for a 21st Century Electricity System.

While traditional methods for ensuring resource adequacy have generally supported system reliability in the past, evolving weather-related risks and technological innovation necessitate a robust reassessment of the existing resource adequacy paradigm. Energy System's Integration Group's (ESIG) 2021 Report, *Redefining Resource Adequacy for Modern Power System* (ESIG Report), plainly illustrates

[1] ERCOT Stakeholders Group, Texas Reliability and Market Design Improvement Recommendations (Oct. 19, 2021).

the cause of reliability events is changing due to two factors. First, correlated weather-related outages from extreme heat and cold (i.e., both summer and winter periods) have become a central focus for reliability planning.[2] Second, the resources and technologies available to support grid reliability are shifting. If not properly managed, increased reliance on bulk power system natural gas generation presents elevated fuel supply risks driven by greater dependence on the natural gas transmission system.[3] A report on the 2021 winter weather event by The University of Texas at Austin Energy Institute (EI Report) estimates that 6,700 MW of generation capacity failed to come online due to "fuel limitations" – a significant portion of which stemmed from natural gas supply constraints on the transmission system.[4] At the same time, the continued growth of renewable and energy storage technologies – both at the large-scale and distributed level – possess unique reliability attributes that must be recognized and increasingly accounted for in more granular reliability analyses.[5] The increased proliferation of customer-sited distributed energy resources (DERs) such as energy efficiency (EE), DR, DG, storage, and EVs also presents greater opportunities to enhance grid reliability by reducing demand during peak periods while helping customers manage their energy bills.

In response to these evolving dynamics, the ESIG Report presents six foundational principles for redefining resource adequacy in a manner that meets system planners needs to cost-effectively support grid reliability. These principles are broadly aligned with the recommendations put forward by the ERCOT Stakeholders in an October 19, 2021 filing to the Commission on market design improvements. We summarize these six principles below to provide additional context in support of the ERCOT Stakeholders' recommendations, including the need for additional analysis of proposed market changes to meet long term ERCOT system needs.

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[2] ESIG Report at 5. Available at: https://www.esig.energy/wp-content/uploads/2021/08/ESIG-Redefining-Resource-Adequacy-2021.pdf

[3] *Id.* at 6.

[4] King et al., The Timeline and Events of the February 2021 Texas Electric Grid Blackouts at 9, 31, 45, published July 2021.

[5] ESIG Report at 6-8.

A. Quantifying size, frequency, duration, and timing[6] of capacity shortfalls is critical to designing market rules to attract the right resource solutions.

It is imperative that grid operators move beyond a simple "1-in-10" loss of load expectation (LOLE) convention for assessing resource adequacy and adopt a framework that provides more visibility into the size, frequency, duration, and timing of future outage events. Winter Storm Uri made clear that each loss of load event is different and, therefore, better understanding the characteristics of potential grid disruptions is necessary to develop effective market design for attracting the right resources to meet future shortfalls through the appropriate portfolio of resources. For example, battery storage may more effectively address certain types of shortages than DR, and vice versa.[7] Long-duration needs require products that attract longer duration resources with high availability, while short-duration needs require products that are fast-responding and flexible.

B. More granular modeling is required using many weather and grid scenarios.

As Texas sees the continued deployment of low-cost renewable and storage capacity, system planners must evaluate resource needs over a greater variety of hours, days, and weeks – not just periods of expected peak demand – to ensure that these resources are able to support the grid during potential disruptions. This type of granular modeling is dependent on years of detailed weather data and output profiles of renewable resources; as noted in ERCOT Stakeholders' October 19 filing, improving ERCOT supply and load forecasting is a near-term priority that should provide the Commission with greater visibility into how different resources would be expected to perform over time – particularly over multi-day events – and where additional resource deployment could potentially mitigate capacity shortfalls. This assessment is critical for assessing the value new resources can provide toward reliable supply during extended disruptions and shortfall events.

C. There is no such thing as perfect capacity.

It is essential that the Commission appropriately recognize and credit resources' contribution to resource adequacy in a manner commensurate with real-world performance. Events in Texas and across the country have demonstrated that no single generation technology can be summarily considered as "firm capacity" – particularly in the wake of weather-related grid disruptions where natural gas plant

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[6] Although not explicitly included by ESIG in their report, "location" is another factor that should be included when considering market rules to address resource solutions.

[7] ESIG Report at 18.

outages were correlated with each other.[8] Modern resource adequacy planning requires regulators and grid operators to recognize the limitations – particularly the weather-related limitations – of all resources. This recognition is critical to understanding that resources have different roles to play in mitigating shortfalls.

D. Load participation fundamentally changes the resource adequacy construct.

Load flexibility has significant potential to serve as a pillar of resource adequacy in Texas and is largely attributable to the growing adoption of DERs that can respond to various grid conditions. In order for flexible demand-side resources to fully contribute to resource adequacy, TAEBA strongly recommends that the Commission remove regulatory barriers to and expand markets for DERs capable of cost-effectively providing capacity services that enhance grid reliability.

E. Neighboring grids and transmission should be modeled as capacity resources.

While ERCOT's wholesale market covers a large geographic area, the ability to access transmission and renewable resources over a larger geographic footprint improves load diversity, reduces overall variability of wind and solar resources, moderates the need to develop new capacity resources in a given geography, and mitigates the likelihood of simultaneous outages.[9] To the extent feasible, ERCOT could explore greater coordination with SPP and MISO on transmission and resource development to support interregional reliability during extreme weather events. At a minimum, ERCOT should improve its modeling of future grid conditions to recognize the increasingly geographic diversity of wind and solar generation resources and the positive impact that will have on grid operations.

F. Reliability criteria should be transparent and economic.

A "1-in-10" (or 0.1) LOLE has widely been viewed as a de facto resource adequacy standard, yet this metric provides no information on the economic costs of achieving a given level of reliability. New resource adequacy analyses should be designed to consider these costs in a transparent manner, allowing regulators and stakeholders to assess the expected costs for achieving a certain reliability standard. These analyses must also fully account for the contributions that load flexibility and DERs can provide to system reliability. While a perfectly reliable grid may be technically and economically unattainable, clearer

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[8] *Id.*

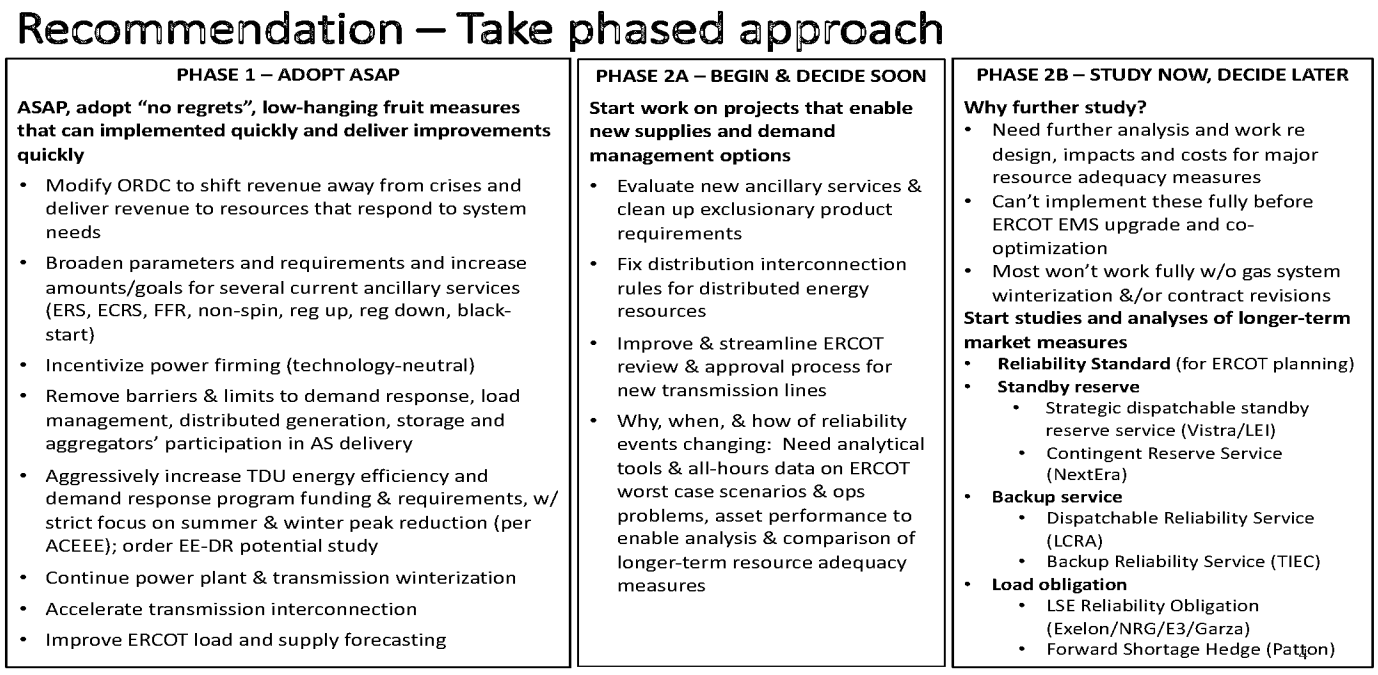
[9] *Id.* at 23.

economic reliability criteria can provide regulators and grid operators with better information to help right-size investment in capacity resources and prevent the most severe outage events from occurring.

In short, Texas' resource adequacy framework must evolve in response to changing grid conditions and weather-related risks. By fully recognizing the value that advanced energy resources can provide to system reliability and removing related barriers, the Commission and ERCOT would enable electricity service to be more reliable, competitive, affordable, and open to customer choice.

III. ERCOT Stakeholders Submitted a Comprehensive Solution Set that Addresses the Issues Arising from Winter Storm Uri.

On October 19, 2021, a group of ERCOT Stakeholders, including TAEBA, filed with the PUCT a set of Texas Reliability and Market Design Improvements, which included recommendations (see figure below) for immediate, "no-regrets" actions to be taken along with suggestions for a phased approach to



consider additional solutions.[10] TAEBA submits that the recommended actions in that filing, taken together, provide immediate, actionable solutions to address Winter Storm Uri, including meeting the Commission's legal obligations under PURA. The figure summarizes the key elements of the ERCOT Stakeholders' recommendations, which we discuss in greater detail in the following sections.

A. Modify ORDC to shift revenue away from crises and deliver revenue to resources that respond to system needs.

Numerous parties have filed recommendations regarding modifications to the ORDC, as they assert it is a relatively easy, quick, and effective tool to implement market pricing change that can spread out revenues to more hours and shift away from the "crisis model" as the Commission is seeking to do. TAEBA does not take a position on the specific parameters of the ORDC while the Brattle Group is in the process of modeling several potential ORDC variable combinations at the Commission's request. TAEBA requests that any changes to the ORDC not discriminate against any resource type, such as the ORDC being paid only for certain technology types. As has been noted by some Commissioners: a megawatt is a megawatt. Discriminatory treatment of generation resources may substantially harm reliable operations of the grid by discouraging generation at critical times due to the effective imposition of penalties for performance. The Commission should ensure further that any changes to ORDC do not result in perverse outcomes such as disincentivizing participation in reliability services such as demand response.

B. Broaden parameters and requirements and increase amounts/goals for several current ancillary services (ERS, ECRS, FFR, non-spin, reg up, reg down, black- start).

Refining the suite of ancillary services is one of the most important steps the Commission can take to ensure a flexible, fast-ramping grid to deliver energy when it is needed, and several parties, including TAEBA, have filed specific recommendations to modify ancillary services that are existing or in development to improve reliability quickly. Rather than repeat recommendations here, TAEBA incorporates by reference its recommendations submitted in this project on September 30, 2021.[11]

Although not strictly an "ancillary service," Emergency Response Service (ERS) is a critical tool in the ERCOT reliability toolbox and should be expanded. At its October 28, 2021 Open Meeting, the Commission discussed the potential to increase ERCOT funding to procure ERS starting with the next

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[10] ERCOT Stakeholders Group, *Texas Reliability and Market Design Improvement Recommendations* (Oct. 19, 2021).

[11] TAEBA Comments at 5-10 (Sept. 30, 2021)

contract period for this upcoming winter season. We commend the Commission for taking immediate action to expand ERS by waiving its rule for good cause to allow ERCOT to make this change. As TAEBA and others have commented previously, expanding ERS is a no-regrets decision, and we specifically recommend that the budget cap be removed and that an ERS procurement target of 3000 MW be implemented, with additional analysis to be done to determine ERS potential. We caution against making changes to ERS technical requirements that could result in perverse outcomes such as disincentivizing participation in the service. For example, dispatching ERS prior to the declaration of an EEA could prevent a number of ERS participants from continuing their participation to support grid reliability due to air permit limitations. The Commission should provide ERCOT flexibility to ensure that changes to ERS do not limit its effectiveness.

C. Remove barriers and limits to demand response, load management, distributed generation, storage, and aggregators' participation in ancillary services delivery.

The Texas grid is changing rapidly as more customers are making investments in stand-alone systems to provide their own personal resilience and reliability. Following Winter Storm Uri, sales for residential backup systems have surged[12] and DERs represent a substantial untapped resource to lower customer costs and enhance reliability. A 2019 TAEBA report quantified that value at $3.02 billion over 10 years due to wholesale market savings alone, and $5.47 billion when the value of avoided utility infrastructure costs are included.[13] The analysis was conducted with market data available prior to high sustained pricing periods experienced more recently, and therefore likely substantially understates the potential value DERs can bring as a customer hedge against other cost increases likely to be inflicted upon Texas customers due to rising costs of natural gas, securitization costs, and other Winter Storm Uri-related policy changes. TAEBA strongly recommends as part of the Commission's Phase 1 actions to be taken by the end of this year to include a directive to ERCOT to allow aggregations of DERs.[14] This policy decision

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[12] Chapa, S., "Gas-Loving Texans Pile into Home Solar, Batteries After Freeze", Bloomberg Green (April 2021), available at https://www.bloomberg.com/news/articles/2021-04-28/gas-loving-texans-pile-into-home-solar-batteries-after-freeze

[13] TAEBA, "Value of Integrating Distributed Energy Resources in Texas," (Nov. 2019), available at texasadvancedenergy.org.

[14] TAEBA recommends that in Phase 2A (early 2022), the Commission tackle barriers to standalone DERs and VPPs in conjunction with other work already planned related to implementation of SB 415 by Hancock and SB 398 by Menendez. Barriers to DERs that should be addressed include, but are not limited to the following:

- Establish a Standardized Interconnection Process for DERs by updating PUCT Subst. R. 25.211 and 25.212 to establish streamlined, transparent, and standardized interconnection requirements across utilities.

would be aligned with every other organized regional wholesale market in the U.S. DERs, whether in front of the meter (connected to the distribution utility's system) or behind the meter (customer-sited), and/or on a load shed circuit, should be able to participate fully in wholesale markets as "Virtual Power Plants." Participation includes portfolio level current operating plans, energy exports, regulation service, fast frequency response, non-spinning reserves, and emergency response service, and future ancillary services such as, but not limited to, contingency reserves.

D. Aggressively increase TDSP energy efficiency and demand response program funding and requirements, with strict focus on summer and winter peak reduction (per ACEEE); order EE-DR potential study.

TAEBA recommends that the Commission take steps under existing statutory authority to grow demand response and deepen the state's commitment to EE through appropriate modifications to PUC Subst. R. 25.181. As stated in prior filings, TAEBA recommends adopting an annual energy savings goal for utilities' residential and commercial service of one percent by 2025. This goal would provide meaningful opportunities for individual customers to implement EE measures (such as weatherizing their homes), saving on their bills year-round while reducing overall demand on the system. The foundation of any successful market design is EE. If customers are not first encouraged to implement cost-effective EE measures, then any subsequent development of generation and/or infrastructure likely will be oversized and more costly than necessary. ACEEE found in an analysis released in October 2021 that a set of seven existing Texas residential energy efficiency and demand response measures deployed aggressively over a five-year period could serve about 9 million Texas households and offset about 7,650 MW of summer peak load and 11,400 MW of winter peak load, approximately equaling the capability of the $8 billion "Berkshire-Hathaway" plan to install a fleet of gas combined-cycle generators, but at a 5-year total programmatic cost of about $4.9 billion, or 39 percent, less to achieve the same capacity benefits, but

- Eliminate Dedicated Feeder Requirements for DGRs and Consider Sectionalization of Feeders
- Direct Utilities to Design Systems Utilizing DERs as Contingency Plans so that DERs can support the local grid during a short outage or rotated incrementally to keep a neighborhood or community plugged in during a prolonged outage.
- Open a Proceeding Focused on Compensation for DER Value to Distribution System services such as local capacity relief, resiliency services, voltage and VAR support, and local frequency control.
- Require Utilities to Share Distribution System Capacity Hosting Information

with the added savings from fully avoiding additional costs for generator fuel, maintenance, and transmission infrastructure.[15]

TDSP load management programs should be expanded to allow for year-round demand response, including addressing winter peak demand. During the winter, residential devices such as cold weather heat pumps can provide much needed reliability as DR resources. During Winter Storm Uri, TAEBA members partnered with REPs to deploy these resources and provide relief during the weather emergency. TAEBA recommends that the Commission set an interim goal of developing DR programs that total at least 10 percent of system residential peak load. While this goal is modest given the projected growth of DR, particularly DR-enabled residential devices, we encourage the Commission to pursue a study of DR potential in ERCOT and modify this goal in line with the study results.

E. Continue power plant and transmission winterization.

In Project No. 51840, the Commission recently finalized phase one electric weatherization standards for generation entities and transmission service providers.[16] TAEBA broadly supports these technology-neutral standards as a mechanism to support resource adequacy and looks forward to continued progress toward more comprehensive standards in phase two of the Commission's weatherization proceeding.

F. Accelerate transmission interconnection.

TAEBA supports accelerating ERCOT's interconnection processes to speed the time to market for resources desiring to interconnect to the transmission grid. However, the Commission, ERCOT, and TDSPs must ensure that any changes to protocols and processes do not run afoul of statutory provisions that provide for non-discriminatory, open access, including PURA §§ 39.152(a)(2) and 39.203(g). In addition, as discussed during the October 28 Open Meeting, the Commission should be mindful of potential unintended consequences that may reduce investor confidence in the ERCOT market.

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[15] American Council for an Energy-Efficient Economy, Energy Efficiency and Demand Response: Tools to Address Texas' Reliability Challenges (Oct. 13, 2021), *available at https://www.aceee.org/white-paper/2021/10/energy-efficiency-and-demand-response-tools-address-texas-reliability*

[16] *Order Adopting New 16 TAC §25.55 as Approved at the October 21, 2021 Open Meeting*, Project No. 51840 (Oct. 26, 2021).

G. Improve ERCOT load and supply forecasting

Improving ERCOT supply and load forecasting is a near-term priority that should provide the Commission with greater visibility into how different resources would be expected to perform over time – particularly over multi-day events – and where additional resource deployment could potentially mitigate capacity shortfalls. This assessment is critical for assessing the value that long-duration energy storage resources can provide for extended disruptions.

IV. ERCOT Stakeholders' Proposal Addresses Legal Obligations Under PURA.

The Texas Legislature has expressed its policy preferences for shoring up the ERCOT market and grid following Winter Storm Uri. The ERCOT Stakeholders' proposal addresses several of these objectives, while at the same time remaining true to existing themes and mandates in PURA. First and foremost, none of the new laws passed by the Legislature in 2021 changed the fundamental principle that the Commission "shall authorize or order competitive rather than regulatory methods . . . to the greatest extent feasible" and be "practical and limited so as to impose the least impact on competition."[17] The ERCOT Stakeholders' recommendations pursue solutions based on competitive principles by, for example, proposing changes to improve price signals, allowing greater participation in providing ancillary services, and removing unnecessary barriers to market participation and growth.

At the same time as proposing competitive solutions, TAEBA recognizes that the Commission has an obligation to ensure that customers have access to "safe, reliable, and reasonably priced electricity, including protection against service disconnections in an extreme weather emergency."[18] Recent amendments to PURA (as part of Senate Bill 3) have raised the bar on this standard, including requiring the implementation of more rigorous and comprehensive weatherization measures for generation entities and transmission service providers.[19] TAEBA supports the Commission's efforts to meet these obligations.

Senate Bill 3 also added new statutory provisions concerning weather emergency preparedness and load shedding exercises and requirements.[20] The ERCOT Stakeholders' recommendations on DR, load management, DG, storage aggregators' participation, and TDSP EE and DR programs, not only will assist

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[17] PURA § 39.001(d).

[18] PURA § 39.101(a)(1).

[19] *See* PURA §§ 35.0021, 38.075.

[20] *See* PURA §§ 38.075, .076, and .077.

in evaluating appropriate load shedding priorities among utilities, but also will reduce the amount of involuntary load that would be required during extreme weather events. Many of these same recommendations also assist the Commission in furthering its legislatively directed goal of growing EE programs so that all customers have an opportunity to reduce energy consumption, summer and winter peak demand, and energy costs.[21] Finally, and perhaps most importantly, Senate Bill 3 amended PURA to require the Commission to review existing ancillary services and their costs to determine whether they continue to meet the needs of the ERCOT market and to evaluate whether additional ancillary services are necessary for reliability in ERCOT "while providing adequate incentives for dispatchable generation."[22] Moreover, Senate Bill 3 also requires ERCOT (under the Commission's direction) to modify the design, procurement, and cost allocation of ancillary services in ERCOT "in a manner consistent with cost-causation principles and on a non-discriminatory basis."[23] This new requirement must be accomplished within the boundaries of ensuring that "ancillary services necessary to facilitate the transmission of electric energy are available at reasonable prices with terms and conditions that are not unreasonably preferential, prejudicial, discriminatory, predatory, or anticompetitive."[24] Finally, Senate Bill 3 also separately requires the Commission to oversee ERCOT in (a) establishing requirements to meet ERCOT's reliability needs, (b) determining the amount and type of ancillary or reliability services needed during extreme weather events and when non-dispatchable generation is low, (c) procuring such ancillary or reliability services on a competitive basis, (d) developing qualifications for providing such services and penalties for failing to do so, and (e) sizing any such services procured to prevent prolonged rotating outages.[25]

The ERCOT Stakeholders' proposal recommends modifying ancillary services that are existing or in development to improve reliability quickly, and more specific recommendations have been filed by the Stakeholders, including TAEBA. Refining the ancillary services currently available and removing barriers to participation by other market participants can help ensure a flexible, fast-ramping grid to deliver energy when it is needed. These recommendations go a long way to satisfying the Commission's obligations under the new ancillary services and reliability provisions added to PURA by Senate Bill 3.

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[21] PURA § 39.905(a)(3).

[22] PURA § 35.004(g).

[23] PURA § 35.004(h).

[24] PURA § 35.004(f).

[25] PURA § 39.159(a)-(b).

V. PUCT Should Have Brattle Group and the ERCOT IMM Analyze Proposals for Cost and Reliability Impacts.

Several proposals have been put forth without any associated cost/benefit analysis. It would be imprudent, and inconsistent with past Commission practice, to adopt proposals that represent departures from the current market design without first analyzing those proposals for their reliability impacts, market impacts, and costs to the customers who ultimately must pay for reliability in this market. TAEBA requests that the Commission have the Brattle Group and the ERCOT IMM analyze costs, benefits, and risks of all proposals under consideration and provide results of analyses to stakeholders and the public for review.

VI. Responses to Specific Questions Posed By Commission Staff.

TAEBA responds only to Staff's Questions 2 through 5 at this time. TAEBA takes no position on the merits of the LSE Obligation proposal to which Questions 6 through 16 apply. TAEBA support further analysis, including costs, reliability, and market impact analyses, of the proposals that have been put forth. Consistent with the the ERCOT Stakeholders' filing of October 19, 2021, any major market design changes should be undertaken in a later phase of market evaluation, after the Commission has moved to address the "low-hanging fruit" recommendations. To reiterate the Guiding Principles set forth in the ERCOT Stakeholders' filing, which have roots in the agency's Mission Statement to "Protect customers, foster competition, and promote high-quality infrastructure," we recommend that the Commission:

- Address problems that caused and contributed to the February Uri disaster and prevent future disasters by improving grid operability and resource adequacy relative to demand.
- Prioritize solutions that can be implemented quickly and deliver meaningful reliability results quickly.
- Ensure solutions are competitive, performance-based and technology-neutral, including allowing customers to be part of the solutions.
- Adopt layered, complementary solutions for market and reliability assurance.
- Don't adopt proposals without clear understanding of their impacts on reliability, competition and costs.

2. What modifications could be made to existing ancillary services to better reflect seasonal variability?

See above response in Section III of these comments.

3. Should ERCOT develop a discrete fuel-specific reliability product for winter? If so, please describe the attributes of such a product, including procurement and verification processes.

a. How long would it take to develop such a product?

b. Could a similar fuel-based capability be captured by modifying existing ancillary services in the ERCOT market?

The report on the 2021 winter weather event by The University of Texas at Austin Energy Institute (EI Report) estimates that 6,700 MW of generation capacity failed to come online due to "fuel limitations" – a significant portion of which stemmed from natural gas supply constraints–[26] and therefore it will be critical for the Texas Railroad Commission to address weatherization of the natural gas supply system to promote fuel security for these thermal generators. It is neither necessary nor appropriate to create a discrete fuel-specific product to compensate thermal generators for their capital and operating costs to address the fuel dependency inherent in thermal generation technologies. To do so would constitute preferential treatment of these technologies over other resources. TAEBA supports technology neutrality as a fundamental principle for competitive markets. Nevertheless, if the Commission were to adopt such a product, the costs should be borne by all loads, as for ancillary services currently, or should be shared by loads and thermal units whose fuel dependency is the root cause that generates the need for fuel firming.

4. Are there alternatives to a load serving entity (LSE) Obligation that could be used to impose a firming requirement on all generation resources in ERCOT?

TAEBA disagrees with the premise underlying this question: an assumption that all generation resources in ERCOT should be firmed. If the ERCOT electricity system is metaphorically like a symphony,[27] where all resources and technologies have diverse characteristics they bring to the ensemble (e.g., ramp speed, duration, fuel source), then imposing a firming requirement on all generation resources is akin to requiring all instruments in the symphony to be modified to sound like a tuba because the conductor likes tubas best. However, imposing a mandate on all resources to firm will result in inefficient market outcomes and unnecessary, excessive costs to consumers. This approach is essentially no different from the historical problem of regulators allowing regulated utilities to "gold-plate" their systems and passing those excess costs to captive customers to pay – a problem that our restructured, competitive market was created specifically to eliminate. It's wholly unnecessary to impose a firming requirement, as the market is already responding on its own as demonstrated in the existing ERCOT interconnection queue. For example, developers are, on their own initiative, building new projects with storage to provide highly

[26] King et al., *The Timeline and Events of the February 2021 Texas Electric Grid Blackouts* at 9, 31, 45, published July 2021.

[27] https://www.statesman.com/story/opinion/columns/your-voice/2021/10/08/texas-rare-opportunity-shape-future-energy-market/6022253001/

flexible hybrid resources. The Commission's goal should be to encourage an overall electricity system that is diverse and *flexible*, including dynamic, flexible demand-side resources.

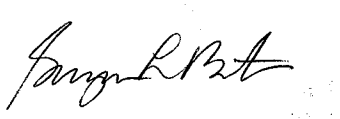
5. Are there alternatives to an LSE Obligation that could address the concerns raised about the stakeholder proposals submitted to the Commission?

See ERCOT Stakeholders filing made on October 19, 2021, in this project. TAEBA's discussion in Section III above goes into greater detail regarding implementation of the ERCOT Stakeholders' recommendations.

VII. CONCLUSION

TAEBA appreciates the Commission's consideration of these Market Design Recommendations and stands ready to work with the Commission, Commission Staff, and stakeholders to make the changes necessary to continue Texas's leadership and innovation in energy. We share a common goal: keeping the lights on and lowering costs for customers and businesses.

Respectfully submitted,



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Dated: November 1, 2021

EXECUTIVE SUMMARY OF TEXAS ADVANCED ENERGY BUSINESS ALLIANCE'S RESPONSE TO COMMISSION STAFF'S OCTOBER 26, 2021 QUESTIONS

Below is an Executive Summary of TAEBA's Market Design Recommendations in response to the Commission Staff's October 26 Request for Comments.

- Focus on enhancing grid flexibility to ensure that the system has adequate energy production throughout each day (and by extension, each season).
- Recognize that an evolving 21st Century electricity system necessitates going beyond the traditional "1-in-10" standard and instead finding new ways to define "resource adequacy" as expressed in six principles (See 2021 ESIG Report):
    - Quantifying size, frequency, duration, and timing of potential outage events is key to attracting the right resource solutions.
    - More granular modeling is required using many weather and grid scenarios.
    - There is no such thing as perfect capacity. (All technologies have limitations.)
    - Load participation fundamentally changes the resource adequacy construct.
    - Neighboring grids (to the extent feasible) and transmission should be modeled as capacity resources.
    - Reliability criteria should be transparent and economic.
- Adopt the ERCOT Stakeholders' "No-regrets" recommendations (Oct. 19, 2021)
    - Modify ORDC.
    - Modify Ancillary services.
    - Remove barriers to DR, load management, DG, storage, and aggregators' participation in A/S delivery (including directing ERCOT to allow "virtual power plants" to participate in ERCOT wholesale markets, consistent with all other organized electricity markets in the U.S.).
    - Expand EE and TDSP load management programs, with focus on winter/summer peak reduction (per ACEEE); order EE-DR potential study.
    - Continue power plant and transmission weatherization.
    - Improve ERCOT load and supply forecasting.
- ERCOT Stakeholders' recommendations address several legal obligations under PURA.
- Direct Brattle Group and the ERCOT IMM to analyze market design proposals, including the LSE Reliability Obligation, the ERCOT Stakeholder Group's "no-regrets" proposal, and

other proposals, for cost, market, and reliability impacts. This is consistent with ERCOT Stakeholders' recommendation to take a phased approach to market design changes.

- Encourage an overall electricity system that is diverse and *flexible*, including dynamic, flexible demand-side resources. Requiring "firming" for all resources is economically inefficient, costing consumers more than necessary.