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Review of Market Reform Assessment Produced by E3	**§ §**	**PUBLIC UTILITY COMMISSION OF TEXAS**

COMMENTS OF THE SOUTH-CENTRAL PARTNERSHIP FOR ENERGY EFFICIENCY AS A RESOURCE (SPEER)

NOW COMES the South-central Partnership for Energy Efficiency as a Resource ("SPEER"), and files these comments in response to the Commission staff request for written comment filed in this proceeding on November 10, 2022.

Introduction

The South-central Partnership for Energy Efficiency as a Resource (SPEER) is a 501(c)(3) non-profit regional energy efficiency organization (REEO). We are one of six in the country that aims to accelerate the adoption of advanced building systems and energy efficient products and services throughout the nation. We work collaboratively to strengthen local economies, improve health and quality of life, and improve the environment

Comments

In 2021, Winter Storm Uri revealed many vulnerabilities to the state's electric grid. The longer than expected freezing temperatures caused typically reliable infrastructure to malfunction and generator outages permeated throughout Texas and the region. Stemming from the failures of Winter Storm Uri, the Texas Legislature passed Senate Bill 3. This legislation aimed to

address grid reliability in future extreme weather events through several reforms, including weatherization of grid resources, allowing for earlier deployment of emergency communications, and evaluation of the grids resource capabilities in high demand, low supply scenarios.

Following the Legislature's direction, in December 2021, The Public Utility Commission of Texas (PUCT) adopted and began implementing many of the reforms required of the agency in this legislation through their Phase I approved blueprint. Phase I raised minimum contingency levels, amended the Operating Reserve Demand Curve (ORDC), called for higher energy efficiency program standards, facilitation of virtual power plants or distributed energy resources, allowed for earlier deployment of Emergency Response Service alerts, among several other changes. While not all of the measures have been completed to date, some of changes showed promising results for Phase throughout the record-breaking summer of 2022, where Texas set 11 new all-time peak demand records, all while not seeing any widespread grid failures. These changes have withstood extreme demand throughout the most recent summer season, additional reforms and enhancements are necessary due to the states increasing population and economic growth (over 16% and 30% growth respectively in the last decade), more frequent forecasted extreme weather, aging grid infrastructure, and the need to lower electricity costs to Texans.

To mitigate these concerns, The PUCT determined a second phase of the market redesign project (Phase II) is necessary to address future increased demand for long-term reliability. They commissioned Energy and Environmental Economics, Inc. (E3) to evaluate the following seven market design proposals: Energy-Only (status quo), Load Serving Entity Reliability Obligation (LSERO), Forward Reliability Market (FRM), Performance Credits Mechanism (PCM), Backstop Reliability Service (BRS), Dispatchable Energy Credits (DEC), and a BRS and DEC Hybrid. Based on the findings of E3's report, each of the proposals have their own advantages

and disadvantages. However, before delving into the staff questions below, SPEER believes it is important to note some of the assumptions made throughout the report result in inaccurate conclusions. Furthermore, we maintain that completing and possibly expanding many of the Phase I changes, with particular focus on energy efficiency, demand response, and distributed energy resources (DER), would dramatically increase the state's grid reliability and resiliency in the short-term and long-term while being more cost-effective to Texans and allow the state to further analyze any wholesale market redesign proposals. Alone, these resources will not ensure total reliability to the grid. During Winter Storm Uri, the state was unable to access the necessary energy and as a result was short 20 GW of energy and no one solution reviewed by E3 or other entities alone is capable of doing so. However, increased utilization of the Phase I resources provides significant demand reductions with fast deploying, cost-effective, and reliable measures that can offset much of the state's growth in demand.

Energy Efficiency

While being the first state in the nation to implement an energy efficiency resource standard goal, Texas has fallen to last in the pack of states that maintain such goals. The last meaningful reforms to the current goals were adopted by rule in 2011. Over the last decade, the energy efficiency goal and program spending has stagnated while the Texas population and economy have continued to grow precipitously. As many as two-thirds of Texas homes are over 20 years old and as a result these older, inefficient homes yield a significant portion of Texas' peak demand through ineffective residential heating and cooling systems. Additionally, low-income Texans shoulder a much higher energy burden, and many are having to choose between keeping their homes at healthy temperatures or sacrificing food or necessary medications for health.

The American Council for and Energy Efficient Economy (ACEEE) produced its Energy Efficiency and Demand Response for Texas study in 2021 which showed proactive investment in energy efficiency would yield thousands of MWs in peak demand savings for both summer and winter seasons. The state could offset 7,650 MW of summer peak load and 11,400 MW of winter peak load ostensibly counteracting much of the projected growth in demand and substantially addressing future capacity needs. The ACEEE proposal would cost roughly $5B over the next five years, however peak load reduction and energy bill savings would be accumulated over the 10-20 year measure lives of the energy efficiency measures. If the PUCT were to consider a proposal similar to ACEEE's, the state would recover some of the investment through deferred maintenance and infrastructure build out and reduced congestion costs. In comparison, the E3 analyses showed annual incremental costs for PCM, FRM, or LSERO over $460M respectively, and for BRS at over $360M through 2026, however those incremental costs would continue in perpetuity where targeted energy efficiency additional investment could stop after five years, and demand reductions would continue to be seen for decades. This would also assume energy efficiency programs provided by utilities would continue, but at a reduced amount. The added incremental capacity for the PCM, LSERO, FRM, and BRS is 5,630 MW of natural gas capacity. While demand will grow, compensating for that growth through energy efficiency program improvements is the most cost-effective way to ensure reliability and resiliency to the grid.

SPEER believes additional review and improvement upon current energy efficiency programs, rules and subsequent goals would significantly benefit the state in the long term. Studies like ACEEE's show energy efficiency reduces total demand,

increases reliability and resiliency, all at a cost-effective rate. Should the PUCT seek to amend their current energy efficiency goals, they have the authority to do so at their convenience. Improving energy efficiency standards is one of the several Phase I reforms that the PUCT approved last December which has not been completed to date. The PUCT has not officially begun to review their energy efficiency goals and practices, however in October 2022, their Energy Efficiency Implementation Project public meeting held a brainstorming session with industry stakeholders to identify potential changes and improvements to the goals and rules should a rulemaking open in the future. Several reforms were identified that show promise to reduce the state's electric demand while allowing utilities to deploy their programs in a flexible, responsible way.

Distributed Energy Resources

Distributed energy resources (DER) are consumer-side smaller generation and demand resources that are close to load and interconnected to the electric grid. DERs provide many benefits to the population including reduced energy costs through offsetting utility buildout for more costly generation, transmission, and distribution substations. They also provide reliability through islanding their own generation and storage thereby reducing demand on the whole grid. DERs currently account for roughly 3,000 MW in ERCOT, but they are growing rapidly with 25% of those DER MWs installed in 2021. The PUCT has approved and is currently operating a pilot program to review distribution planning, data accessibility, and better integration into ERCOT.

Consumers are interested in utilization of DERs for lower costs and increased reliability and resiliency. With the growth in interest of these systems from consumers

and investment from private industry, the inclusion of DERs in the Phase I plans was forward looking and necessary. Further analyses to better understand how to integrate new DER systems into ERCOT and capture the added benefits to the grid is needed. Over the next five years, the state could see thousands of additional MWs from DERs that would assist in offsetting total demand growth. It would also mean that the astronomical costly proposed Phase II market redesigns might not be as necessary in the long-term.

Demand Response

In July, the PUCT approved a rule change to the Emergency Response Service (ERS) increasing the budget and availability of ERS services. The earlier utilization of these services allowed the grid to remain operational during emergency peak demand conditions during summer peaks. The ERS is a demand response program that asks customer classes to voluntarily reduce their consumption for a short period of time through reducing or completely stopping their energy use while the grid is stressed, and these customers will be compensated accordingly. Currently, industrial and large commercial customers are compensated for their participation in demand response programs, while residential customers are not guaranteed compensation. Utilities are authorized to contract with REPs or third-party providers for all classes, but most of this focus is on industrial and commercial loads.

SPEER believes the current demand response programs can act as necessary insurance products to the state when reserves are low, however additional improvements are needed to better incorporate residential customers. Residential customers account for the majority of peak demand in both summer and winter seasons primarily through

heating and cooling. Demand response is incorporated into the E3 analysis; but the report did not assess the impacts of targeted residential demand response to the grid. In the ACEEE study, they estimated targeted residential demand response programs that could provide upwards of an additional 5,000 MW of peak demand reductions in peak conditions. The costs of their estimates are incorporated in their above-mentioned energy efficiency proposal.

It should be reiterated that there is not a single solution that will fully address the needs for the Texas grid in the future. Investment in generation has continued despite not having an approved Phase II design that may end up being too costly and hurting all Texans through passed down costs. Over the next several years, the state will see increased deployment of stand-alone storage facilities with several in the queue already, additional generation projects are also in the queue, better understanding of how to integrate DERs through its pilot program, and large amounts of potential federal funding to jumpstart increased spending on energy efficiency projects. SPEER believes a thorough review of the completed Phase I reforms, and as necessary expansion of the Phase I proposals, will provide much needed relief to the grid and allow the PUCT and the Texas Legislature time to dive deeply into the PCM, BRS, DEC and other market designs to ensure viability as needed for the long-term.

SPEER responses to staff questions are listed below:

1. **The E3 's report observes that the PCM has no prior precedent for implementation, does this fact present a significant obstacle to its operation for the ERCOT market?**

With no prior precedent, SPEER is concerned that the PCM may be too novel an idea without adequate analysis to ensure seamless implementation for grid operations. We are

concerned that the costs have been underestimated which will ultimately end up on the shoulders of the consumer for a product that may not fully address the issue of peak demand growth. Additional analysis should be conducted to review the efficacy of the Phase I reforms and how their long-term results would impact reliability.

2. **Would the PCM design incentivize generation performance, retention, and market entry consistent with the Legislature's and the commission's goal to meet demand during times of net peak load and extreme power consumption conditions? Why or why not?**

SPEER believes there is no guarantee of new and improved performance, retention, and market entry. The ERCOT market incentivizes new resources currently so there is no indication that the PCM would increase the quality of new resources.

3. **What is the appropriate reliability standard to achieve the goals stated in Question 2? Is 1-in-10 loss of load expectation (LOLE) a reasonable standard to set, or should another standard be used, such as expected unserved energy (EUE). If recommending a different standard, at what level should the standard be set (e.g., how many MWh of EUE per year)?**

SPEER is generally supportive of the PUCT identifying reliability targets, but is unsure how effective a mandated standard would be in practice or on costs. When considering the failures from Winter Storm Uri, the impacts would not have been accurately depicted due to the exclusion of magnitude and duration from the LOLE criteria. Furthermore, the E3 report states that in order to appropriately develop a reliability standard further analysis is needed.

"Further analysis would be needed to develop a representative long-term load sample that incorporates this type of extreme event at an appropriate probability and to develop a corresponding reliability standard" (E3, Pg. 35).

The direction from the Teas Legislature was clear, the intent of the bills that came out of the 88th session was to ensure another Winter Storm Uri grid catastrophe did not happen again. Texas should be careful to promote cost-effective reliability goals and pursue passive survivability measures to ensure safety and security for its citizens and businesses during extreme weather while addressing reliability.

4. **The E3 report examines 30 hours of highest reliability risk over a year. Is 30 the appropriate number of hours for this purpose? Should the reliability risk focus on a different measure?**

The E3 report suggests 30 hours of highest reliability risk of a year is appropriate and roughly equivalent to peak net load conditions, however their analysis suggests that these hours are predictable without adequate review of what causes hours of highest reliability risk and peak net load. Additionally, the exclusion of 2019-2022 creates assumption risks by leaving out the exact events that caused most stress on the grid. ERCOT reliability problems must be fully identified and vetted before establishing a time frame for number of hours for reliability risk.

5. **Over what period should the hours of highest reliability risk be determined? A year, a season, a month, or some other interval? At what point in time should that determination be made?**

This determination should be made after thorough analysis has been conducted to identify and better understand hours of reliability risk and peak net load. E3 suggested hours of highest

reliability risk coincide with peak net load, however peak net load can result from a number of scenarios from high demand caused by extreme weather, low renewable output, thermal power outages, among others possible causes. It is imperative that ERCOT fully understand these causes and what drives them before establishing determined periods of highest reliability risk.

6. **Would a voluntary forward market for generation offers and a mandatory residual settlement process for LSE procurement provide additional generation revenue sufficient to incentivize resource availability in a way that improves reliability?**

It is unknown yet weather a voluntary forward market with a mandatory residential settlement process would incentivize additional generation to improve reliability. Since renewable generation is left out of the current PCM design, in the long-term there is a likelihood that those resources could cease investment in the state. Currently, generation investment continues to occur in the state with federal funding flowing for solutions like stand-alone storage and energy efficiency that will provide additional reliability. SPEER believes the best way to improve reliability is to fully implement and review the Phase I measures and consider short-term bridge products while the Phase I rollout is being completed.

7. **Does a centrally cleared market through ERCOT sufficiently mitigate the risk of market power abuse? Should additional tools be considered?**

A centrally cleared market does not mitigate the risk of market power abuse. With specific regard to the PCM, the unpredictable nature of when net peak load will be assessed could lead to artificially established scarcity events.

8. **If the commission adopts a market design with a multi-year implementation timeline, is there a need for a short-term "bridge" product or service, like the**

Backstop Reliability Service (BRS), to maintain system reliability equivalent to a 1-in-10 LOLE or another reliability standard? If so, what product or service should be considered?

The BRS bridge product appears to be a strong fit to help maintain reliability in Texas while additional generation is built, and Phase I reforms are completed. The BRS would provide needed certainty to address potential demand shortfalls in the near-term at a lower cost to ratepayers in the interim. As noted in question 3, a reliability goal is supported, but at this time should not be mandatory.

9. **If implementing a short-term design as a "bridge" delays the ultimate solution, should it be considered? Is there an alternative to a bridge solution that could be implemented immediately, using existing products, such as a long-term commitment to buy the additional 5,630 MW of Ancillary services necessary to achieve the 1-in-10 LOLE reliability standard?**

In conjunction with the Phase I reforms, if the PUCT aggressively pursues improved energy efficiency programs and identifies ways to better integrate DERs in ERCOT, the BRS should work effectively as a bridge mechanism. As discussed above, energy efficiency, demand response, and DERS are solutions which can offset the assumed loss of 5,630 MW on the system and can be rapidly deployed over the next five years with a measure life of 10 to 20 years, at a fraction of the current estimated costs of the PCM and other long-term untested proposals. Additional assistance from the PUCT and Legislature on adopting newer building codes will significantly reduce total demand on the grid.

10. **What is the impact of the PCM on consumer costs?**

The impact on consumer costs is uncertain at this time. In the PCM model, customers would likely be back billed for PCs which would negatively impact fixed-rate contracts. Another concern for consumer costs can be gleaned from the E3 report regarding the exclusion of renewables from participation, which would have an adverse impact on costs to the consumer in the long-term.

> "Implemented such a policy (excluding renewables) would decrease system costs by the quantity of reliability credit payments that would have gone to wind and solar resources. However, in the long-run, this reduction in compensation could result in small wind and solar buildout, which would have the effect of increasing energy prices." (E3, Pg 74)

Over the last decade renewables have saved Texas over $27.8B ultimately reducing total consumer energy costs. Not only does their exclusion negatively impact energy prices, but there is concern that reduced renewable generation would reduce reliability in the system and as noted in the report require even more high prices natural gas procurement to offset the loss of renewable power and ensure the proposed LOLE reliability standard be achieved.

11. What is the fastest and most efficient manner to build a "bridge" product or service, such as the BRS, in order to start sending market signals for investment in new and dispatchable generation, while a multi-year market design is implemented by ERCOT? Please provide specific steps.

Keeping soon to be retiring generators in reserve like the BRS proposal prescribes would allow the state to maintain reliability during extreme weather events, specifically in winter while the remainder of the Phase I reforms are implemented.

12. **In what ways could the Dispatchable Energy Credit (DEC) design be modified through quantity and resource eligibility requirements, e.g. new technology such as small modular nuclear reactors, in such a way that it incentivizes new and dispatchable generation?**

Conclusion

SPEER appreciates your consideration of the important issues discussed in these comments and stands ready to participate as the proceeding moves forward.

Respectfully Submitted,

Todd McAlister

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Todd McAlister
Executive Director
SPEER
TMcAlister@eepartnership.org

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COMMENTS OF THE SOUTH-CENTRAL PARTNERSHIP FOR ENERGY EFFICIENCY AS A RESOURCE (SPEER)

Executive Summary

Texas' energy demand issues will continue to grow making the grid less reliable year after year. By not addressing the demand side of the problem and only focusing on added capacity, the state is likely to spend enormous amounts of taxpayer dollars on solutions in search of problems. Following the direction of the Texas Legislature the PUCT approved and has begun implementing many of their Phase I blueprint proposals, however much is left to be completed. The inclusion of energy efficiency, demand response, DERs and other demand-side mechanisms is an important step in the right direction, but these measures are either in early stages of implementation or have not begun yet, and their impacts are not yet analyzed for the state. Many studies have proven these mechanisms to increase reliability and resiliency cost effectively by reducing total demand, limiting the flow of energy in peak conditions, and providing near load solutions during extreme weather events. SPEER recommends continuing these efforts and allowing the full Phase I reforms to be enacted prior to moving forward on Phase II changes.

SPEER believes that the analysis provided by E3 is flawed, and further maintains that the proposals included in the study may not adequately identify and address the root problems facing the state grid (e.g. population and economic growth, extreme and/or prolonged weather, scarcity events caused by thermal outages or low renewable output). Sound policy decisions must be

based on accurate baseline information keeping in mind who will ultimately pay the bill, in this case the citizens of Texas. Ensuring the complete rollout of Phase I and thorough analysis behind its impacts and costs will allow the Commission to have a full understanding of what their Phase I reforms accomplished while providing a more effective baseline for future market design proposals as needed.

The primary Phase II proposal, the PCM, is novel and may have benefits to add to the state, however because of how new the concept is, it is untested and not fit for Texas at this time. The costs to consumers are unknown, but current estimates and assumptions lead to the conclusion that Texans will be paying more for their energy in the years to come.