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

LOWER COLORADO RIVER AUTHORITY'S COMMENTS ON PHASE II MARKET DESIGN CONCEPTS

TO THE HONORABLE PUBLIC UTILITY COMMISSION OF TEXAS:

The Lower Colorado River Authority (LCRA) respectfully submits the attached comments and executive summary in response to Commission Staff's December 6, 2021 memo on Phase II market design concepts and principles.

I. PHASE II MARKET DESIGN PROPOSALS

In addition to the Phase I enhancements outlined in the memo, LCRA also supports creation of a Backstop Reliability Service as the primary feature of a near-term market design solution. While Phase I represents an important set of changes to address specific operational issues designed to improve grid resiliency, those changes alone will not send the clear market signals needed to incentivize sufficient new dispatchable generation in ERCOT. Nor will those improvements address the low expected reliability performance standard in ERCOT.[1]

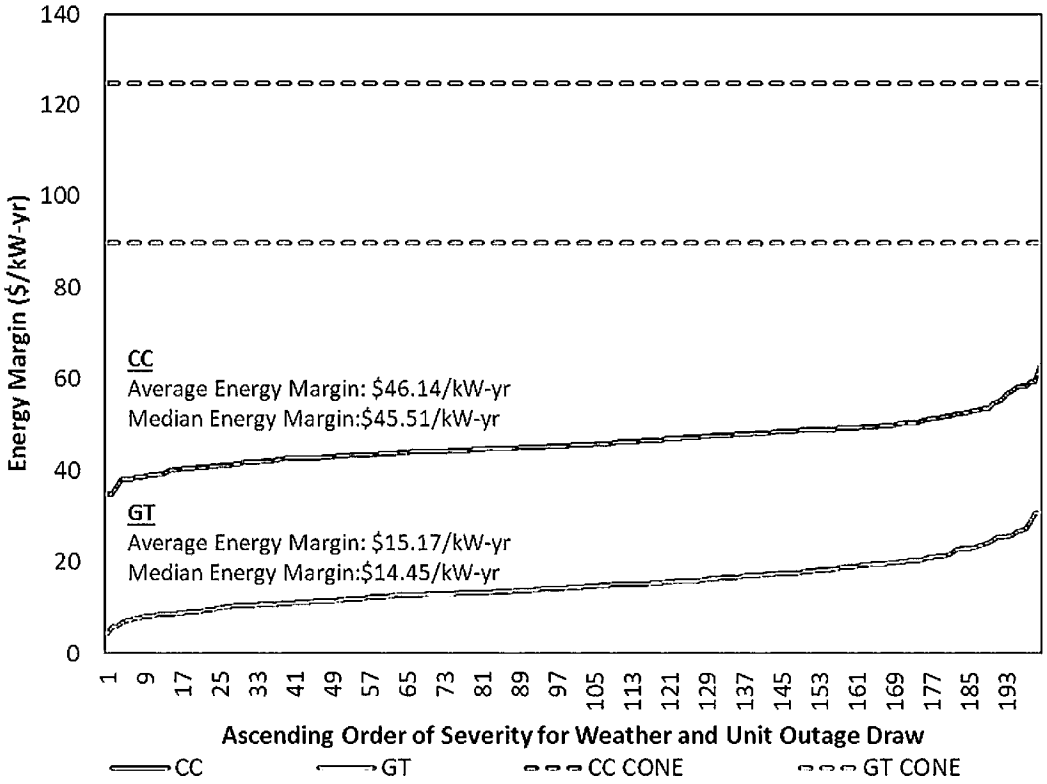
A. Market revenues are insufficient to maintain and incentivize dispatchable generation, even though dispatchability is needed more than ever to support grid reliability.

According to the latest analysis in the ERCOT 2021 Revenue Adequacy Study, revenues for gas generation resources are expected to be below the threshold required to cover the cost of a new gas resource, under a wide range of weather and generator performance scenarios.[2]

[1] *See* 2021 ERCOT Revenue Adequacy Study prepared by Astrapé Consulting and ERCOT Staff (filed Nov. 23, 2021).

[2] *Id.* at 7-8 & Figure ES1.

Figure ES1. Distribution of Energy Margins for CCs and GTs

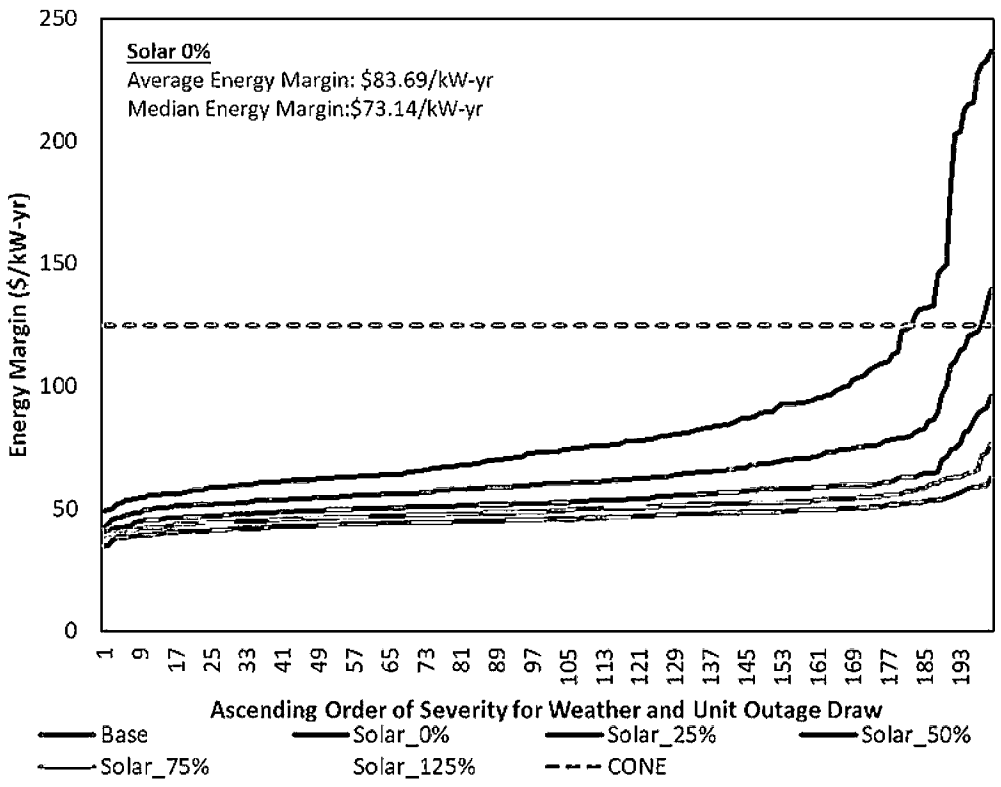


[3]

As the Commissioners are aware, this revenue inadequacy will persist unless meaningful market reforms are introduced, given the expected high reserve margins from the influx of renewable generation resources. Indeed, as penetration of intermittent renewable resources increases, ERCOT's expected reserve margin for summer 2022 is 26.4%—a dramatically higher reserve margin than the 8.1% reserve margin for summer 2019 just three years prior. Insufficient market revenues combined with ballooning renewable penetration are exerting significant economic pressure on existing resources to retire. Even if ERCOT sees no additional renewable resources in 2022, the average energy margin is still expected to be below the cost of new entry for gas resources. Any additional solar or wind penetration only further reduces those margins.

[3] Source: 2021 ERCOT Revenue Adequacy Study prepared by Astrapé Consulting and ERCOT Staff (filed Nov. 23, 2021) at 8.

Figure 21. CC Energy Margins for Solar Penetration Sensitivities

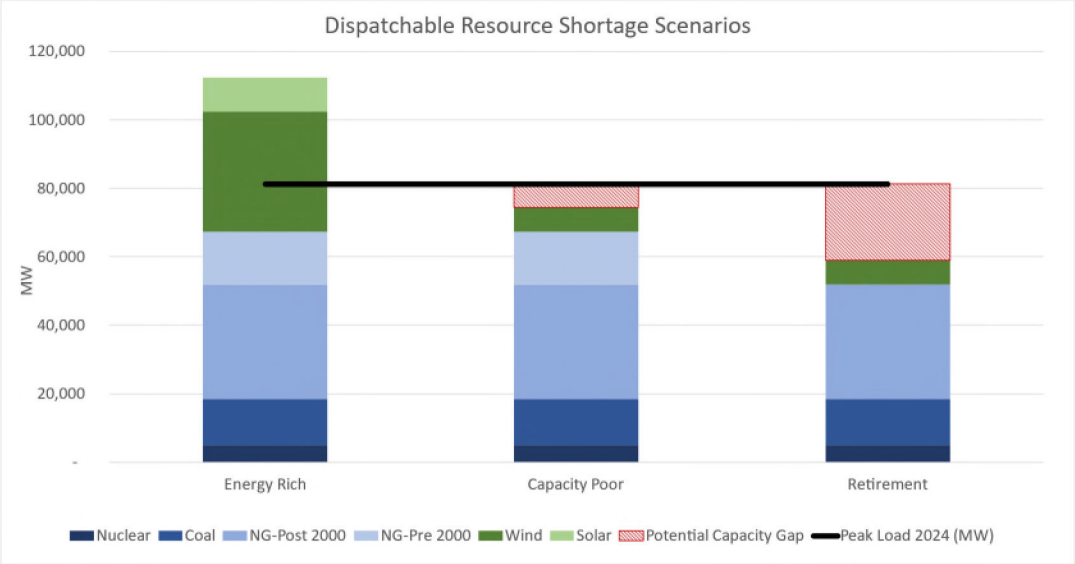


[4]

ERCOT's current generation mix is rich with energy-producing resources, but is still at risk of having insufficient capacity available during the most critical times. To highlight this gap, the figure below demonstrates three scenarios using the expected load from ERCOT's latest Capacity, Demand & Reserves Report. The "Energy Rich" case highlights the abundance of capacity ERCOT could have when all resource types produce to their maximum potential. The "Capacity Poor" case highlights the periods when intermittent resources are unable to produce to their full energy output due to lack of wind and sunlight. In this case, ERCOT relies on dispatchable resources to ramp up and meet system demand. The "Retirement" case highlights the expected 2024 peak demand and the deficiency that would result from the retirement of gas

[4] Source: 2021 ERCOT Revenue Adequacy Study prepared by Astrapé Consulting and ERCOT Staff (filed Nov. 23, 2021) at 38.

resources built before 2000. Each case is compared to the 2024 peak load, which illustrates close to a 0% reserve margin in the Capacity Poor and Retirement cases.



Because, as Astrapé points outs, ***reliability events are still possible even with ample reserves***,[5] the need for new and existing dispatchable resources during times of low intermittent resource production is more critical than ever.

B. The Commission should endorse and prioritize implementation of a Backstop Reliability Service.

For all the reasons set forth in the Commissioners' memos and discussed at the recent open meeting work sessions, the Backstop Reliability Service is a targeted solution that can provide the revenues needed to incentivize dispatchable generation in ERCOT. Just as importantly, this solution has a flexible design that can be implemented sooner than other types of reforms and appropriately sized based on changing market conditions.

Due to the lengthy implementation timeline anticipated for many of the other proposals, LCRA encourages the Commission to direct ERCOT to prioritize implementation of a Backstop Reliability Service as quickly as possible to address the need for additional dispatchable resources

[5] *Id.* at 5.

and prevent the retirement of existing resources. As a Backstop Reliability Service is developed and implemented, further analysis and discussions around other Phase II proposals can continue. If a load-side reliability mechanism is ultimately determined to be a more efficient or cost-effective solution to address the needs of the ERCOT grid, the Backstop Reliability Service can be phased out in step with the introduction of a new market design.

However, LCRA remains concerned that if the Commission's final market design blueprint endorses *only* a load-side reliability mechanism that could take years to fully develop and implement (or that fails to confront the underlying market design issues outlined in these comments), this could have significant consequences for the viability of the energy-only market. Such an outcome would also raise questions about whether the requirements of Senate Bill 3 and the Governor's directives to the Commission have been met.

II. CONCLUSION

LCRA appreciates the Commissioners' commitment to solving the enormous challenges that face the ERCOT wholesale market and is likewise committed to working with the Commission, ERCOT, and stakeholders to implement the Commission's final market design plan.

Respectfully submitted,

Emily R. Jolly
State Bar No. 24057022
Vice President, Regulatory Affairs &
Associate General Counsel
Lower Colorado River Authority
P.O. Box 220
Austin, Texas 78767-0220
Telephone No.: (512) 578-4011
Facsimile No.: (512) 473-4010

Emily R. Jolly

LCRA's Executive Summary

- In addition to the Phase I Solutions in the memo, the Commission needs to prioritize a near-term directive that will send a clear market signal to build additional dispatchable resources. Specifically, the Commission needs to approve a Backstop Reliability Service and order ERCOT to implement it on an accelerated timeline.
    - As the 2020 reserve margin study and 2021 ERCOT Revenue Adequacy study highlighted, a 1 in 2 year loss of load standard is expected for ERCOT. This is unacceptably low. A new Backstop Reliability Service will provide market incentives for additional dispatchable capacity to reduce expected loss of load events.
    - According to the 2021 ERCOT Revenue Adequacy Study, a combined cycle and gas turbine resource are expected to recover only 37% and 17%, respectively, of their costs for 2022. The implementation of a Backstop Reliability Service is essential to reverse these negative market price signals in order to not only incentivize new generation but also prevent existing dispatchable resources from retiring before new resources can be built to replace them.
- A Backstop Reliability Service solution fulfills the requirements of Senate Bill 3 and the Governor's directives.
    - This solution will compensate resources for the valuable backstop service they provide whenever intermittent resources do not show up.
    - This product will increase market price signals and support real-time prices, which will benefit both existing and new resources looking to invest in ERCOT.
    - A Backstop Reliability Service can be built on top of the existing market design, which values both resources that provide energy in real-time as well as standby resources that are properly maintained and well prepared to provide energy when system conditions require.
- As a Backstop Reliability Solution is developed and implemented, other long-term solutions can still be evaluated and refined.
    - Tracking the impact of a backstop product on market signals and forward price curves will provide valuable data and help the Commission "right size" any future load-side solution.
- As the Commission continues to look at potential load-side solutions, fairness and an even playing field for all load-serving entities and their customers should remain paramount objectives.
    - Depending on the specifics of its design, a Dispatchable Energy Credit program may be susceptible to potential loopholes, and the structure of alternative compliance payments could impact market behavior in ways that should be fully evaluated. Additionally, LCRA echoes the comments from the Brattle Group that this proposal could have the unintended consequence of accelerating the retirement of existing resources without commensurate benefits to the market.
- If the Commission continues to evaluate an LSE Obligation as a long-term solution, the concept should focus on net peak load to account for the growing renewable penetration in ERCOT. Additionally, an LSE Obligation should require an obligation based not only on summer peak but also winter peak in order to protect against the impacts of future Winter Storm Uri-type events.