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PROJECT NO. 54335

REVIEW OF MARKET REFORM ASSESSMENT PRODUCED BY ENERGY AND ENVIRONMENTAL ECONOMICS (E3)	**§ § § §**	**PUBLIC UTILITY COMMISSION OF TEXAS**

Auto-Grid's Comments on Commission Staff's Questions to E3 Report

Auto-Grid appreciates the opportunity to respond to Commission Staff's questions regarding E3's ERCOT market design report, filed in Project No. 54335. Auto-Grid is a subsidiary of Schneider Electric and provides technology that manages and optimizes distributed energy resources (DERs) to serve grid needs, ranging from residential smart thermostats and EV chargers to industrial-scale equipment such as chillers, pumps, and on-site generators. Auto-Grid looks forward to working with Commission staff and stakeholders on the broader ERCOT market design discussions.

Response to Commission Staff's Questions for Comment:

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?**

The fact that this regulatory structure has never been implemented before may lead to delays due to regulatory deliberation or could potentially introduce technical risk. Once the implementation of the new market design sends market signals to encourage new investments, the resulting incentives can be calculated. However, it could be four to five years before any new generators break ground, and two to three more years until that capacity actually enters the market. Meaningful reliability improvements could be eight to ten years away.

A more immediate and impactful response to reliability issues in ERCOT should be considered. For example, an alternative method to compensate demand response opportunities during peak load periods should be considered. With the proposed market structure, demand response capacity is not fully recognized for its true potential to prevent blackouts.

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?**

The PCM could create additional revenue streams for investments in firm capacity. The issues of note are:

Is this new revenue stream quantifiable and meaningful enough to obtain financing for multi-billion-dollar investments?

To what extent does the PCM design place downward pressure on Day Ahead and Real Time market pricing, a better appreciated revenue stream in current financing decisions?

Due to the long-term nature of traditional energy sources to meet the reliability needs of ERCOT through the proposed PCM, a short-term or "bridge" solution such as demand response solutions should be considered as an alternative option to provide reliability and to prevent the loss of load during extreme weather events.

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)?**

The Loss of Load Expectation reliability standard is as good as any for these purposes, but there is a case to be made that the 1-in-10 LOLE expectation is not stringent enough. Because of the intractable dependency of so much of the state's infrastructure upon the electric grid, even small outages have disproportionate downstream effects. Inconvenience to customers, business losses, and even loss of life notwithstanding, there appears to be an expectation of perfection – of zero outages – among state elected representatives, civic leaders, the press, and of social welfare advocates. A 1-in-10 result could be exactly achievable, yet when that one outage happens, there will again be calls to restructuring the grid due to its "unreliability."

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?**

If the term "Reliability Risk" is replaced with "Scarcity," then an easy measure to use would be scarcity pricing. This would not be tied to an arbitrary number of hours, but to a threshold price. Since many price spikes are short-lived, the approach will place higher value on resources that have high flexibility.

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?**

Yearly analysis of all hours with prices above the threshold price (see response above) would give an accurate view of which resources best contributed to reliability over the entire year.

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?**

This could create a new revenue stream that could help incentivize resource availability, but there would be a great deal of uncertainty in the first few iterations of the program. Additional details would need to

be provided before ensuring that the generation offers would provide sufficient revenue to incentive resource availability.

Alternatively, a clearly defined demand response program structure could help mitigate near-term reliability issues and could clearly incentivize demand side management during times of peak load.

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

Yes. The back-cast calculation using the top 30 historic peak hours helps mitigate market power risk.

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, to maintain system reliability equivalent to a 1-in-10 LOLE or another reliability standard? If so, what product or service should be considered?**

Yes, a short-term bridge, such as demand response services, would be highly valuable in the short term since the implementation of the PCM and the development of a new generator could take up to eight years for construction. The Backstop Reliability Service could be effective, plus generate revenue enough to keep older units from being retired.

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?**

If the PCM provides reliability in eight to ten years, and given historic trends of increased outages and shortfall of capacity, the AutoGrid team highly recommend that a "bridge" solution should be proposed.

Given the recent heat waves in California in 2021 and the successful implementation of demand response across the state to help prevent blackouts, AutoGrid recommends that a "bridge" solution of a clear demand response program would help incentivize and properly compensate the use of demand response and distributed energy resources during peak events. This type of program could be implemented immediately and see near-term impacts on ERCOT's reliability.