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**Public Comment on Public Utility Commission of Texas Market Reliability Reforms  
Project Number 54335**

Satoshi Energy Corporation  
December 15, 2022

**Executive Summary:**

True to the values of Texas, the ERCOT energy only market creates economic incentives through price signals that allow businesses, innovators, and entrepreneurs to provide solutions to reduce costs and increase reliability. Our company is a perfect example of those price signals working. We help develop location agnostic flexible loads at utility scale, typically greater than 100 MW. Leveraging the ERCOT price signal, we develop projects at congested and curtailed renewable energy generation sites, which offer the lowest priced nodes in ERCOT. As shown below, the flexible loads we develop respond to price signals and decrease consumption during high priced hours, improving grid reliability. Our projects highlight how a well designed market will enable loads to improve reliability, increase energy demand in transmission constrained areas, and provide economic uplift to constrained generation assets.

The market redesign should focus on building the right ancillary services and ERCOT operational tools that allow businesses, innovators, and entrepreneurs to provide adequate reliability on the grid instead of implementing a redesign that, per the E3 report, moves more than 20% of the cost of energy from energy price signals to a first of a kind Performance Credit Mechanism.

Under the PCM market, loads would be incentivized to decrease energy consumption and economic activity to attempt to avoid 30 hours that may or may not be a reliability concern. We understand this is not the goal of the Legislature or Commission, but it would be a reality with the implementation of PCM.

Instead, better operational tools, reliability programs, and ancillary services should be implemented as solutions. A program that allows ERCOT to control large flexible loads during low reliability emergencies and, in exchange, removes the load exposure to the PCM requirement better aligns incentives. For loads that want more control over when to respond, new ancillary service programs that allow loads to participate can provide appropriate price signals.

As stated by the Commission and in the E3 report, the goal of the market redesign is to ensure adequate reliability in ERCOT. As recent reliability events show, sufficient generation capacity has not been a core problem. Instead, ERCOT's operational tools are the core of the challenge. Addressing the operational issue should be the focus of the redesign to provide the energy professionals at ERCOT with the right tools to run a reliable energy system.

Flexible loads can offer an incredible tool to ERCOT to increase reliability. The 24 hour period in figure 1 provides actual data from one of our projects responding to high price signals and taking advantage of low and negative price signals. These types of solutions should be encouraged and promoted by the market redesign.

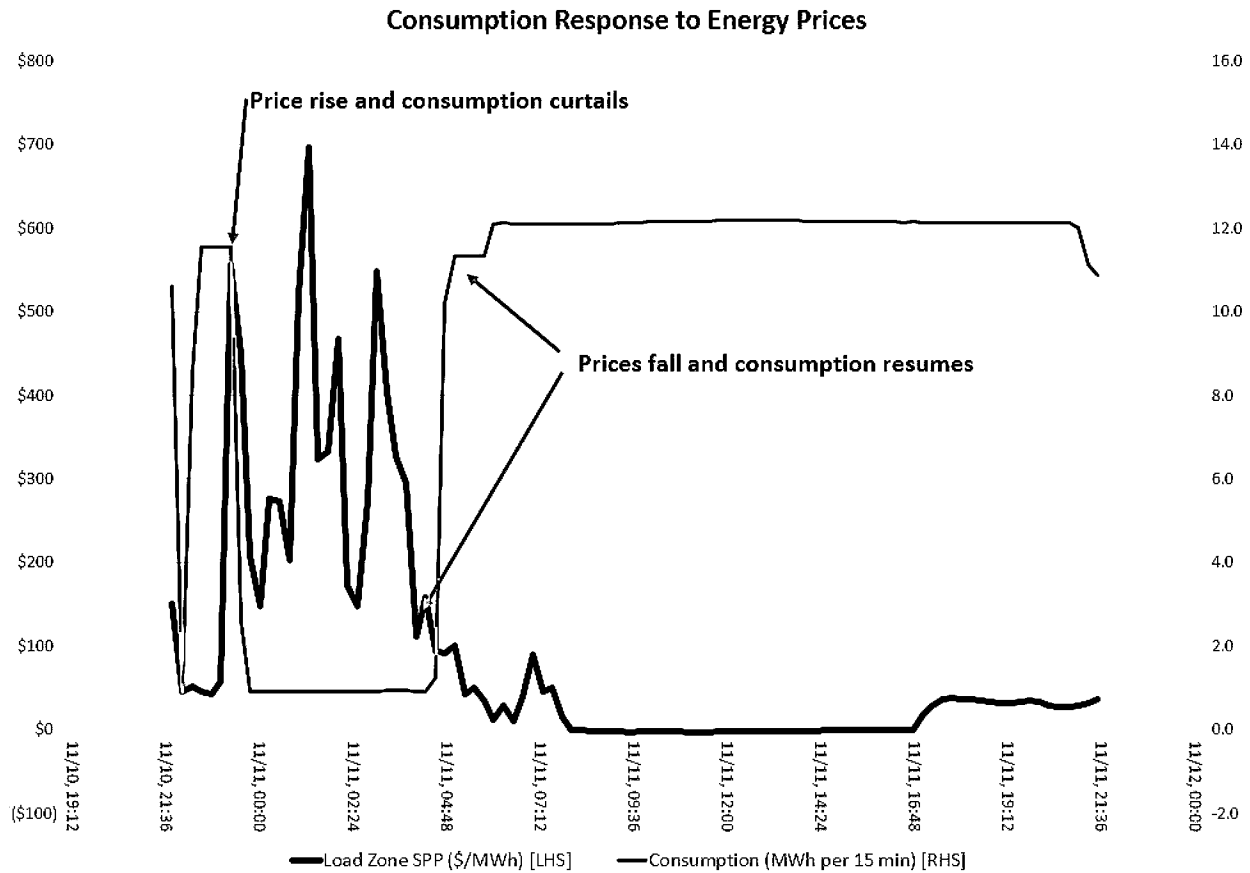


Figure 1

## Response to Questions:

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?

### Response:

In short, Yes. In remembering the decreased reliability and increased costs that occurred in California during their novel deregulation in the late 1990s and early 2000s, there is significant concern that a new PCM construct may not provide the intended reliability outcomes.

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?

Response:

With a new type of program, this is hard to answer. It may or may not. The fact that there is doubt should give pause and concern.

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)?

Response:

The stakeholder process should be relied on heavily, and comments should be accepted. All loads are not the same, and their loss does not carry equal economic loss. This should be viewed more granularly.

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?

Response:

The market should look at actual reliability risk rather than hours that do not have reliability risk.

If a backward looking market is kept, a smaller time period than a year should be considered to decrease the credit exposure. Also, the market should consider only minimal hours, one or two, or a significant number of hours, around 100 plus, to reduce market distortions.

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?

Response:

Shorter intervals should be considered to mitigate credit exposure caused by an annual backward looking program.

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?

Response:

Similar to other responses, maybe. The PCM construct is unproven and can be seen as a significant gamble to increase reliability. The PCM construct provides uncertainty and comes with a significant cost and time to develop and implement. Alternative paths like implementing ancillary service programs would provide quicker solutions that better align with the current market construct.

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

Response:

No, there need to be well thought out and tested rules in place to prevent market power abuse.

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?

Response:

There should be a bridge. An ancillary services solution could be the final solution and not simply a bridge.

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?

Response:

Absolutely. A brand new, never implemented market design is being considered. The process should be lengthy to ensure it is implemented in a well designed way that mitigates unintended consequences and goes through a rigorous stakeholder process.

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

Response:

As shown in the E3 report, it will increase costs to consumers. It will also create market distortions that shift significant costs to non-flexible loads and unnecessarily reduce economic output from flexible loads.

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

Response:

The bridge, which should also be considered as a final solution, are ancillary services to provide economic incentives to provide reliability to the grid.

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?

Response:

All market mechanisms should be technology neutral and incentivize outcomes. This will enable low cost solutions, generation or load, to provide the service.

Public Comment

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Thank you for your consideration.