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PROJECT NO. 54335

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

KEY CAPTURE ENERGY, LLC ("KCE") COMMENTS ON PUBLIC NOTICE OF REQUEST FOR COMMENTS

I. INTRODUCTION

Key Capture Energy, LLC ("KCE") is a developer, owner, and operator of stand-alone battery energy storage projects. KCE has 429.7 MW of battery projects in operation or in construction in Texas. KCE appreciates the opportunity to comment on the Public Notice of Request for Comments filed in this project on November 10, 2022.

KCE believes that battery storage has an important role to play in Texas' energy grid. As fully controllable, flexible, and fast responding assets, batteries provide critical operational flexibility within ERCOT's supply stack. They provide dispatchable capacity to address Texas' resource adequacy needs. Batteries are also delivering value and cost savings to Texas ratepayers by placing downward pressure on ancillary service market costs.

Based on KCE's experience operating battery storage projects in multiple wholesale markets, KCE believes that all effective market designs should meet a common set of fundamental principles. Should the PUCT decide that ERCOT should adopt the Performance Credit Mechanism ("PCM"), KCE respectfully encourages that implementation to take the following market design principles into account. Just like any other market change, the PCM's success — or the potential harm it could do to ERCOT's fundamental market incentives — will be based on its implementation. KCE outlines our recommended market design principles for Texas below.

II. MARKET DESIGN PRINCIPLES

1. **Be technology agnostic.**

Well-designed electricity markets should procure specific services to meet identified system needs and refrain from favoring or excluding individual technology types. This approach produces market efficient outcomes because all resources compete to provide the lowest cost solution to meeting grid needs.

Implementation of the PCM or any other market construct must maintain this basic principle of fair and open competition. Given the evolving market for advanced energy technologies this will ensure a lowest-cost mix of resources to provide value to the Texas grid and ratepayers. Individual technology types should not be barred from participation or compensated differently for the same performance and reliability contributions.

2. **Ensure that market revenues are sufficient to support the entry and continued operation of flexible, dispatchable resources.**

Across the electric industry, downward pressure on energy and ancillary service revenues has magnified the relative importance of scarcity pricing and/or capacity revenues for dispatchable resource economics. Besides ancillary service markets, batteries in ERCOT primarily rely on scarcity pricing

events to support project economics, however, these events may be infrequent and difficult to predict. Given ERCOT's increasing need for dispatchable capacity, market revenues under any new market design need to provide sufficient compensation for resources that meet the system's reliability needs.

Under the PCM mechanism, the design of the demand curve determines the clearing price that resources are paid for generating performance credits. The E3 report states that the curve, as proposed, is designed to yield net CONE per unit of effective capacity for the ERCOT system at target reliability. The PUCT should ensure that the shape of the demand curve yields sufficient revenues (in combination with energy and ancillary service revenues) under "average supply" conditions to incent dispatchable resource entry and continued operations.

3. Employ a sloped demand curve to incent sufficient capacity and maintain stable price signals.

In general, KCE supports the use of a sloped demand curve in resource adequacy constructs. A sloped curve ensures that the market accounts for the value of incremental capacity beyond what is needed to achieve the reliability standard and compensates that capacity accordingly. The end result is that the sloped demand curve produces more stable year-to-year pricing outcomes. This should help unlock lower-cost financing to support the build of new dispatchable generation, including batteries.

In contrast, vertical demand curves are associated with highly volatile clearing prices. This tends to frustrate the intended goal of capacity payments, which is to incent new generation build. KCE supports the use of a sloped demand curve in any applicable market design construct adopted by the PUCT.

4. Compensate generators for their actual availability and performance during high reliability risk times.

KCE generally supports market design approaches that compensate resources for their actual availability and performance during periods of system reliability need. This fairly credits resources for their true contributions to reliability and provides a better value for ratepayers. Such mechanisms eliminate the need for complex administrative exercises to assign capacity accreditation values to individual generation types.

For instance, Effective Load Carrying Capability ("ELCC") methodologies, which are used or under consideration in several markets, assign accreditation values to resources based on reliability risk modeling that may not align with real-world reliability contributions. In particular, ELCC models are limited in their ability to accurately model battery operations, and thus may under credit the capacity contribution of these resources. This introduces market inefficiencies as resources like batteries can be underpaid for their actual reliability contributions. In this situation, ratepayers effectively end up paying for excess capacity when such resources remain operational on the system.

Given the pitfalls of administrative capacity accreditation, KCE believes that compensating resources for their actual availability and performance during high reliability risk times is the more effective market design choice.

5. Achieve reliability objectives through strong rewards and penalties rather than command and control duration requirements.

With the energy system in transition, grid operators may need different types and sizes of operating reserves to reliably manage the system. As these market products evolve, resources must continue to be compensated appropriately for the services they sell.

For example, if a resource commits for an hour, their obligation — and payment — must be limited to an hour, without duration requirements that last beyond the period of commitment. Multi-hour duration products introduce inefficiencies into the market when a limited-duration resource could cost-effectively provide a service at full nameplate capacity for an hour, but then must derate its offer due to a duration requirement.

If the PUCT adopts the PCM, KCE strongly opposes any prescriptive limitations or exclusions on participation by specific resource types based on duration. KCE supports an implementation approach that keeps risk on market participants to take on the commitment and responsibility to perform in accordance with their obligations.

III. CONCLUSION

KCE appreciates the opportunity to provide comment, and we are happy to address any follow up questions with the Commission as needed.

Respectfully submitted,

/s/ Danny Musher .

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EXECUTIVE SUMMARY

Key Capture Energy, LLC ("KCE") is a developer, owner, and operator of stand-alone battery energy storage projects. KCE has 429.7 MW of battery projects in operation or in construction in Texas. KCE believes that battery storage has an important role to play in Texas' energy grid, including the ability to provide critical operational flexibility, dispatchable capacity, and cost savings for ratepayers.

Should the PUCT decide that ERCOT should adopt the Performance Credit Mechanism ("PCM"), KCE respectfully encourages that implementation to take the following market design principles into account:

- **Be technology agnostic.**
  - Well-designed electricity markets should procure specific services to meet identified system needs and refrain from favoring or excluding individual technologies. Individual resource types should not be barred from participation or compensated differently for the same performance and reliability contributions.
- **Ensure that market revenues are sufficient to support the entry and continued operation of flexible, dispatchable resources.**
  - Across the electric industry, downward pressure on energy and ancillary service revenues has magnified the relative importance of scarcity pricing and/or capacity revenues for dispatchable resource economics. Given ERCOT's increasing need for dispatchable capacity, market revenues under any new market design need to provide sufficient compensation for resources that meet the system's reliability needs.
- **Employ a sloped demand curve to incent sufficient capacity and maintain stable price signals.**
  - A sloped curve ensures that the market accounts for the value of incremental capacity beyond what is needed to achieve the reliability standard and compensates that capacity accordingly. This produces more stable year-to-year pricing outcomes, helping to unlock lower-cost financing to support the build of dispatchable generation, including batteries.
- **Compensate generators for their actual availability and performance during high reliability risk times.**
  - Given the pitfalls of administrative capacity accreditation, KCE generally supports market design approaches that compensate resources for their actual availability and performance during periods of system reliability need. This fairly credits resources for their true contributions to reliability and provides a better value for ratepayers.
- **Achieve reliability objectives through strong rewards and penalties rather than command and control duration requirements.**
  - Prescriptive limitations or exclusions on participation by specific resource types based on duration introduce unnecessary market inefficiencies. KCE supports an implementation approach that keeps risk on market participants to take on the commitment and responsibility to perform in accordance with their obligations.