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Received - 2022-11-15 08:57:57 PM

Control Number - 54224

ItemNumber - 4

PROJECT NO. 54224

**COST RECOVERY FOR SERVICE TO
DISTRIBUTED ENERGY RESOURCES
(DERs)**

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**PUBLIC UTILITY COMMISSION
OF
TEXAS**

STEM, INC.'s COMMENTS ON COMMISSION STAFF'S QUESTIONS

Stem, Inc. (Stem)¹ hereby submits these comments on Commission Staff's questions filed in this project on October 24, 2022. Stem is a leading provider of artificial intelligence (AI)-powered software that optimizes energy storage and solar assets. Stem delivers and operates battery storage solutions and enables customers and partners to optimize energy use by automatically switching between battery power, onsite generation, and grid power. Stem's solutions help corporate, commercial and industrial, municipal and utility customers benefit from an adaptive energy infrastructure and achieve a wide variety of goals, including expense reduction, resilience, sustainability, corporate responsibility, and innovation. Stem also offers full support for solar partners interested in adding storage to standalone, community or commercial solar projects – both behind-the-meter (BTM) and in front-of-the-meter (FTM).

Stem is working with partners who are developing ERCOT² projects and views Texas as a key market for continued investment. To support this effort, Stem established an office in Austin in 2022 and has more than 50 Texas-based employees working on a variety of company initiatives.

Stem appreciates the opportunity to comment on the questions posed by Commission Staff in this proceeding. Stem is a member of Texas Advanced Energy Business Alliance (TAEBA), and supports the comments submitted by TAEBA.

- 1. Is it appropriate for some amount of capital and/or operations and maintenance costs incurred by the distribution service providers (DSPs) to be uplifted to transmission cost of service (TCOS)? Why or why not? Does a distributed energy storage resource (DESR) provide the same congestion**

¹ www.stem.com

² <https://www.stem.com/solutions/wholesale-energy-markets/ercot/>

relief and reliability to the transmission system as a resource connected at transmission voltage? Please explain.

Stem supports TAEBA's response to this question. In addition, it is critical that the Commission provide regulatory certainty regarding cost allocation rules. Financers and asset owners make investment decisions based on the rules that are in existence at any given time and adding new costs after investment decisions have been made creates new barriers that can make a project uneconomic.

a. How do congestion relief and reliability benefits differ depending on the type of resource?

Both types of resources are dispatched via security-constrained economic dispatch (SCED) and may participate in ancillary services (AS).³ ERCOT selects resources based on economics, and storage resources specifically are incentivized to charge when prices are low and to discharge when prices are high. This process resolves grid congestion and differentiates energy storage from other generation resources. Because they are located closer to loads, distribution-connected DESRs can reduce congestion on the distribution system, which is not a benefit provided by transmission-connected resources. Finally, DESRs are typically smaller and faster to market, thus providing reliability benefits sooner compared to transmission-connected resources.

b. How does location of the DESR affect congestion on the transmission system?

DESRs, wherever they are located, are incentivized to charge when prices are low and to discharge when prices are high, which relieves congestion on the transmission system. The location of a DESR does not impact this process, except that, as noted in the previous response, DESRs have the added benefit of resolving distribution system congestion by virtue of their location relative to a substation. This

³ DESRs must overcome the potential barrier of being on a non-curtable circuit for provision of some ancillary services.

differentiates DESRs because other generation sources are often far from load and require transmission connections which can increase congestion.

c. In the current market, are energy and ancillary service prices adequately compensating distributed energy resources (DERs) for the benefits they provide? Please explain.

No. Stem recommends that the Commission explore how to appropriately compensate DERs for the value they bring to the electricity system overall. DERs operating in a market structure allowing their full participation in all wholesale market products can support system-wide reliability; however, DERs can also bring value to local distribution systems in ways that are currently uncompensated in ERCOT. One example is distribution-level infrastructure investment deferral.

Stem supports aligning price signals to recognize value across the electric system. We encourage the continued consideration of the three value domains for energy storage interconnection: transmission, distribution, and customer. This holistic viewpoint will help to maximize energy storage benefits across Texas customers and the grid.

Additionally, customer-sited energy storage can add significantly more value than a traditional power plant by virtue of providing services to all segments of the grid, enabling storage to participate in multiple markets simultaneously and improving systemwide economics and net benefits. By value and net benefits, we mean benefits to Texas consumers and/or the state grid, not incentives or compensation mechanisms.

A by-product of the diverse use cases that energy storage can provide for the grid is a wide range of revenue opportunities available to energy storage asset owners. As a result, Stem recommends that as the PUCT evaluates cost allocation issues and price signals related to DESRs, it considers how wholesale power market rules and pricing can be leveraged to align energy storage operational decisions with grid benefits and revenue recognition. The Commission can address the lack of distribution pricing signals with new market mechanisms, such as developing utility “resilience tariffs” that reward customers that deliver services to the distribution utility with compensation for those services. The Commission should also implement legislation passed in 2021, SB

415 by Hancock, which would allow utilities to use lower cost non-wires solutions contracts in lieu of more costly new infrastructure.

2. Is it appropriate for a DESR to pay some level of distribution charges? Why or why not? Do DESRs affect congestion and capacity availability on the distribution system? Please explain.

Treatment of DESRs should reflect both the costs and benefits of their contributions to the system. Therefore, it is appropriate to pay some level of distribution charges, but the value to the distribution system also needs to be recognized and compensated as discussed above in Q1.

a. Is it appropriate to exempt DESRs from any portion of the wholesale transmission service at distribution voltage rates or tariff provisions? Why or why not? Please also address whether such an exemption would be consistent with Public Utility Regulatory Act (PURA) § 35.004(d).

Stem supports a wholesale transmission service at distribution tariff containing the terms and conditions that apply to the service. However, monthly charges should not apply to DESRs. To do so would violate PURA 35.004 by treating DESRs differently from other generation resources for transmission service, while the statute requires utilities to provide nondiscriminatory access. Further, PUCT policy should avoid creating new barriers to much-needed flexible resources like DESRs. DESRs are critical to meeting the needs of the evolving ERCOT electricity system.

b. Should a DSP be required to implement a DESR--specific tariff for transmission service at distribution voltage? Why or why not?

i. If so, what is the appropriate rate structure for a DESR to pay for transmission service at distribution voltage?

ii. If the rate paid by a DESR does not fully recover costs related to that service, how should the DSP allocate the remaining costs? Should the costs be reallocated to other customers or uplifted to TCOS?

For the reasons stated above, DESRs should not be assessed monthly charges. However, Stem does not oppose the adoption of a tariff that reflects other terms and conditions for non-discriminatory access to transmission service at distribution service.

3. Should other distribution customers bear costs caused from interconnecting DESRs in their DSP' s territory? Why or why not?

a. Should other distribution customers bear the costs caused from interconnecting DERs in their DSP' s territory? Why or why not?

b. Is it appropriate for a DER to pay less than the entire contribution in aid of construction (CIAC) fee? Why or why not?

c. If it is appropriate for a DER to pay less than the entire CIAC fee, then how should the amount payable by the DER be determined?

d. If it is appropriate for a DER to pay less than the entire CIAC fee, how should any remaining costs be recovered by the DSP?

Stem supports TAEBA's response to this question.

4. 16 Texas Administrative Code § 25.501(m) provides, "Wholesale storage is not subject to retail tariffs, rates, and charges or fees assessed in conjunction with the retail purchase of electricity. Wholesale storage shall not be subject to ERCOT charges and credits associated with ancillary service obligations, or other load ratio share or per megawatt-hour based charges and allocations." Given changes in technology and the proliferation of Energy Storage Resources (ESRs) on the ERCOT grid, should the Commission revisit this policy on wholesale storage load applicability for ESRs interconnecting in the future? If so, how?

Stem does not support applying one set of wholesale storage load rules to existing ESRs and applying a different set of rules to ESRs interconnecting in the future. DESRs need more regulatory certainty, not less, and the Commission should seek to remove barriers to these flexible, fast-responding resources. Modifying this policy now would likely inject new and unnecessary regulatory uncertainty to the detriment of timely DESR development.

Conclusion

Stem appreciates the Commission Staff's consideration of these comments. DER implementation is critical to addressing Texas customers' resilience needs, and Stem stands ready to work with the Commission and stakeholders to support the evolution of the ERCOT market.

Respectfully submitted,

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EXECUTIVE SUMMARY**

Stem is a member of Texas Advanced Energy Business Alliance (TAEBA) and supports TAEBA's comments filed in response to Staff's Request for Comment. Stem offers the following additional comments:

- It is critical that the Commission provide regulatory certainty regarding cost allocation rules; investment decisions are based on these rules.
- ERCOT selects resources based on economics, and storage resources specifically are incentivized to charge when prices are low and to discharge when prices are high, thus resolving grid congestion and differentiating energy storage from other generation resources.
 - Because they are located closer to loads, distribution-connected DESRs can reduce congestion on the distribution system.
 - DESRs are typically smaller and faster to market, thus providing reliability benefits sooner compared to transmission-connected resources.
- Stem recommends that the Commission explore how to appropriately compensate DERs for the value they bring to the electricity system overall, including distribution system value, such as infrastructure deferral.
 - Price signals should recognize the three value domains for energy storage: transmission, distribution, and customer.
 - The Commission can address the lack of distribution pricing signals with new market mechanisms, such as developing utility "resilience tariffs" that reward customers that deliver services to the distribution utility with compensation for those services and by implementing SB 415 by

Hancock, passed in 2021, which would allow utilities to use lower cost non-wires solutions contracts in lieu of more costly infrastructure.

- Treatment of DESRs should reflect both the costs and benefits of their contributions to the system. Therefore, it is appropriate to pay some level of distribution charges, but the value to the distribution system also needs to be recognized and compensated.
 - Stem supports a wholesale transmission service at distribution tariff containing the terms and conditions that apply to the service. However, monthly charges should not apply to DESRs. To do so would violate PURA 35.004 by treating DESRs differently from other generation resources for transmission service. PUCT policy should avoid creating new barriers to much-needed flexible resources like DESRs.
- Regarding §25.501(m), Stem does not support applying one set of wholesale storage load rules to existing ESRs and applying a different set of rules to ESRs interconnecting in the future. DESRs need more regulatory certainty, not less, and the Commission should seek to remove barriers to these flexible, fast-responding resources.