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PROJECT NO. 54233

TECHNICAL REQUIREMENTS AND	§	PUBLIC UTILITY COMMISSION OF TEXAS
INTERCONNECTION PROCESSES FOR	§	
DISTRIBUTED ENERGY RESOURCES	§	
(DERS)	§	

COMMENTS OF TEXAS ADVANCED ENERGY BUSINESS ALLIANCE ON STAFF'S DISCUSSION DRAFT

Texas Advanced Energy Business Alliance (TAEBA) hereby submits these comments on the Commission Staff's Discussion Draft for a repeal and replacement with new P.U.C. Subst. Rs. 25.211 and 212 filed on November 22, 2022, in the above-referenced project. TAEBA includes local and national advanced energy companies seeking to make Texas's energy system secure, clean, reliable, and affordable. Advanced energy technologies include energy efficiency, energy storage, demand response, solar, wind, hydro, nuclear, and electric vehicles ("EVs"). Used together, these technologies and services will create and maintain a higher performing energy system—one that is reliable, resilient, diverse, and cost effective—while also improving the availability and quality of customer facing services. TAEBA's membership also includes advanced energy buyers, representing the interests of large electricity consumers interested in increasing their purchases of advanced energy to meet clean energy and sustainability goals.

TAEBA is generally supportive of the Commission's efforts to bring clarity and consistency to interconnection requirements for distributed energy resources (DERs). Our membership acknowledges the benefits of consistent standards, believing that extending operational requirements across ERCOT and non-ERCOT regions provides a more navigable policy environment for resource development. TAEBA offers the following suggested modifications to the draft rules that will help to improve operations for all distributed resources and help maintain reliability of the grid at the transmission and distribution levels. To provide

appropriate feedback in support of these concepts, TAEBA's comments concentrate on the following areas:

1. Establishing a separate process to develop interconnection procedures for small scale distributed energy resources, and in the meantime maintaining existing rules for such systems
2. Tailoring the proposed rule by:
 - a. implementing technology rules compatible with IEEE 1547-2018, and
 - b. removing cost allocation provisions;
3. Ensuring applicability across all of Texas (including in non-ERCOT regions) while allowing flexibility for rules to be easily evaluated and revised regularly to reflect updates and advancements in technology and system needs; and
4. Providing technical input on specific provisions in the rule, specifically Sections 25.211(e), 25.212(c)(2)(N), 25.212(d)(6), and 25.212(e)(4).

Establish a separate process to simplify interconnection for residential and small commercial customers, and in the meantime maintain existing rules

The proposed rule is written with a clear emphasis on large front-of-meter systems without sufficient regard for small systems. While TAEBA supports the Commission in its review of the technical requirements and interconnection processes for DERs, accounting for the fundamental differences between behind-the-meter and front-of-meter resources is a core consideration that is not addressed in the proposed rules, specifically with regard to the interconnection study requirement for systems less than 10MW as described in 16TAC §211 (f). Failure to include appropriate consideration of system size would subject very small and even behind-the-meter resources to the same standards and requirements as larger front-of-meter resources, which would create significant changes in how residential and small-scale distributed energy resources are managed and introduce overly burdensome interconnection requirements for small residential and behind-the-meter DERs without any reliability benefit or justification. While we generally support the stated need to conduct interconnection studies



for large scale systems, establishing the same requirements and processes for larger DERs and behind-the-meter DERs would negatively impact small scale systems and would put a strain on customers seeking to adopt DERs; this effect has not been observed under the current rules.

TAEBA urges additional consideration to ensure that the revised rules allow for equitable treatment of all customers and the unencumbered adoption of small scale DERs. To that end, TAEBA recommends that the Commission conduct a working group to appropriately consider small scale systems and, in the interim, maintain the existing 25.211 and 25.212 interconnect rules for DERs of 500 kW or less. By subjecting small-scale DERs to the proposed rules, the Commission would be 1) increasing the burden on utilities to conduct cumbersome, expensive studies that are unnecessary for small scale systems and 2) creating new barriers to reliability and customer choice.

By allowing more opportunities for stakeholder input and establishing a separate rule for small scale DERs, the Commission could more efficiently improve interconnection procedures for large scale DERs, as intended in the proposed rule, while avoiding the logistical difficulty of capturing innumerable, independent small DERs that have minimal reliability impact and are unnecessary to include in such processes.

The separate process for small scale residential and commercial DERs would allow more effective and applicable requirements and processes to be implemented. TAEBA offers the following preliminary recommendations for such a process.

- 1. Exempt small DERs (<30kW) from system study requirements.** Small residential and behind the meter DERs systems are diminutive relative to even larger front-of-the-meter DERs; because of this, their impact on the system at large is likely to be negligible. Small-scale DERs should be screened only for local voltage impacts rather than subject to the same studies that apply to large-scale DERs. In removing small-scale DERs from study requirements, the Commission will improve the



efficiency of the study process while still ensuring that the studies conducted capture the necessary information at sufficient granularity.

TAEBA also notes that exempting small DERs from certain study requirements is consistent with the approach taken by many other states. In their review of Interconnection Practices and Costs in the Western States, the National Renewable Energy Laboratory (NREL) found that the majority of states surveyed, including Colorado, Montana, New Mexico, and Utah, have some form of simplified or fast-track review processes for small DER systems.¹ States tend to screen small-scale DERs, and the report specifically found, “a few technical screens, which are used to assess feeder conditions and characteristics at the point of interconnection to determine whether a proposed project would compromise system reliability, are used for fast-track review in all states with interconnection rules.”²

- 2. Remove agreement provisions related to insurance and termination.** Small-scale DERs should not be subject to the insurance and termination agreement provisions included in the proposed rules. These provisions are pertinent to commercial or utility-scale DERs and the requirements are not practically achievable for small scale systems. This adjustment will greatly benefit homeowners and end users with residential-scale DERs and protect them from burdensome legal requirements which may act as barriers to their participation in the grid, harming customer choice and reliability.

The inappropriateness of applying the proposed system study requirements and agreement provisions related to insurance and termination to small-scale DERs underscores the importance of considering these systems through a separate workshop or proceeding. In

¹ A Guide to Updating Interconnection Rules and Incorporating IEEE Standard 1547 (2021)
<https://www.nrel.gov/docs/fy22osti/75290.pdf>

² Review of Interconnection Practices and Costs in the Western States (2018)
<https://www.nrel.gov/docs/fy18osti/71232.pdf>



the meantime, TAEBA reiterates our recommendation that the proposed rules *not* be applied to DERs <500kW and that existing rules be applied until and unless new rules are developed that are tailored to such DERs.

TAEBA supports updating technical requirements to support reliability

TAEBA supports updating technical requirements for DERs, particularly the adoption of IEEE 1547.1³ and UL-1741⁴ as pre-qualifying standards for interconnecting equipment. These standards are being widely adopted⁵ and are developed and revised by trusted evaluators of equipment operational safety.

With respect to how these standards should be incorporated, TAEBA recommends adding a single provision stating that all equipment used in the interconnection of DERs should comply with these standards rather than updating the rules to adhere to the standards each time the standards evolve. This solves the issue of implementing the standards, while allowing any updates to IEEE 1547.1 and UL 1741 to be automatically incorporated into the rules as they are made.

TAEBA recognizes that including the IEEE and UL standards as part of an ERCOT nodal operating guide would permit the standards to be updated more frequently, allowing requirements for interconnecting facilities to keep pace with changing technologies. If the IEEE and UL standards are included as part of an ERCOT nodal operating guide, it is important to note that the specific ride-through technical requirements will depend on the DSP because utility-side protection coordination is required for implementation. On the other hand, TAEBA acknowledges that using an ERCOT operating guide limits the implementation of the standard to the ERCOT footprint rather than all of Texas, resulting in a less efficient

³ Staff discussion draft proposed changes to §25.211 and §25.212, application for interconnection and parallel operation of a distribution resource. https://interchange.puc.texas.gov/Documents/54233_2_1254389.PDF

⁴ Id.

⁵ Note: IEEE standard 1547.1 is the 2020 update to standard 1547-2018. IEEE Std 1547-2018 (Revision of IEEE Std 1547-2003) <https://sagroups.ieee.org/scc21/standards/1547rev/>



patchworked approach and potential divergence between applicable rules in ERCOT and non-ERCOT regions. This will add complexity and undermine the ability of DER providers to offer services and solutions to all Texas customers.

TAEBA suggests that to realize the benefits of additional flexibility and frequent updates while achieving uniformity across the entire state, the IEEE and UL standards for resources should be included in the Commission's rules, but with a provision that ERCOT staff 1) review the standards annually for any deficiencies that may occur as the standards age, and 2) make suggestions to Commission staff about which parts of the standards should be updated in the substantive rules. This review would be non-binding to Commission action but would permit the Commission to regularly and efficiently track the efficacy of the standards using ERCOT's expertise, allowing the Commission to make changes once the standards reach a critical point of being ineffective.

TAEBA recommends the removal of all cost allocation provisions, which should be considered instead in Project No. 54224

TAEBA notes that there is already an open Commission project dedicated to the issue of cost allocation for distribution-connected resources, Project No. 54224. The PUCT took initial comments on several cost allocation issues on Nov 17, 2022 in that project to consider issues of cost allocation for DERs, and TAEBA provided its recommendations regarding cost allocation to DERs in that proceeding.⁶ The Commission has not yet settled its exploration of cost allocation for distributed energy resources (DERs) in Project No. 54224, and TAEBA sees no reason why the separate issue of cost allocation should also be raised in this proceeding which is focused on technical requirements for interconnection of DERs. Before the release of the proposed changes to §25.211 and §25.212, TAEBA and its members had been under the impression that cost treatments for interconnecting DERs would be restricted to Project No.

⁶ Texas Advanced Energy Business Alliance comments for Project 54244 (submitted November 2022)



54224 exclusively. Given that the Commission has designated a separate proceeding to consider cost issues, TAEBA recommends the Commission remove cost-related provisions from the complex and technical proposed rules in this proceeding.

Comment on specific question posed by staff

1. *Should technical and operational requirements in draft §25.212, like frequency and voltage ride-through requirements, for distribution resources interconnected in the ERCOT region, reside in the Electric Reliability Council of Texas (ERCOT) Protocols or Commission substantive rules? If such requirements should reside in the ERCOT Protocols, given that the technical and operational requirements would still be necessary in commission substantive rules for non-ERCOT power regions, what would be the benefit of moving the requirements to the ERCOT Protocols?*

TAEBA agrees discussion is merited about whether the implementation of technical standards—which are updated from time to time by other standards bodies such as IEEE—should be hardwired into Commission rules. While our members have expressed support for applying standards for interconnecting equipment equally across both ERCOT and non-ERCOT regions, providing for ease of engineering planning regardless of where a facility is being constructed within Texas, members have also expressed reservations about including the standards in Commission rules because the rapid advancement of technologies may cause the standards to be outdated in just a few years' time. In regard to non-ERCOT regions, the Commission should fully consider the intricacies of how independent system operators (ISOs) may interact with DERs and generation resources in any rulemaking process.

TAEBA reiterates our proposed compromise above with respect to pre-qualifying standards. Specifically, we urge the Commission to consider including technical and operational characteristics in substantive rules while allowing for an annual review by ERCOT staff of relevant technical and operational requirements for any deficiencies or outdated elements, with recommendations to address such deficiencies. As noted above, this review would not require Commission action, but would facilitate regular update of the rules when and as warranted.



Comments on specific provisions in the proposed rules

In addition to the broad recommendations above, TAEBA offers the following specific recommendations in response to individual sections of the proposed rules.

25.211(e)

Commission staff is proposing to mandate that all distribution service providers (DSPs) conduct pre-screen studies when required by the generation owner. Not all DSPs currently provide a pre-screen study, and TAEBA supports the proposed change. However, TAEBA recommends that DSPs be required to prioritize projects on the 15-business day timeline on a per entity basis. It would not be equitable for a single developer to clog the queue with a large number of pre-screen study requests while causing delays to all other requests. The pre-screen request limit for a single entity and its affiliates should be lowered from the proposed 10 sites to 5 sites. Also, the language should be amended to allow the pre-screen to be done for distribution generation resources (DGRs), not just distribution energy storage resources (DESRs).

25.212(c)(2)(N)

The Commission staff has provided a table describing the operating conditions during which each distribution resource must have under- and over-frequency relays set to trip. TAEBA requests that the Commission clarify that these specified settings will apply to all DSPs. If DSPs are allowed to apply different settings, DER interconnections may be unreasonably delayed or thwarted altogether.

25.212(d)(6)



The Commission staff is proposing new closed transition switching language. TAEBA requests that the Commission clarify that this amendment is not restrictive of longer transitions. The Commission should allow for a distribution resource to be grid synchronous for up to 5 minutes to enable slow transition of load from utility to generator power. Certain technologies take on less mechanical strain when transitioning gradually versus a major step change.

25.212(e)(4)

Commission staff has proposed certification requirements for distribution resource equipment, but it is unclear whether the distribution resource equipment certification requirements mandate all DER equipment to be certified or only refers to applicable requirements when using certified equipment. TAEBA suggests that this section only be applicable to DERs that have elected to install certified equipment, rather than a requirement that all DERs must be certified.

Conclusion

TAEBA appreciates the Commission Staff's consideration of these comments and stands ready to work with the Commission, Commission Staff, and stakeholders to make the changes necessary to ensure effective and sound technical requirements and processes for all distributed energy resources in Texas.

Respectfully submitted,

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FOR DISTRIBUTED ENERGY § OF TEXAS
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COMMENTS OF TEXAS ADVANCED ENERGY BUSINESS ALLIANCE ON STAFF'S
DISCUSSION DRAFT
EXECUTIVE SUMMARY

TAEBA offers the following recommendations to the Commission Staff's Draft P.U.C. Subst. Rs 25.211 and 212 to maintain reliability of the Texas grid by establishing effective and sound technical requirements and processes for all distributed energy resources in Texas:

- TAEBA recommends that the Commission conduct a working group to appropriately consider small scale systems and, in the interim, maintain the existing 25.211 and 25.212 interconnect rules for DERs of 500 kW or less.
- When it establishes rules for small scale DERs, TAEBA recommends that the Commission exempt small DERs (<30kW) from system study requirements and remove the agreement provisions related to insurance and termination for these DERs.
- TAEBA encourages the Commission to adopt IEEE 1547.1 and UL-1741 as pre-qualifying standards for interconnecting equipment.
- TAEBA encourages the Commission to include technical and operational requirements for resources, including IEEE and UL standards, in Commission rules with a requirement for ERCOT staff to annually review and suggest updates to the standards.
- TAEBA recommends that the Commission remove cost-related provisions from the proposed rules in this proceeding and consider them instead in Project No. 54224.
- TAEBA offers revisions and requests for clarification to Sections 25.211(e), 25.212(c)(2)(N), 25.212(d)(6), and 25.212(e)(4).

