

PROJECT NO. 51603

REVIEW OF DISTRIBUTED ENERGY RESOURCES § PUBLIC UTILITY COMMISSION § OF TEXAS §

TEXAS SOLAR ENERGY SOCIETY’S RESPONSE TO QUESTIONS FOR COMMENT

The Texas Solar Energy Society (TXSES) appreciates the opportunity to prepare responses to the request for comments issued by the Public Utility Commission of Texas (PUCT) relating to its review of Distributed Energy Resources (DERs). These comments are submitted only on behalf of TXSES and do not necessarily reflect the opinions of its members.

For more than four decades, TXSES, a 501(c)3 organization, has been the pre-eminent statewide organization developing free thought-leading, independent, fact-based information and quality educational materials that inspire innovation, share best practices, and inform decision-makers on the critical importance of sound, favorable solar policies that will grow the industry; protect clean air; build healthy, resilient communities; support local, well-paying jobs; and lay the foundation for energy independence.

A membership-based organization, TXSES's unique niche is exemplified in our well-established local chapters in Austin, Dallas, El Paso, Houston, and San Antonio. Having boots on the ground in these major metropolitan cities, which represent nearly a quarter of Texas's 29 million citizens, enables our bright and dedicated experts to share distinct educational expertise. Together, TXSES and our chapters create and share best practices that are building a strong solar foundation for a 100% clean energy future for Texas, one community at a time.

COMMENTS

1. *Distribution planning and control: What planning and control processes and practices should the Commission consider for greater DER participation and grid resilience? Which entities should be involved in planning and control processes and practices?*
 - i. *What are the different utilization and participation formats for existing DERs on distribution networks?*
 - ii. *Should the current size limit on unregistered distributed resources be reconsidered?*

To improve equitable ease of access to solar energy, the PUCT should design and implement standards that facilitate the safe and expeditious interconnection of DERs. These standards should be simple and easy to apply across all parts of the State, whether customers are served by Investor-Owned Utilities (IOUs) or Non-Opt-In Entities (NOIEs). While the PUCT has limited jurisdiction over the latter category, having accessible rules should facilitate greater DER participation and build-out by having standards that can be easily applied and adjusted by individual service territory. While individual utilities may each have their own governing policies and documents, they can all largely claim the PUCT rules governing interconnection of DERs as the foundation for their policies.

To facilitate safe, streamlined interconnection of DERs, the planning and control of the Resources should not rest with ERCOT, instead, it should sit with the individual distribution utilities. So long as all utilities acknowledge the open-access principles of the ERCOT market, inserting outside entities into the distribution system increases the cost to install, complicates the application and interconnection, and limits the application of DERs, resulting in limited access and shrinking an already exclusive field of participants.

The registration threshold for unregistered distributed resources should increase but at a minimum, remain unchanged. To increase participation and access to renewable energy, resources less than the 999 kW registration threshold have served a valuable role, participating in community solar projects, low income rates, and other community access programs, many of which would not be as economically feasible without the requirement to register and participate in the ERCOT market. Taking an unregistered resource and turning it into registered Resource will create lasting impacts to both existing programs and future rollouts due to the increased regulatory and technical requirements. Creating a legacy carveout provision for existing assets will not be sufficient as future programs will be stymied.

Increasing the threshold for DER registration should facilitate larger, more effective programs leading to greater access to renewable energy relating to DERs. With a larger registration threshold, these community projects can take advantage of economies of scale, both making the programs more cost-effective and increasing the availability capacity to potential participants. These programs are critical to those Texans experiencing energy poverty, as they are the most likely to be adversely affected by climate change and have very limited ability to access renewable energy on their own. An increased DER registration threshold will substantially contribute to reducing barriers to fighting energy poverty in Texas.

2. *Transmission and distribution modification: What equipment, processes, and standards need to be implemented to allow for further DER participation?*

The PUCT and ERCOT should facilitate clear and concise rules that facilitate the expeditious and safe interconnection of DERs to the grid. The prescription of equipment, standards, and processes risks constricting the development and deployment of DERs in Texas, especially as technology changes and outpaces the policy changes. Using already accepted standards, such as those enumerated by IEEE and UL allows for flexibility in technology while ensuring safe interconnection. Establishing rules beyond those thresholds risks Texas not being able to install the newest, most effective technologies as they become available because policy has not kept pace.

3. *Cost quantification: How much transmission and distribution investment will be necessary and what methods would be available to recuperate costs? And should the Commission consider new methods of cost allocation and recovery for DER-related infrastructure enhancements?*
 - i. *What market signals, if any, should be considered related to DERs aimed at providing grid services?*

DSPs must be able to recover distribution system expenses relating to the wheeling of energy across their facilities. Without a cost recovery methodology relating to this use of the distribution grid, there is a substantial risk that customers of the DSP will end up subsidizing the DERs. While DER access is critical to Texas, shifting those costs to those who are experiencing energy poverty is not a tenable solution.

While mitigating uneconomic subsidization is imperative, it is also important to recognize the benefits DERs offer to both the distribution system and the market at a whole. Major research efforts have demonstrated the diverse range of DER benefits and their compelling value. *Small Is Profitable*,¹ published by Rocky Mountain Institute in 2002 provides the definitive compilation of economic, operational, financial, and engineering benefits available from DERs. Numerous value of solar and value of DER analyses have been conducted and published over the last fifteen years showing the value of additional increments of DERs to the grid based on evaluating the full range of avoidable costs through an approach called “value stacking.”² And more recently, production cost and capacity expansion models have shown potential for huge grid savings from dynamically optimizing and coordinating DERs across larger areas. Studies of this kind conducted through the Local Solar for All³ coalition show multi-billion dollar system-wide savings when DERs are deployed at scale. In another vein, one recent article described another significant element of the DER value proposition as follows:⁴

As the grid strains under the weight of climate change and new sources of demand, one important way to prevent blackouts comes from an unlikely location: your house.

Customers who allow utilities to control heat pumps, water heaters and electric vehicle charging stations would give operators a potent new tool for managing grid systems in extreme weather emergencies, like the Western wildfires, Gulf Coast hurricanes and Texas’ 2021 power crisis, researchers say.

The issue was highlighted in a January report⁵ from Pacific Northwest National Laboratory that said customers’ major energy resources, if synchronized with utilities’ control centers, can be “shock absorbers” helping balance power supply and demand in grid emergencies such as California’s 2020 rolling blackouts.

¹ Amory B. Lovins, et al., “*Small is Profitable: The Hidden Economic Benefits of Making Electrical Resources the Right Size*,” Rocky Mountain Institute (2003).

² Many states have conducted Value of Solar studies of one form or another. States that have existing studies include: Arizona (2016 and 2013); Arkansas (2017); California (2016, 2013, 2012, 2011, 2010, 2005); Colorado (2013); Florida (2005); Hawaii (2014); Iowa (2016); Louisiana (2015); Massachusetts (2015); Maine (2015); Mississippi (2013); North Carolina (2013); Nevada (2017, 2014); New Jersey and Pennsylvania (2012); New York (2012 and 2008); South Carolina (2015); Texas (2014), including for the cities of San Antonio (2013) and Austin (2006); Utah (2014); Vermont (2014); Virginia (2014); and Wisconsin (2016). Other states have conducted docket and processes for establishing a Value of Solar methodology or framework, such as: Minnesota (2014); Rhode Island (2015); and New York (2016). Solar Energy Industries Association, *Solar Cost-Benefit Studies*. Available at: <https://www.seia.org/initiatives/solar-cost-benefit-studies>.

³ Local Solar for All, available at: <https://www.localsolarforall.org>.

⁴ <https://www.eenews.net/articles/how-a-smarter-grid-can-prevent-blackouts/>

⁵ Citing PNNL, *Distribution System Operation with Transactive (DSO+T) Study*, available at: <https://www.pnnl.gov/projects/transactive-systems-program/dsot-study>.

In addition, a wide range of additional research, pilot, and demonstration projects have been conducted over the past several decades and across the U.S. that document successful efforts to capture DER value. There are plenty of winning plays in the DER playbook.

To recognize and capture many of these benefits, the PUCT will need to facilitate the creation of new market mechanisms that look at not just the technical operation of the grid and how DERs can support these functions, but also the less immediately quantifiable, such as environmental benefits, as appropriate by technology type. Recognition of these benefits will mitigate the impact of the uplift of distribution system expenses.

4. *Data accessibility: What data would improve supply side dynamics and encourage targeted development? What information would be useful to establish a current baseline and assess future market potential? What accessibility and information security concerns should be considered?*
 - i. *What level of information should entities responsible for planning and control of DERs have access to for long-term planning purposes?*

TXSES provides no response to this question.

5. *Other related questions*
 - i. *Should the Commission consider classifying various DER types? If so, on what basis should DERs be classified? For example, size, performance, characteristics, or some other attribute? (E.g., rooftop solar PV, distribution connected energy storage, microgrids)*

Increased classification of DERs risks constricting future growth and development of DERs in Texas. Policy very rarely keeps up with technology, and so long as it can safely interconnect and operate on the grid, neither the PUCT nor ERCOT should restrict that, within the confines of the Substantive Rules and Protocols, should the DSP wish to allow it on their system. As new technology becomes available, it has the potential to allow for greater access and support for those struggling with energy poverty.

- ii. *What issues should be considered for segmentation and islanding? Should there be consideration related to DERs associated with critical facilities and entities?*

TXSES provides no response to this question.

- iii. *What should be done to encourage consistency in interconnection agreements between the various interconnecting entities?*

The PUCT should encourage consistent interconnection agreements between the various interconnecting entities through the establishment of clear and accessible interconnection standards that facilitate the safe and expeditious interconnection of DERs to the grid. In establishing these tenets and principles, it will facilitate both IOUs and NOIEs using the PUCT guidelines as the backbone to their documents and allow for customization in implementation by utility to best serve their customer base.

- iv. *What can the Commission do to promote consistency in its DER policy between the ERCOT and non-ERCOT markets?*

By establishing a clear and accessible framework for the safe and expeditious interconnection of DERs, the PUCT can help facilitate a more uniform approach to DER interconnection and integration between the ERCOT and non-ERCOT regions of Texas. This will in turn support orderly and self-sustaining market development.

- v. *What successes have been seen in other states that could be implemented in Texas?*

Numerous resources are available that compile relevant and successful, as well as ongoing, state policies, regulations, and practices relating to DERs. TXSES can provide references as the PUCT narrows and focuses its work.

- vi. *What can reasonably and economically be done within a 5-year timeframe?*

The 5-year goal should be for the PUCT and ERCOT to establish clear, streamlined rules and protocols that are in use to facilitate the safe and expeditious interconnection of DERs to the grid while recognizing the benefits that DERs provide. It is the recognition of benefits and the related market mechanisms that will pose the greatest challenge in their design and implementation, and it is paramount to design these policies equitably and ensure that all consumers are protected.

- vii. *What other issues, if any, should the Commission consider and address while developing rules related to DERs?*

The PUCT should consider the benefits that DERs offer to both the distribution grid and the grid as a whole. These benefits include both technical aspects relating the operation of the grid, but also the societal and economic benefits that DERs provide, such as greater environmental sustainability, improved energy reliability, and reduced energy insecurity. This will likely require new market mechanisms and rules to ensure appropriate recognition of these benefits but will facilitate greater DER development and deployment.

Additionally, the PUCT should consider how FERC Order No. 2222, facilitating aggregated DER participation in wholesale markets, may be adapted and deployed in the ERCOT region. This will likely require a separate rule making to ensure both the appropriate mechanisms and protections are in place for full participation by potential participants. Furthermore, in designing any program deriving from the FERC proceedings, Texas will have to develop and adapt technical requirements for market participation. While this latter point falls more in the purview of ERCOT, the PUCT should provide general direction.

Respectfully,

A handwritten signature in black ink that reads "Patrice 'Pete' Parsons". The signature is written in a cursive style with a horizontal line underneath the name.

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EXECUTIVE SUMMARY OF TXSES’S RSPONSE TO QUESTIONS FOR COMMENT

- The PUCT should implement standards that facilitate the safe and expeditious interconnection of DERs that are easy to apply across all parts of the State.
- The DER registration threshold should be increased but at a minimum, remain unchanged.
- Rules that prescribe equipment, standards, and processes risks constricting development and deployment of DERs in Texas, especially since IEEE and UL provide standards that accommodate safe and reliable interconnection and operations.
- DSPs should be able to recover distributions system expenses relating to the wheeling of energy across their facilities. Additionally, the PUCT and ERCOT should develop and implement programs that recognize the benefits that DERs provide, including:
 - Savings from avoidable costs,
 - Savings from dynamic optimization and coordination of DERs,
 - Additional reliability for both local utilities and grid operators.
- Increased classification risks constricting future growth and development of DERs.
- Clear and accessible standards that facilitate safe and expeditious interconnection of DERs will encourage consistent interconnection agreements.
- Clear and accessible framework that facilitate safe and expeditious interconnection of DERs will facilitate an orderly and self-sustaining market development in both the ERCOT and non-ERCOT regions of Texas.
- There are many successful state policies, regulations and practices relating to DERs that can be referenced as DER scope becomes more focused.
- Policy and market program development should be the primary goal within the next 5 years, particularly as they relate to recognizing the benefits DERs provide the grid.
- There should be additional consideration towards benefits that DERs offer towards both the technical aspects of the grid and the societal and economic benefits DERs provide.
- The PUCT should consider how to adapt FERC Order No. 2222 to fit the needs of Texas and ERCOT.