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TAEBA
Texas Advanced Energy
Business Alliance

Project No. 55718

Reliability Plan for the Permian Basin under PURA § 39.167	§ § §	Public Utility Commission of Texas

Comments of Texas Advanced Energy Business Alliance Regarding the Permian Basin Reliability Plan

Texas Advanced Energy Business Alliance (TAEBA) hereby submits these comments on the Commission Staff's Questions filed on January 24, 2025, 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.

Transmission costs have risen across the country over the last decade, and congestion costs have gone up in every Regional Transmission Operator ("RTO") and Independent System Operator ("ISO") footprint.[1] The burden of congestion costs, particularly in ERCOT where system congestion has contributed to frequency events in recent years,[2] provides good reason to implement the Permian Basin Reliability Plan.

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[1] TRANSMISSION CONGESTION COSTS RISE AGAIN IN U.S. RTOS, p 2. https://gridstrategiesllc.com/wp-content/uploads/2023/07/GS_Transmission-Congestion-Costs-in-the-U.S.-RTOs1.pdf

[2] Medium- and Long-Term Challenges for the Electricity Grid in Texas (i.e., ERCOT). https://perc.tamu.edu/blog/2024/05/ercot.html#:~:text=A%20key%20takeaway%20from%20a%20recent%20report,bottleneck%20that%20moves%20energy%20across%20the%20state.

The potential of rising future costs due to congestion only enhances the need for bold transmission solutions today.

TAEBA is supportive of the Permian Basin STEP Reliability Plan for its use of 765kV lines over using exclusively 345kV lines. We believe the additional capacity headroom provided by the 765kV "backbone" line provides several improved benefits over a 345kV line, including better system reliability, improved interconnection potential, expanded economic opportunity, and competitive economic advantages over other grid systems. These benefits are more pronounced when considering the annual cost estimate for the higher voltage line is only 7.3% higher than the lower voltage line.[3]

When spending high dollar amounts on an infrastructure project, it is easy for the evaluation of the project to lapse into a cost focused evaluation. However, the STEP Reliability plan should be viewed primarily through an investment lens. ERCOT has already determined that this project is needed – if the money is going to be spent, why forgo the opportunity to build a line that carries twice the power for only 7.3% more investment? The return on investment for that marginal difference in cost is likely to be realized several times over, to the long-term benefit of Texans across the state. Shoring up system reliability in the ERCOT footprint has been a priority in Texas since Winter Storm Uri in 2021. Building the highest capacity transmission lines available will provide the best system flexibility possible, allowing for a more weather-ready and resilient ERCOT grid. There are two fundamental ways to increase system reliability over the long-term, increase capacity headroom and allow more energy generation to enter the system, or reduce load demand. ERCOT is currently projecting unprecedented levels of load growth from data centers and electrification demand. Understanding that substantial load increases are expected throughout the next decades means system capacity must be increased to meet it. The marginal cost increase to build the 765kV line will pay for itself several times over with the improvement in reliability the ERCOT region will gain from it.

While TAEBA supports a strong and robust grid, the Commission should be attentive to concerns that the costs of further expanding the Texas grid may

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[3] 2024 Regional Transmission Plan (RTP) 345-kV Plan and Texas 765=kV Strategic Transmission Expansion Plan Comparison, p iii.
https://interchange.puc.texas.gov/Documents/55718_54_1462478.PDF

disproportionately fall on residential customers. While the implementation of the Permian Basin STEP plan today is important, justified, and reasonable to secure Texas's grid reliability and economic futures, the Commission should endeavor in future proceedings to ensure all customer classes are paying for transmission proportionately. Additionally, we implore the Commission to continue to explore avenues to support these customers and shore up reliability on the distribution grids. To achieve this support, the Commission should find ways to support investments made by power generators, distributed energy resource ("DER") providers, virtual power plants ("VPP") operators, and retail electric providers that are subject to competitive substitution and innovation.

1. In ERCOT's 345 kV-765 kV comparison document, the total capital cost estimates for each voltage' s 2024 Regional Transmission Plan are comparatively close.

a. What other ongoing cost impacts should be given significant weight in this decision?

The Permian Basin Plan comparison does an excellent job of summarizing system cost savings of installing 765kV lines instead of 345kV lines over the long term. Measuring economic opportunity cost for Texas under the 345kV option versus the 765kV option is tough to accomplish given such an analysis is largely dependent on several factors that are difficult to predict and can be highly variable, such as population growth. The Commission should be aware that while some parties will point to potential cost overruns with this project, these is also a significant chance that the benefits identified in the economic analysis an undervalued compared to what the actual benefits will be.

b. What economic and reliability benefits in the report should be given significant weight?

While all system cost savings are significant for the 765kV line option, congestion cost savings should receive the most weight in the Commission's decision. Congestion cost savings not only have a significant impact on consumers but can be used as a barometer of overall system health. High congestion costs are indicative of energy not

entering the system, suppressed price competition between generators, and worse outcomes for consumers. As an energy only market, congestion pricing has an outsized impact on ERCOT's total consumer costs.

The Commission should be conscious that transmission expansion, can have costs that are disproportionately shouldered by residential consumers, because residential consumers have limited power to control their demand charges compared with large transmission customers that are able to be more reactive to transmission pricing. While the impact of transmission costs on different customer classes is less relevant in evaluating the proposed reliability plans than serving near and long-term grid reliability needs, cost distribution of grid improvements should be revisited by the Commission in the future to ensure the fairest pricing for energy use among all Texas consumers.

2. On September 18, 2024, ERCOT hosted a 765 kV Vendor Workshop which provided information on many aspects of design, construction, and equipment sourcing of 765 kV infrastructure.

a. Regarding supply chain delays or disruptions, are there any impacts specific to either 765 kV or 345 kV, or are both impacted equally?

TAEBA does not have input regarding this question at this time.

b. Are there any critical 765 kV considerations that were not addressed during that workshop?

TAEBA does not have input regarding this question at this time.

1. Regarding the already-approved Permian Basin import paths, please compare the timing of construction buildout-to-energization for the 345 kV and 765 kV imports. Will one take significantly longer than the other? Please explain why.

We do not expect a significant change in construction times between the two project options. For large transmission projects, the two primary drivers of construction delay are permitting and sitting.[3] The process of building the lines themselves is not

meaningfully impacted by the capacity of the lines when compared with permitting, siting, land acquisition, labor shortages, and supply chain issues.

3. Given that there are uncertainties in long-term load forecasts as well as load and generation types and siting, which plan would provide the most flexibility for ERCOT region?

Implementing the 765kV plan will provide the greatest flexibility for the ERCOT region. As stated above, there is a lot of variability in projecting load forecasts accurately and there is a risk that future load demand is being undercounted. Additionally, growing load demand is an issue across the United States. Building with additional capacity will provide project siting opportunities in the ERCOT region that may not exist on other grid systems, meaning that building extra capacity headroom in ERCOT may lead to induced interconnection demand in Texas and expanded economic opportunity, particularly when compared with regions that are not moving quickly to plan new transmission projects. Relatedly, as stated above, TAEBA asks that the Commission be cognizant that under the current ERCOT transmission cost allocation methodology (four coincident peak, or 4CP) that new large loads that have flexible characteristics may not pay a proportional price for transmission they end up using. Again, solutions to address this potential disproportionate cost burden should be considered but should not directly impact the Commission's decision on Reliability Plan deployment or project sizing.

4. What are the pros and cons of deciding to utilize 765 kV infrastructure in the ERCOT region now versus waiting to implement it in the future?

The primary advantages of implementing a 765kV line now instead of in the future are that all the benefits of a larger line can happen sooner: greater congestion relief, new interconnection potential, and expanded economic opportunity. While some stakeholders may advocate exercising caution against overbuild when evaluating these projects, there seems to be a consensus among experts and various agency employees, particularly in public meetings, that ERCOT will eventually need a 765kV line in the Permian Basin. Building an entirely new project with the expectation of having to modify and upgrade it in the medium term would be an unnecessary

steppingstone solution, particularly when the project costs between the two options are estimated to be so close.

The primary drawbacks are the inverse corollaries to the stated advantages: a higher chance of hitting the new line's capacity headroom and having that capacity headroom used up sooner than expected, a prolonging of interconnection queue backlogs, and the potential of missed economic opportunity and the loss of a competitive economic advantage for the ERCOT region.

5. Are there any other benefits or drawbacks that have not been brought up and addressed which are critically important for the Commission to consider? Please describe in detail.

While the questions address system reliability, they do not mention the Steady-State analysis performed by ERCOT in the report, which shows a much-improved transfer capability under the 765kV STEP plan. This transfer capability increase from the 345kV scenario shows a significant increase in grid reliability and flexibility. This flexibility is particularly evident in the sensitivity analysis between several major Texas metro areas, showing a much-improved energy delivery potential between them.

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Comments of Texas Advanced Energy Business Alliance Regarding the Permian Basin Reliability Plan Executive Summary

TAEBA offers the following recommendations to Commission Staff regarding the Permian Basin Reliability plan, specifically in support of the STEP plan, under PURA § 39.167:

- TAEBA believes the commission should accept the 765kV STEP version of the Permian Basin Reliability plan, since the incremental costs are worth the potential for enhanced reliability and economic benefits to the ERCOT system long term.
- The Commission should prioritize the evaluation of congestion charge relief in the cost-benefit comparison of the two plans.
- While project implementation costs may result in some cost overrun, there is a similar possibility that the economic benefits of the project have been underestimated.
- Utilizing higher voltage transmission lines now, rather than planning to upgrade the system again in the future, will be the most cost-effective solution over the long term, particularly when considering that estimating costs twenty years in the future is much more unpredictable than estimating costs in the present.