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PROJECT NO. 55718

RELIABILITY PLAN FOR THE
PERMIAN BASIN UNDER PURA
§ 39.167

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PUBLIC UTILITY COMMISSION

OF TEXAS

**COMMENTS OF
TEXAS ELECTRIC COOPERATIVES, INC.**

Texas Electric Cooperatives, Inc. (TEC) respectfully submits these comments in response to questions posed by the Staff of the Public Utility Commission (Staff) regarding ERCOT's Permian Basin Reliability Plan (reliability plan).¹ TEC is the statewide association of electric cooperatives operating in Texas, representing its members except as their interests may be separately represented.² The Staff memorandum directs responses to be filed by August 9, 2024. These comments are timely filed.

I. Responses

1. Should the Commission approve a *phased* plan for the Permian Basin? In other words, should there be a first phase to be implemented by 2030 and a second phase to be implemented by 2038? Or should the Commission approve a single, complete plan?

Yes, a phased approach would be consistent with the manner and timing of improvements to the transmission system historically ordered by the Commission. If a 69 kV line was forecast to be adequate for a certain load for the foreseeable future, the Commission approved it, not a higher cost 138 kV or 345 kV line. The same principle should be applied for the Permian Basin plan. There should be a first phase targeting 2030 and then, based upon the actual load growth, pursue improvements for 2038. The phased approach is appropriate because of the error in load forecasting due to the portion that is speculative or comprised of loads that are shopping more than one location with more than one TSP and thus are being double counted.

¹ Staff Questions on the ERCOT's Plan (Jul. 30, 2024) (Staff Questions).

² TEC's 76 members include distribution cooperatives that provide retail electric utility service to approximately 5,000,000 consumers in statutorily authorized service areas that encompass more than half of the total area of the state. TEC's G&T members generally acquire generation resources and power supply for their member distribution cooperatives and deliver electricity to them at wholesale.

2. To expedite the buildout of import paths into the Permian Basin while research and discussion of the optimal use of an Extra High Voltage (EHV) network in ERCOT system is underway in Project No. 55249, should this reliability plan consider a mixture of 345 kV and EHV options?

The buildout should be the most economical solution, which, at this time, appears to be the 345 kV solution. Regardless of the chosen scope of the Permian Basin buildout, the transmission cooperatives in the ERCOT region are prepared and able to participate in the buildout at any voltage level.

3. What would be the impact to implementation of the plan if the Commission approves the plan for all the common local transmission projects to permit the utilities to expeditiously file CCN applications but delayed the approval of the import paths until after ERCOT completed its EHV Study in 2024? Please address in detail both the benefits and risks of this potential process.

There would be little impact to implementation to initiate local buildouts while contemplating the import paths. Any project as expensive as the one contemplated here should be thoroughly evaluated regardless of the voltage selected. A substantial amount of capital has been spent in the last 10 years to increase capacity to and from the Permian basin. ERCOT's most economical solution should be pursued, which will strand less investment if forecasted loads are overestimated. Because of the load uncertainty, there seems to be little risk in taking time to complete the study, whether or not 345 kV is chosen.

4. With the understanding that the cost of these projects will be passed along to all the ratepayers in ERCOT, what considerations should the Commission address to minimize rate impacts? Are there any guardrails the Commission should implement?

Yes, there are guardrails the Commission should implement that are related to the amount of unsubstantiated load included in the load forecasts. Public Utility Commission Rules (Commission Rules) and ERCOT Nodal Protocols allocate transmission costs on a 4 Coincident Peak (4-CP) basis, based on the load share of a transmission customer's load at the relevant peak periods.³ Under the 4-CP approach, large electric consumers and wholesale transmission consumers can act to mitigate their exposure to the peaks by purposely reducing their consumption during peak periods. Some utilities or energy providers have established programs where they

³ 16 Texas Administrative Code (TAC) § 25.192 (b). *See also* ERCOT Nodal Protocol 9.17.1.

attempt to forecast such peaks for their consumers and take measures to reduce demand during these periods.⁴ One ERCOT analysis posited that 47% of ERCOT consumers (including non-opt-in-entities such as cooperatives and retail choice customers with an interval data recorder and a peak demand of greater than 700 kW) are directly subject to 4-CP charges.⁵

Historically, the 4-CP methodology made sense as a means to allocate transmission costs, because the transmission system is built to serve peak demand, and the peaks occur in the summer months of June, July, August and September, largely driven by high temperatures and greater demand for electricity centered around the need for cooling. However, over time, the dynamics of the ERCOT system have changed, such that the periods of greatest risk on the grid have shifted to “net peak load” driven by the ramp down of solar generation in the evenings. Additionally, as noted above, the incentives around 4-CP can be manipulated as sophisticated users modify their consumption to avoid these charges, thereby shifting the transmission costs to other loads remaining on the system. While the incentive to reduce consumption at system peaks serves to protect the system during periods of potential strain on the grid, as transmission costs increase, so does the potential for unjust shifting of costs, especially when those costs can be directly attributable to industrial, crypto and data loads. Cooperatives, like other loads subject to 4-CP charges, attempt to reduce consumption to manage those charges, but reducing consumption across thousands of miles of rural end users is a different proposition than curtailing a crypto mining facility.

The Permian Basin reliability plan therefore presents unique issues for the Commission’s consideration. The need for additional transmission in this region is a different story from the ERCOT system as a whole, and the justification for these facilities is based on novel criteria established in House Bill 5066, which requires the development of the reliability plan. In developing this plan, ERCOT projected an increase in Permian load of 23,959 MW by 2030, including 11,964 MW of oil & gas load and 11,995 MW of additional Load.⁶ Throughout

⁴ *Summer heat? For Texas businesses, there's a summer solution.*, NRG Editorial Voices (May 1, 2018) (<https://www.nrg.com/insights/energy-education/how-texas-businesses-can-reduce-their-demand-charges-through-4cp.html>).

⁵ *The ERCOT Grid and Beyond* at 28 (Mar. 13, 2019) (https://www.utilityeda.com/wp-content/uploads/Wednesday_Session-4_ERCOT_Joel-Mickey.pdf).

⁶ System Planning and Weatherization Update, ERCOT Presentation to the Reliability and Markets Committee (Apr. 22, 2024) (<https://www.ercot.com/files/docs/2024/04/15/8.1%20System%20Planning%20and%20Weatherization%20Update.pdf>).

ERCOT's Permian Basin reliability plan, ERCOT notes that the vast majority of the load growth in the Permian is directly associated with either oil and gas, crypto mining, or data centers.⁷ Cost causation principles would assign costs in a manner that reflects the end users' causation of those costs. Under the conventional 4-CP methodology, the main drivers of these additional costs (oil and gas and crypto) may be able to avoid or mitigate their cost increases, shifting a higher burden onto other market participants for transmission projects designed to benefit these large consumers in the Permian.

ERCOT estimates that the cost to implement the reliability plan by 2038 ranges between \$12.95 billion and \$15.32 billion depending on the options chosen.⁸ Prior experiences in transmission planning should tell us to expect cost overruns. When the state sought to build additional transmission infrastructure to allow for the utilization of additional wind generation, this led to the creation of Competitive Renewable Energy Zones (CREZ). CREZ was completed in 2013 but at a cost overrun of roughly \$2 billion for a total of \$7 billion, a 40% cost overrun of the initial \$5 billion projection.⁹ If the reliability plan experiences cost overruns similar to CREZ, ERCOT could be adding costs up to a range of \$18.13 to \$21.45 billion based on projected increases in industrial, crypto and data center loads. These are significant costs, and the Commission must carefully consider the appropriate allocation method.

The Commission should review cost allocation of the reliability plan under the premise that the load forecast is dependent upon the industrial load materializing, and these upgrades will disproportionately benefit this single customer class that may have the ability to avoid the 4-CP. Unlike other buildouts that are intended to benefit the grid as a whole, this buildout is primarily for the benefit of industrial load, even though the residential customer class may disproportionately pay the costs for those buildouts because of their relatively high on-peak consumption.¹⁰

TEC and its members are therefore concerned about the high costs of the reliability plan and the potential for the main drivers of the increased load to avoid the associated costs under the 4-CP cost allocation methodology. In order to follow cost-causation principles and ensure that oil

⁷ ERCOT Permian Basin Reliability Plan Study Report at ii – iii (Jul. 25, 2024).

⁸ *Id.* at 54.

⁹ *Transmission costs and the value of wind generation for the CREZ project*, Reid Dorsey-Palmateer, **Energy Policy** **Volume 138** (Mar. 2020) (<https://www.sciencedirect.com/science/article/abs/pii/S0301421520300100>).

¹⁰ See Demand Response and ERCOT Grid Reliability at 5 (May 23, 2012) (https://www.ercot.com/files/docs/2012/05/23/ercot_ccforum_2012.pdf).

and gas, crypto, and data center loads pay their share of the associated costs of the reliability plan, the Commission may need to consider alternatives to the typical 4-CP cost allocation and assign costs for the reliability plan in such a way that cost avoidance by more sophisticated consumers is minimized or eliminated. One potential solution to minimize cost shifting may be cost allocation based on annual net load share, where load pays based on its total consumption over time, rather than concentrating the allocation of all costs during short duration peak intervals. TEC respectfully requests that the Commission consider modifying the 4-CP cost allocation for the reliability plan in such a way that cost mitigation or avoidance is minimized to ensure all of ERCOT truly shares the costs, and other market participants do not bear an outsized cost burden to subsidize the oil and gas, crypto and data center loads.

5. Are there specific costs not captured in ERCOT’s study, such as reactive compensation devices, auto transformers for EHV if the Commission chooses EHV, and series compensation equipment? If so, what are those costs?

There may well be uncaptured and unanticipated costs given that EHV has not been implemented previously in the ERCOT region. This supports allowing ERCOT to complete further study before making determinations about the use of EHV, given that additional evaluation will result in more accurately estimated project planning and associated costs.

6. In approving this plan, how can the Commission ensure cost effectiveness for the listed projects? Please explain in detail and specifically address risks and offer potential mitigation solutions relating to:

- a) Load forecast, because this will be the first time the Commission will rely on load forecast methodology based on PURA § 37.056(c-1).**

As a result of the passage of House Bill 5066 during the 88th Legislative Session, the Commission is now required to consider speculative loads that have not yet signed interconnection agreements.¹¹ The rise of energy intensive industries like crypto mining and data centers, along

¹¹ Public Utility Regulatory Act (PURA) §37.056 (c-1) (“In considering the need for additional service under Subsection (c)(2) for a reliability transmission project that serves the ERCOT power region or under Subsection (c)(4)(F), the commission must consider the historical load, forecasted load growth, and additional load currently seeking interconnection, *including load for which the electric utility has yet to sign an interconnection agreement, as determined by the electric utility with the responsibility for serving the load.*” (emphasis added)).

with the inclusion of speculative loads, has led to substantial increases in load forecast amounts.¹² The result of these load forecasts are predictions of potentially artificial shortfalls in the future, necessitating system investment beyond what may actually be necessary. While there is no doubt load is growing, TEC cautions against building transmission projects to loads that may be transient or fail to materialize.

In TEC's reading of PURA § 37.056(c-1), while the Commission does have to consider speculative loads, it is only those "determined by the electric utility with the responsibility for serving the load." There does appear to be a level of discretion on the part of utility to make a determination regarding the actual future needs of the utility as it pertains to future loads reported to the Commission. In other words, if a new high-use consumer wishes to interconnect with a history of consistent business and firm plans, the utility may treat that load differently in terms of forecasting it to the Commission as opposed to a potential load from a business with a shorter track record and speculative plans. It is also possible that some loads may be discussing locating with multiple providers for what is a single load, resulting in a double counting of the same load. In order to reign in the overly aggressive load forecasts and bring costs more in-line with what is actually needed, the Commission may undertake a rulemaking to consider requiring more scrutiny on speculative loads and clarifying any additional steps the utility must take to avoid double-counting loads or reporting loads that have a low probability of materializing. Additionally, the Commission may consider making the load forecasts more dynamic where speculative or transient loads can be added or removed rapidly and forecasts updated more frequently based on changes in speculative loads.

Regarding the forecast related to the Permian Basin Reliability Plan, the Commission could limit the load forecast for oil and gas load by using a historical average value of crude to estimate the percentage of oil and gas production that will forego small generators in favor of local distribution service providers, giving a more accurate reflection of actual system need. Also, the Commission could consider using a fraction of the uncommitted data center and crypto mining load, choosing a factor that more fairly represents load growth under the assumption that some of that load is conjecture.

¹² *Texas electricity demand could nearly double in six years, grid operator predicts*, Emily Foxhall and Kayla Guo, **Texas Tribune** (Jun. 20, 2024) (<https://www.texastribune.org/2024/06/20/texas-electricity-demand-forecast-crcot/>).

As set forth above, the Commission should confirm the possible duplication of loads included in the forecast between TSPs. The Commission should also recognize the economic sensitivities of certain of these loads such as oil and gas loads and crypto mining which are subject to other economic drivers.

- b) Cost estimates, because projects will not be vetted through ERCOT's Regional Planning Group, the stakeholder committee that regularly reviews proposed transmission projects.**

In considering the Commission's prior experience with CREZ, TEC recommends the Commission view initial cost estimates with some skepticism, as costs may be significantly higher than predicted, especially with the recent supply chain challenges faced by utilities. More conservative cost projections may be higher (and more realistic) than those initially reported. The inaccuracy could be even higher for 500 kV and 765 kV lines than for lines with conventional voltages, as there are no previous projects in Texas with which to conduct a cost comparison. Along with the dynamic load forecasting, the Commission or ERCOT may need to revisit cost estimates at multiple points throughout the process as costs solidify and become clearer. Initial cost projections should be conservative, given that the overall design may change in the planning process, or the costs of equipment, materials or labor may increase during the study period.

7. How should the Commission address any project in the plan in which more than one Transmission Service Provider can claim the legal right to build it?

Absent a change in PURA §37.055, TSPs with the right to build should be assigned their shares in "separate and discrete equal parts." In the event it is unclear which TSP should build a particular section, a CREZ-like selection process with TSPs that own endpoints within ERCOT could be utilized. Much like the CREZ process where multiple TSPs were needed to complete the buildout, the same is likely to be true here, and the buildout in this case will be much larger.

8. Should the Commission consider any procedural changes to its traditional CCN process to account for the complexity and magnitude of the CCN cases?

There is no need to change CCN amendment processes for the Permian Basin Reliability Plan.

9. What, if any, specific items should the Commission’s final order include to provide clear and consistent directions for the implementation of the plan to the TSPs, ERCOT, and Staff.

The Commission should identify the TSP responsible for each identified part of the project, the date each project is expected to be completed, and the cost estimate for each project provided by the responsible TSP.

10. What unintended impacts or risks might arise out of approving or implementing ERCOT’s proposed plan? How could they be avoided or mitigated? Are there any lessons from the Competitive Renewable Energy Zones implementation that the Commission should consider?

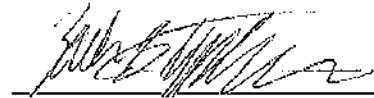
The lesson learned from CREZ should be that actual costs will dwarf the present cost estimates. The gap between actual costs and the cost estimates will likely widen the higher the voltage of the lines that are used.

II. Conclusion

TEC appreciates the opportunity to provide comment in response to Staff’s Questions and looks forward to working with the Commission and the other stakeholders in this project.

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Respectfully submitted,



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EXECUTIVE SUMMARY

- The Commission should consider the most economical build-out with a phased approach in implementing the solution for the Permian Basin.
- The Commission should modify the typical 4-CP cost allocation for the Reliability Plan in such a way that cost mitigation or avoidance is minimized to ensure all of ERCOT truly shares the costs, and other market participants do not bear an outsized cost burden to subsidize the oil and gas, crypto and data center loads.
- The Commission may need to consider requiring additional layers of scrutiny on speculative loads and making load forecasts more dynamic where speculative loads may be added or removed more frequently.
- The Commission should revisit cost estimates at multiple points throughout the process to update projections as costs become known and easier to project.
- TSPs with the right to build should be assigned their shares in “separate and discrete equal parts.”
- There is no need to change CCN amendment processes for the Permian Basin Reliability Plan.