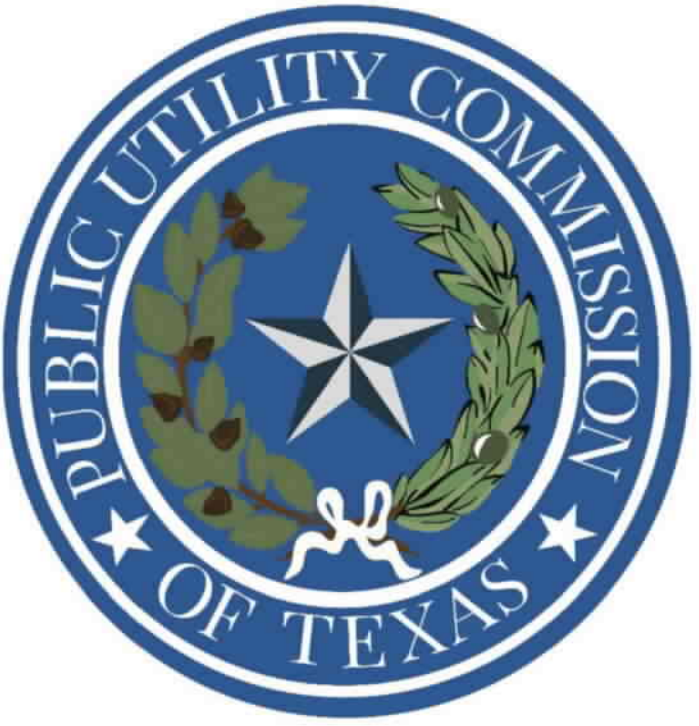

Filing Receipt

Filing Date - 2025-02-14 11:22:29 AM

Control Number - 55718

Item Number - 57

PROJECT NO. 55718

RELIABILITY PLAN FOR THE PERMIAN BASIN UNDER PURA §39.167	**§ § §**	**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 report on the use of extra-high voltage lines.[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 February 14, 2025. These comments are timely filed.

I. General Comments

As an association, TEC represents members with differing outlooks and interests. TEC is not advocating specifically for or against either voltage level of buildout. The following responses represent TEC's and our members' best efforts to dutifully respond to inquiries from Commission Staff. TEC's members stand ready to build the voltage level of infrastructure deemed most appropriate by ERCOT and the Commission.

II. Responses

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?

In addition to the upfront costs already considered by ERCOT (construction, right of way purchases, reconductoring, etc.), ERCOT should analyze and consider the increased costs of operations and maintenance associated with the use of extra high voltage lines. As these lines expand across the state, experiencing our full array of weather patterns and geographic challenges,

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[1] Staff Questions on PUCT's Determination of using EHV in ERCOT Region (Jan. 31, 2025) (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.

they will require ongoing maintenance. The costs to maintain a 765 kV line, including the impacts of taking a single circuit high voltage line out of service for maintenance, needs a full analysis. An analysis of the projected operations and maintenance costs would be helpful to understand the recurring costs likely associated with the operation of a higher voltage system.

Additionally, all cost impacts should be allocated fairly. The Commission should revisit the current 4 Coincident Peak (4CP) cost allocation methodology to ensure all users of the bulk transmission system pay for their use of the system overall, not simply at the times of peak demand.

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

TEC believes that the economic and reliability benefits that should be given the most weight are congestion relief and the flexibility afforded future buildouts. Congestion issues with the current bulk transmission system, along with unprecedented load growth, comprise the main motivator in the current push for expansion of the transmission system.[3] The ability to effectively relieve congestion should be a primary consideration.

ERCOT and the PUC have consistently noted through public statements and reports that our load growth is expanding at a rapid pace. If that pace of growth continues, Texas will need more transmission buildouts in the future. However, not all areas of the state will grow at the same rate. TEC believes it is imperative to consider flexibility for future buildouts when designing the current transmission system upgrades. There could be unforeseen economic or population trends that develop, necessitating future system expansion in an area of the state not currently considered.

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?

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

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[3] ERCOT's 2024 Regional Transmission Plan 345-kV Plan and Texas 765-kV Strategic Transmission Expansion Plan Comparison at ii (Jan. 24, 2025).

3. **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.**

Based on current supply chains and expertise, it is likely that the 765 kV buildout will take longer to energize than the 345 kV option. Current supply chains already account for 345 kV materials and should be comparatively easy to obtain. 765 kV may require transmission and distribution utilities, municipally owned utilities and generation and transmission cooperatives to negotiate for new supplies or even find new vendors if current material providers do not have the appropriate supplies for building and maintaining 765 kV lines and stations. Coupled with likely supply chain issues associated with changing trade dynamics, the ability to find new suppliers and materials may be hampered.

Additionally, line crews and construction crews will need additional training in the construction, stringing and maintenance of extra-high voltage lines. There will likely be a learning curve before our crews in Texas become proficient with these different materials and designs.

4. **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?**

Both plans have the ability to be flexible if executed properly. The concept of using a 765 kV "backbone" approach puts the vital power flows in place, allowing future smaller voltage expansions as needed, but there are tradeoffs. Constructing a large 345 kV buildout without known load quantities may result in stranded assets. In the alternative, if the load fails to materialize in such a way that even portions of the backbone are unnecessary, the stranded asset costs associated with a 765 kV line would be higher.

However, if the 345 kV option is built out in an incremental manner, this may provide greater overall flexibility where portions of the plan may be delayed or reconsidered as appropriate as the load growth picture comes into greater focus.

5. **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?**

TEC has identified various pros and cons of utilizing 765 kV infrastructure as follows:

- Pros
    - Flexible – The backbone model allows infrastructure to accommodate the main power flows to be built now with optionality for further expansion with lower voltage lines as needed in the future. However, the risk of overbuild is higher.

- "Building for the future" – If ERCOT's updated load forecasts come to fruition, it is most likely that ERCOT will eventually require substantial transmission expansion, and 765 kV facilities present superior transfer capabilities. Building those elements of the future grid now could save Texas money in the long term as inflationary pressures continue to push construction costs higher over time.
- Reduced line loss – As identified by ERCOT, reducing the number of lines needed by using a higher voltage will reduce the amount of line loss on the system. Using lower voltage lines in greater number increases the amount of line loss throughout the system.
- Less Congestion in Short Term – The use of higher voltage lines is likely to reduce congestion in the short term as the new higher voltage lines are brought into service and greater capacity exists across the system to handle increasing power flows.

- Cons
  - High Upfront Costs – The projected upfront costs are already higher for the 765 kV buildout. In TEC's estimation, it is likely that these costs will actually be higher than projected due to ERCOT's unfamiliarity with the use and maintenance of 765 kV lines versus 345 kV lines. Prior experience with CREZ expansion also leads TEC to expect higher costs than those projected. These higher upfront costs would need to be allocated in a just manner that does not unduly fall on residential consumers, less able to respond to avoid the current 4 CP allocation. The Commission should consider alterations to 4 CP to better ensure large loads pay for their use of the system.
  - Consequence of Overbuild – The passage of House Bill 5066 altered the manner in which ERCOT is required to project future load growth, which now incorporates load that may be speculative. If a significant portion of the projected load fails to materialize, the construction of 765 kV may result in overbuild and stranded assets. Any stranded assets on a 765 kV buildout are likely to be more expensive than stranded assets associated with a 345 kV build.
  - New Contingency Considerations – The use of 765 kV lines creates a new single largest contingency consideration at the transmission level. Normally, the greatest contingency considerations are reserved for generation assets, but the criticality of the 765 kV lines, once installed, would need to be considered in terms of system security and reliability. Without adequate redundancies, overloading or physical damage to a 765 kV line could pose serious risks to the bulk transmission system.

- ERCOT Adaptation Time – Because the use and operation of 765 kV lines are new to the ERCOT market, it may require a lengthy transmission and stakeholder planning process as parties adapt to the use of higher voltage infrastructure. This regulatory learning curve could delay the time to energize.

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

Landowner Impacts - As the Commission debates a path forward, potential impacts on landowners with existing lines should also be considered. Generally, the state's historical preference has been to parallel new and existing lines. TEC members pride themselves on working well and maintaining positive relationships with landowners. With the increased right of way needs for the 765 kV lines and increased needs of double-circuited 345 kV lines, impacts to landowners should be considered as the Commission charts the path forward.

Planned Outages - As an extension of new largest single contingency concerns expressed above, the Commission may need to consider the safety issues and outage management planning issues as the system is reliant on more single lines of high capacity.

III. 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.

Dated: February 14, 2025

Respectfully submitted,

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PROJECT NO. 55718

RELIABILITY PLAN FOR THE PERMIAN BASIN UNDER PURA §39.167	**§**	**PUBLIC UTILITY COMMISSION OF TEXAS**

EXECUTIVE SUMMARY

- 765 kV and 345 kV lines each come with their relative strengths and weakness.
- A primary consideration should be the relief of congestion. 765 kV lines may yield better congestion relief in the short term but may experience worse congestion issues in the long term as the system becomes dependent on only a few 765 kV lines.
- 345 kV has less upfront costs than 765 kV and may be quicker to energize.
- 765 kV may provide better flexibility with the buildout to handle main power flows and lower voltage additions as needed in the future. However, if built incrementally, the double circuit 345 kV option would provide better flexibility.
- The Commission and ERCOT will need to consider landowner impacts with the increased right of way requirements for both 765 kV lines and an increased number of 345 kV lines.
- The use of 765 kV lines introduces a new single greatest contingency into the transmission system. Outage planning, security, and safety plans will need to be adjusted to account for these critical lines that pose greatest risk to the system if compromised.