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Pedernales Electric Cooperative, Inc (PEC) Liberty Hill Area Capacity Improvement Project (26RPG018) – ERCOT Independent Review (EIR) Study Scope

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Regional Planning Group (RPG) Meeting
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Introduction

Pedernales Electric Cooperative, Inc (PEC) submitted the Liberty Hill Area Capacity Improvement Project for Electric Reliability Council of Texas' (ERCOT) Regional Planning Group (RPG) review in April 2026

- This is a Tier 2 project with an estimated cost of approximately $80 million and would require a Certificate of Convenience and Necessity (CCN)
- Estimated in-service date (ISD) is June 2030
- Addresses distribution constraints seen by PEC in Liberty Hill and Georgetown areas due to increasing natural load growth
- Addresses transmission thermal overload and voltage violations seen by PEC in Williamson County in the South Central Weather Zone due to increasing natural load growth

This project is currently under ERCOT independent Review (EIR)

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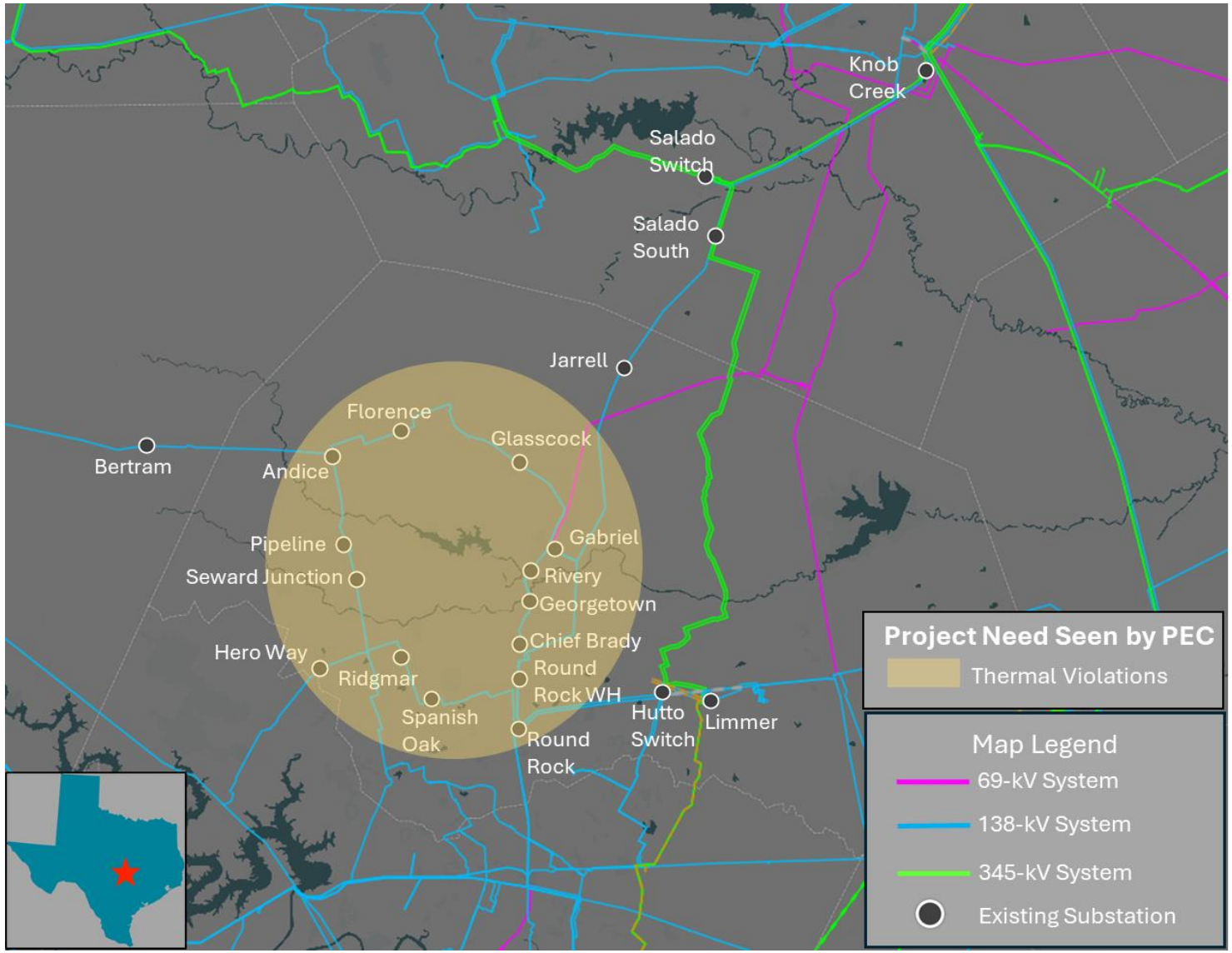
Study Area Map with Project Needs Seen by PEC



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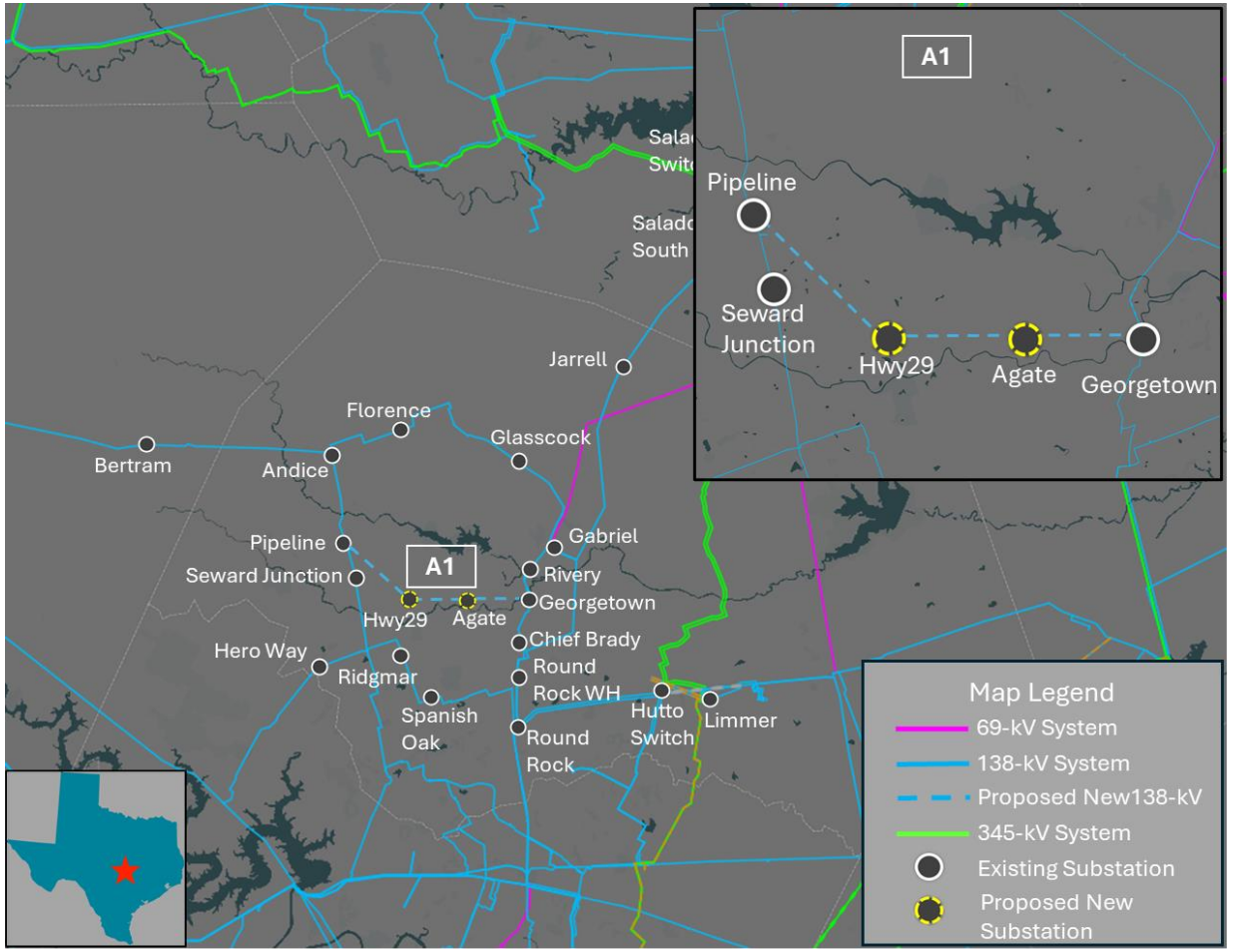
Proposed Project by PEC

Overall Project Summary

- Two (2) new 138-kV substations
- Three (3) new 56 MVA 138/25-kV transformers
- Fifteen (15) 138-kV Circuit Breakers
- Approximately 11 miles of new 138-kV single-circuit transmission lines on double-circuit capable structures
- Upgrade equipment in existing substation



Proposed Project by PEC (continued)

Project Details

- Construct a new Highway 29 substation with 4-terminal ring-bus layout
- Install two 138/25-kV transformers, with rating of 56 MVA, at Highway 29 Substation
- Construct a new Pipeline to Highway 29 138-kV transmission line using double-circuit structures on a new right of way (ROW), with normal and emergency ratings of at least 717 MVA, for approximately 3 miles.
- Construct a new Agate substation with 4-terminal ring-bus layout
- Install one 138/25-kV transformer, with rating of 56 MVA, at Agate Substation
- Construct a new Highway 29 to Agate 138-kV transmission line using double-circuit structures on a new right of way (ROW), with normal and emergency ratings of at least 717 MVA, for approximately 6 miles
- Construct a new Agate to Georgetown 138-kV transmission line using double-circuit structures on a new right of way (ROW), with normal and emergency ratings of at least 717 MVA, for approximately 2 miles.
- Expand the existing Pipeline Substation from a 4-breaker to a 12-breaker breaker-and-a-half bus configuration

Proposed Project by PEC (continued)

Project Details

- Upgrade line terminal equipment at existing Pipeline Substation to ensure a line rating of at least 3000 A
- Terminate both new 138-kV Pipeline to Highway and Highway 29 to Agate transmission lines at the new Highway 29 Substation
- Terminate both new 138-kV Highway 29 to Agate and Agate to Georgetown transmission lines at the new Agate Substation
- Terminate the new 138-kV Agate to Georgetown transmission line at the existing Georgetown Substation owned by LCRA TSC

Study Assumptions

Study Region

- The project is located in Williamson County in the South Central Weather Zone and all the transmission elements that are electrically close will be monitored

Steady-State Base Case

- Final 2025 Regional Transmission Planning (RTP) 2031 summer peak load case, published on Market Information System (MIS) on December 22, 2025, was updated to construct the study base case

Transmission Updates

- New transmission projects (listed in Appendix A1), based on October 2025 Transmission Project and Information Tracking (TPIT) report and/or recently approved RPG project, will be added to the study base case
- Transmission projects (listed in Appendix A2) identified in the 2025 RTP in the study area that have not been approved by RPG will be removed

Generation Updates

- New generation (listed in Appendix B) that met ERCOT Planning Guide Section 6.9(1) condition with Commercial Operation Date (COD) before the June 2030 (ISD) in the study area at the time of the study, but not already modeled in the RTP cases, will be added to the case based on April 2026 Generator Interconnection Status (GIS) report published in MIS in May 2026

Load and Reserve Updates

- Load level in the study region will be kept consistent with the final RTP cases; and
- The reserve will be kept consistent with the 2025 RTP

Contingencies & Criteria

Contingencies for Study Region

- North American Electric Reliability Corporation (NERC) Reliability Standard TPL-001-5.1 and ERCOT Planning Criteria
  - P0 (System Intact)
  - P1, P2-1, P7 (N-1 conditions)
  - P2-2, P2-3, P4, and P5 (Extra High Voltage (EHV) only)
  - P3 (G-1+N-1) {G-1: list in Appendix C}
  - P6-2 (X-1+N-1) {X-1: list in Appendix C}

Criteria

- Monitor all 60-kV and above busses, transmission lines and transformers in the study region (excluding generator step-up transformers)
- Thermal
  - Use Rate A for normal conditions
  - Use Rate B for emergency conditions
- Voltage
  - Voltages exceeding their pre-contingency and post-contingency limits
  - Voltage deviations exceeding 8% on non-radial load buses

Study Procedure

Need Analysis

- The reliability analysis will be performed to identify the need in the study area using the study base case

Project Evaluation

- Project alternatives will be tested to satisfy the NERC and ERCOT reliability requirements
- ERCOT may also perform the following studies
  - Maintenance Outage Evaluation
  - Long-Term Load-Serving Capability Assessment
- TSP(s) will provide Cost Estimates and Feasibility Assessment

Additional Analyses may be considered for the ERCOT preferred option

- Congestion analysis may be performed based on the preferred transmission upgrades to ensure that the identified transmission upgrades do not result in new congestion within the study area

Deliverables and Next Step

Tentative Timelines

- Provide status updates at the future RPG meetings
- ERCOT recommendation in Q3 2026

Key Takeaway: ERCOT recommendation in Q3 2026

Thank you!

Questions/Comments?

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Appendix

- Appendix A1: Transmission Projects Added
- Appendix A2: Transmission Projects Removed
- Appendix B: Generation Projects to be Added
- Appendix C: G-1 Generators and X-1 Transformers List to be Tested

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Appendix A1: Transmission Projects Added

TPIT / RPG No	Project Name	Tier	Project ISD	County(s)
16TPIT0007	McNeil to MagPlant Ckt 977 Upgrade	Tier 4	06/2030	Travis
100159	Establish Teal East 138 kV Switch for a customer POD	Tier 4	12/2028	Williamson
91293	LCRATSC_Gabriel-Schwertner TL conversion	Tier 4	05/2027	Williamson
100178	HarrisBranch_McNeil_Transmission_Line_Upgrade	Tier 4	05/2028	Travis
100180	HarrisBranch_ShadowGlen_Transmission_Line_Upgrade	Tier 4	05/2028	Travis
99818	LCRATSC_Manor_Shadow_Glen_Transmission_Line_Upgrade	Tier 4	05/2028	Travis
80546D	Upgrade the Hutto & Round Rock - Salado 138 kV Line	Tier 3	05/2027	Williamson
87703	Belton - Killeen 138 kV Line via Nolanville	Tier 1	12/2028	Bell
99136	Wilke 138 kV Capacitors	Tier 4	05/2027	Williamson
100076	Establish Maxdale 138 kV Switch	Tier 4	05/2027	Bell
25RPG009	Muscovy and Voss Lake 345/138-kV Project – Phase1	Tier 1	12/2028	Williamson/Milam
26RPG002	RW Miller Area Improvement Project	Tier 3	Fall 2029	Travis

Appendix A2: Transmission Projects Removed

RTP Project ID	Project Name	County(s)
2023-SC15	Sim Gideon Area 138-kV Line Upgrades	Bastrop, Fayette, Travis
2024-SC04	Wells Branch Area 138-kV Line Upgrades	Travis
2025-NC08	Possum Trot (3791) Area 345-kV Reconfiguration and Line Upgrades	Bell, Falls, McLennan
2025-NC05	Tower Switch (3780) Area 345-kV Reconfiguration and Line Upgrades	Bell
2025-NC16	Gibson (3706) to Littlepond (3377) 345-kV Line Upgrades	Bell, Milam
2025-NC21	Temple Switch (3415) to Temple Pecan Creek (3420) 138-kV Line Upgrades	Bell
2025-NC31	Holland (3646) to Bartlett (13647) 69-kV Line Upgrade	Bell, Williamson
2025-NC38	Bell East (3687) to Temple Pecan (3412) 345-kV Line Addition	Bell
2025-NC39	Poage (33126) to Nolan Creek (3735) to Temple Taylor Valley (3636) 138-kV Line Upgrades	Bell
2025-NCSC01	Round Rock (3668) to Star Ranch (3653) 138-kV Line Upgrades	Williamson
2025-SC01	Central Texas 345-kV Voltage Support	Travis
2025-SC04	Dunlap (9044) Area 345-kV Line Reconfiguration	Travis
2025-SC05	Central Texas 345-kV Line Upgrades	Bastrop, Caldwell, Guadalupe, Travis

Appendix B: Generation Projects to be Added

GINR	Project Name	Fuel	Project COD	Max Capacity (~MW)	County
22INR0350	Sandow Solar	SOL	06/01/2028	287.18	Milam

Appendix C: List of Generators and Transformers to be Tested

Generator	Transformer
Sandow Solar	Gabriel X1 1345/138-kV
North Fork	Teal X1 345/138-kV
	Salado X1 345/138-kV