Pedernales Electric Cooperative, Inc. (PEC) – Wimberley Loop Transmission Project – ERCOT Independent Review (EIR) Status Update

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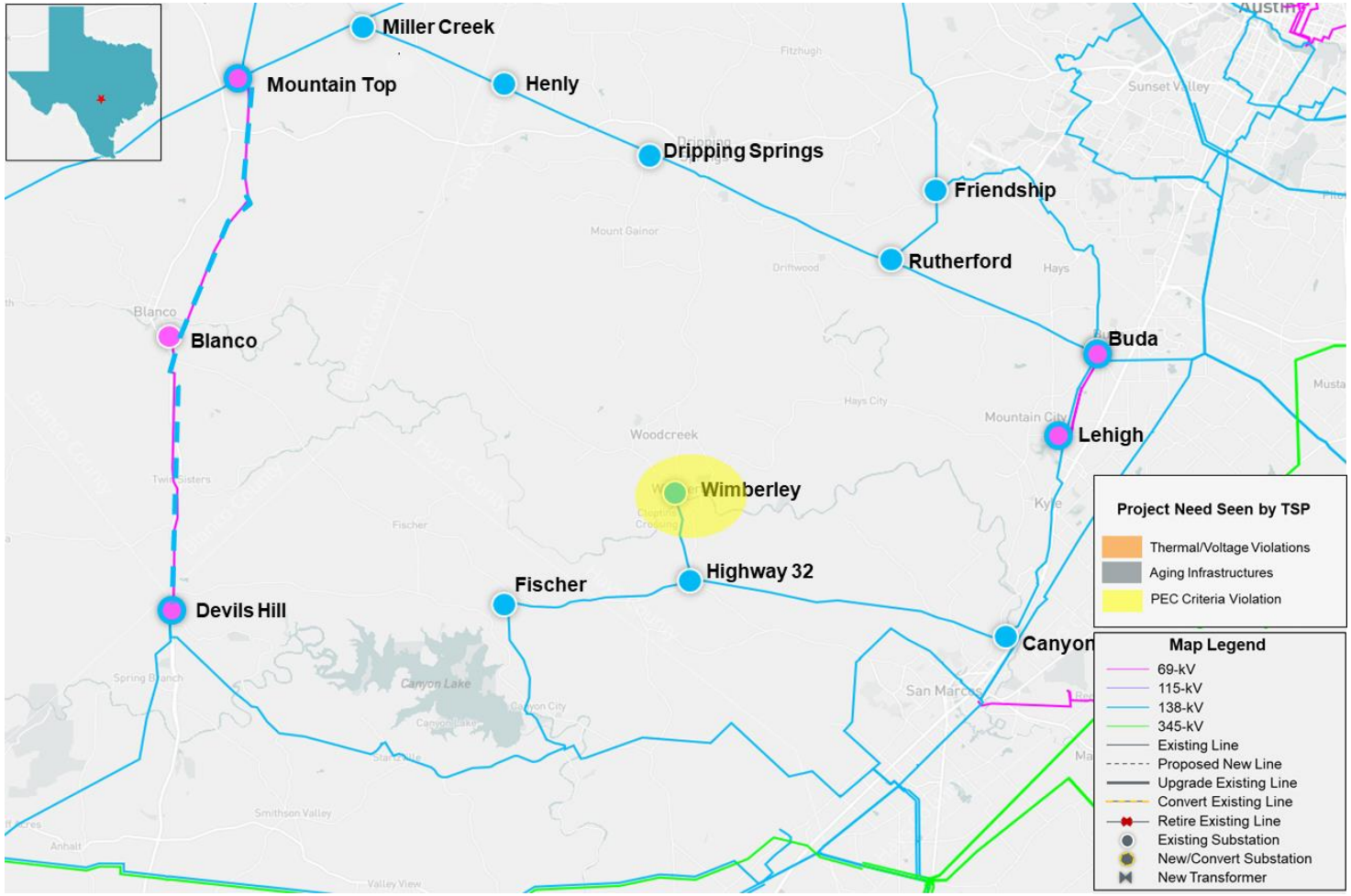
RPG Meeting
January 25, 2023

Recap

- Pedernales Electric Cooperative, Inc. (PEC) submitted the Wimberley Loop Transmission Study for Reginal Planning Group (RPG) review in August 2022
  - This Tier 2 project is estimated at $77.32 million and will require a Certificate of Convenience and Necessity (CCN)
  - Estimated completion date is May 2027
- ERCOT provided the study scope and status updates at the October and November RPG meetings
  - https://www.ercot.com/calendar/10192022-RPG-Meeting-by-WebEx
  - https://www.ercot.com/calendar/11082022-RPG-Meeting-by-Webex
- ERCOT completed its Independent Review (EIR) and will present the preferred option today

Recap - Study Area Map with Project Need



Note: Devils Hill to Blanco to Mountain Top 69-kV to 138-kV conversion (TPIT 70367A and 70367B, 22RPG033) to be completed independent of and prior to Wimberley Loop Project according to PEC

Comparison of Short-listed Options

	Option 1	Option 2	Option 3	Option 4
Met ERCOT and NERC Reliability Criteria	Yes	Yes	Yes	Yes
Met PEC's Planning Criteria Requirement	Yes	Yes	Yes	Yes
Improved Long-term Load Serving Performance	No	Marginally	No	No
Requires CCN (miles)	Yes (~19)	Yes (~17)	Yes (~13)	Yes (~17)
Capital Cost Estimates*	$77.32 M	$66.01 M	$61.93 M	$63.87 M

* Cost estimates were provided by PEC

- All four short-listed options resolve PEC's Planning criteria violation with no reliability issues

Long-Term Load-Serving Capability Assessment Assumptions

- Adjusted load up in substations identified in “List of Substation buses within the Study Area” section of 2021_Wimberley_Trans_final_r2 RPG submittal
- Adjusted conforming load down outside of Southern, South Central, and West weather zones to balance power
- Based on N-1 contingency limits
- Data has been updated since the November RPG meeting to reflect the following new TPIT projects
  - The 138-kV transmission lines from Rattler substation have associated TPIT projects 70204 and 70351 that will increase their ratings to 706 MVA and be in-service before 2027

Long-Term Load-Serving Capability Assessment Results

	Incremental Load Serving Capability (MW)	
Option	N-1*	Next-Most Limiting N-1 Condition
1	478	572
2	518	600
3	508	657
4	512	626

* The McCarty Lane to Rattler and Rattler to Redwood lines are expected to be upgraded by 2025 according to the latest TPIT (TPITs 70204 and 70351, respectively). Analysis was performed with the lines upgraded

Maintenance Outage Analysis

- ERCOT conducted planned maintenance outage analysis on all short-listed options
- Based on the review of system topology of the area, ERCOT tested 138 N-2 contingencies as a proxy for N-1-1
- No reliability issues were observed with the short-listed options

	Thermal Overload	Voltage Violation
Option 1	None	None
Option 2	None	None
Option 3	None	None
Option 4	None	None

Preferred Option

- Option 3 is selected as the preferred option
  - Addresses PEC's Planning criteria violation with no reliability issues
  - Is the least cost option
  - Requires the least new right of way
  - Performs relatively better than the PEC-preferred option 1 in the load serving capability analysis, and it outperforms all other options when examining the next-most limiting N-1 condition

Congestion Analysis

- Congestion analysis was performed for Option 3 using the 2021 RTP 2026 Final Economic case
- Option 3 did not result in any new congestion within the study area

ERCOT Recommendation

- ERCOT recommends Option 3
  - Estimated Cost: $61.93 Million
  - Estimated In-Service Date: May 2027
    - Construct a new 138-kV substation between existing Rutherford and Dripping Springs substations, employing a ring bus configuration expandable to breaker and a half with 3000-A terminal equipment
    - Construct a new 138-kV line from the 138-kV Wimberley substation to the new 138-kV substation with a normal and emergency rating of at least 219 MVA (~13.44 miles of new ROW). The new line will be constructed using double-circuit-capable structures with a single circuit installed initially

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RPG Acceptance and ERCOT Endorsement

- ERCOT Protocol Section 3.11.4.9(4)

> (4) If a TSP asserts a need for a proposed Tier 1 or Tier 2 project based in part or in whole on its own planning criteria, then ERCOT's independent review shall also consider whether a reliability need exists under the TSP's criteria. If ERCOT identifies a reliability need under the TSP's criteria, then ERCOT shall recommend a project that would address that need as well as any reliability need identified under NERC or ERCOT criteria, but shall explicitly state in the independent review report that ERCOT has assumed the TSP's criteria are valid and that an assessment of the validity of the TSP's criteria is beyond the scope of ERCOT's responsibility. ERCOT or the ERCOT Board may provide a qualified endorsement of such a project if ERCOT determines that it is justified in part under ERCOT or NERC criteria, as described in paragraph (1) above. However, neither ERCOT nor the ERCOT Board shall endorse a project that is determined to be needed solely to meet a TSP's criteria.

- In accordance with Protocol Section 3.11.4.9(4), ERCOT will not endorse this project as it is needed solely to meet PEC's Planning criteria

Next Step and Tentative Timeline

- Tentative Timelines
  - EIR Report will be posted in the MIS
    - Q1 2023

Thank you!

Stakeholder comments also welcomed through:

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Appendix

Short-listed Options Maps

Option 1 - New Wimberley to Blanco 138-kV

Note: Devils Hill to Blanco to Mountain Top 69-kV to 138-kV conversion (TPIT 70367A and 70367B, 22RPG033) to be completed independent of and prior to Wimberley Loop Project according to PEC

Option 2 - New Wimberley to Henly 138-kV

Note: Devils Hill to Blanco to Mountain Top 69-kV to 138-kV conversion (TPIT 70367A and 70367B, 22RPG033) to be completed independent of and prior to Wimberley Loop Project according to PEC

Option 3 – New Wimberley to New Sub A Between Rutherford and Dripping Springs 138-kV

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Option 4 – New Wimberley to New Sub B Between Rutherford and Buda 138-kV

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