



## STEC – Rio Medina Project ERCOT Independent Review Scope

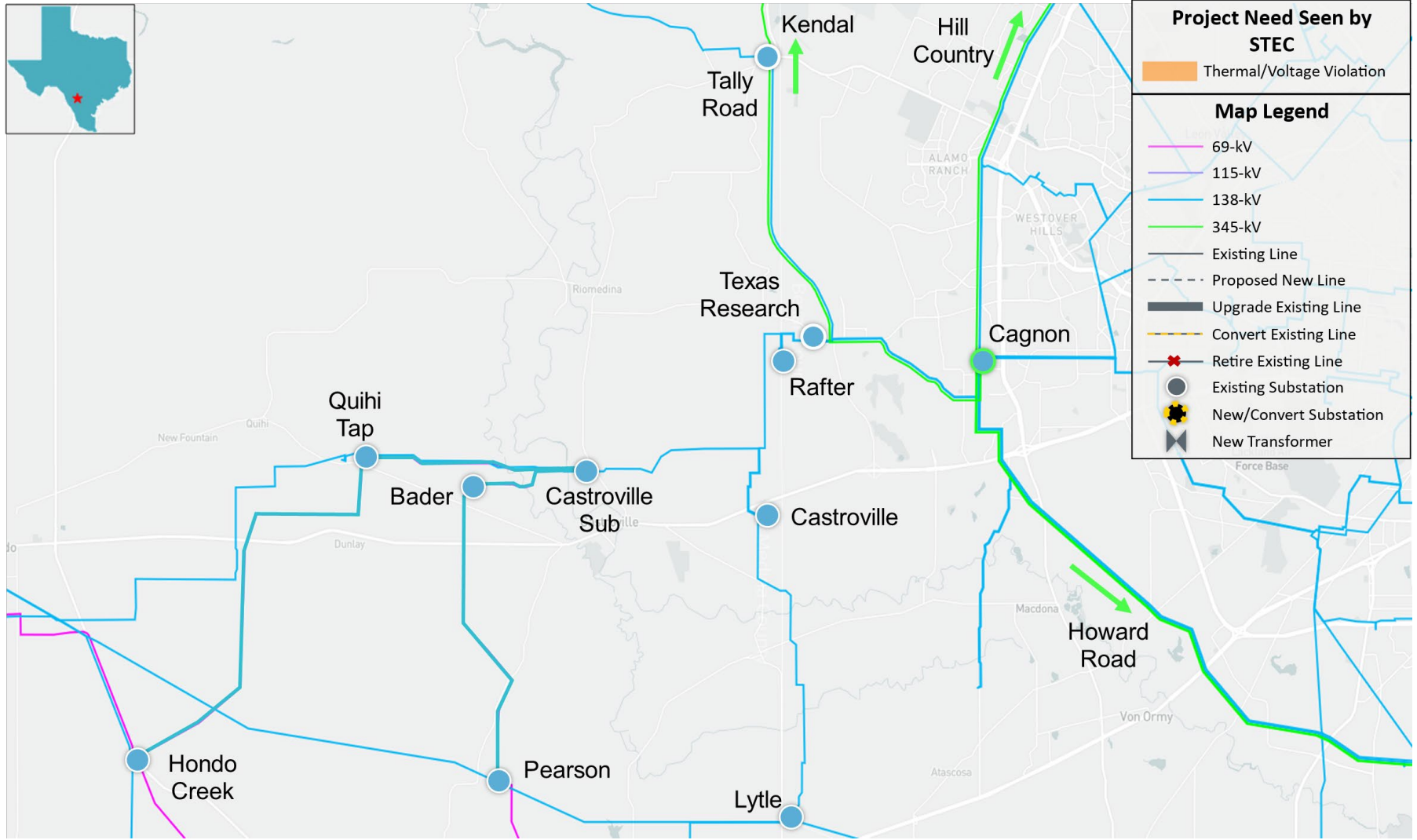
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RPG Meeting  
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# Introduction

- STEC submitted the Rio Medina Project for Regional Planning Group (RPG) review in September 2023
  - This Tier 2 project is estimated to cost \$38.0 million and will require Certificate of Convenience and Necessity (CCN) filings
  - Estimated in-service date
    - January 2027
  - The project serves a new 129 MW load at the new Rio Medina substation
- STEC provided a project overview at the October RPG meeting
  - <https://www.ercot.com/calendar/10182023-RPG-Meeting>
- This project is currently under ERCOT Independent Review (EIR)

# Study Area Map



# Study Area Map with Proposed Project by STEC



- Construct a new Rio Medina 138-kV substation
- Construct a new 4.5-mile Rio Media - Castorville 138-kV single-circuit line on a double-circuit structure with at least 427 MVA normal rating and 474 MVA emergency rating
- Construct a new 381Estimate1 138-kV substation which cuts into the existing Texas Research and Tally Road 138-kV line
- Construct a new 8.8-mile Rio Media - 381Estimate1 138-kV single-circuit line on a double-circuit structure with at least 427 MVA normal rating and 474 MVA emergency rating

# Study Assumptions – Base Case

- Study Region
  - Southern and South-Central Weathers Zones (WZs), focusing on the transmission elements Medina County
  - Monitor surrounding counties that are electrically close to the area
- Steady-State Base Case
  - Final 2022 Regional Transmission Planning (RTP) 2027 summer peak case for South-South Central (SSC) WZs, posted in Market Information System (MIS), will be updated to construct the summer peak load study base
    - Case: 2022RTP\_2027\_SUM\_SSC\_12222022
    - Link: <https://mis.ercot.com/secure/data-products/grid/regional-planning>

# Study Assumption - Transmission

- Based on the October 2023 Transmission Project and Information Tracking (TPIT) posted on MIS, Tier 1, 2, 3, and 4 projects with in-service dates on or before January 2027 within the study area were added to the study base case if not already modeled in the case
  - TPIT Link: <https://www.ercot.com/gridinfo/planning>
  - See appendix for the list of transmission projects to be added
- Transmission projects identified in the 2022 RTP as placeholders for CPS San Antonio South Reliability project were removed to develop the study base case

RTP Project ID	Project Name	TSP	County
2022-SC6	Howard - San Miguel 345-kV Double Circuit Line Addition and Beck Road 345/138-kV Substation Expansion	CPS, STEC	Bexar, Atascosa

# Study Assumptions – Generation

- New generation that met Planning Guide Section 6.9(1) condition with Commercial Operation Date (COD) before January 2027 in the study area at the time of the study, but not already modeled in the 2022 RTP Final case, will be added to the study base case based on the September 2023 Generator Interconnection Status (GIS) report posted in MIS in October 2023
  - GIS Link: <https://www.ercot.com/gridinfo/resource>
  - See appendix for the list of generation projects to be added
- All new generation added will be dispatched consistent with the 2022 RTP methodology
- All recent retired/indefinitely mothballed units will be reviewed and turned off, if not already reflected in the 2022 RTP Final case

# Study Assumptions – Load & Reserve

- Load in study area
  - Load level in the SSC weather zone will be maintained consistent with the 2022 RTP
  - Newly approved loads in the study area will be added to the study base case
- Reserve
  - Load outside of SSC weather zones may be adjusted to maintain the reserve consistent with the 2022 RTP



# Contingencies and Criteria

- Contingencies
  - NERC TPL-001-5.1 and ERCOT Planning Criteria
  - Link: <https://www.ercot.com/mktrules/guides/planning/current>
    - P0 (System Intact)
    - P1, P2-1, P7 (N-1 condition)
    - P2-2, P2-3, P4, and P5 (EHV only)
    - P3 (G-1+N-1: G-1 of SunRaySolar, San Miguel U1 generator outages)
    - P6-2 (X-1+N-1: X-1 of Cagnon 345/138-kV transformer)
- Criteria
  - Monitor all 60-kV and above buses, transmission lines, and transformers in the study area (excluding generator step-up transformers)
  - Thermal
    - Use Rate A for pre-contingency conditions
    - Use Rate B for post-contingency conditions
  - Voltage
    - Voltages exceeding their pre-contingency and post-contingency limits
    - Voltage deviations exceeding 8% on non-radial load busses

# Study Procedure

- Need Analysis
  - The reliability analysis will be performed to identify the need to serve the projected area load 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
    - Planned maintenance outage
    - Long-term load serving capability assessment
  - TSP will provide cost estimate and feasibility assessment
- Congestion Analysis
  - Congestion analysis may be performed based on the recommended transmission upgrades to ensure that the identified transmission upgrades do not result in new congestion within the study area

# Deliverables

- Tentative Timelines
  - Status updates at future RPG meetings
  - Final recommendation – Q1 2024

*Thank you!*



Stakeholder comments also welcomed through:

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# Appendix – New Transmission Projects Added

TPIT No	Project Name	Tier	Project ISD	TSP	From County
22RPG048	San Antonio South Reliability Project	Tier 1	Jun-27	CPS	Bexar, Atascosa
22RPG022	Hondo Creek to Pearson 69 kV Transmission Line Rebuild Project	Tier 2	Dec-23, Jun-24	STEC	Medina
67992	CPSE_345KV_Howard_Switching_Station	Tier 3	Feb-24	CPS	Bexar
68266	Dry Frio: Build new 138 kV station	Tier 4	May-24	AEP TNC	Uvalde
70536	New 138 kV Verde Circle Substation	Tier 4	Oct-24	CPS	Bexar
72500	Rio Lago - New 138kV Substation	Tier 4	Nov-24	BEC	Bandera
72268	CPSE_New Ingram Rd Substation	Tier 4	May-25	CPS	Bexar
76576	Asherton to Uvalde: Convert to 138 kV	Tier 3	May-25	AEP TCC	Dimmit
76580	Poblano: Build new 138 kV station	Tier 3	May-25	AEP TCC	Uvalde
71873	CPSE_Hill Country Auto# 2 Impedance Upgrade	Tier 4	Sep-25	AEP	Medina
73063	Big Foot to Lytle: Convert to 138 kV	Tier 4	Sep-25	AEP	Medina
67915	Asherton to West Basteville 138 kV line Rebuild	Tier 3	Dec-26	BEC	Dimmit
71871	CPSE_Cagnon to Shepherd Rd Rebuild Phase A	Tier 4	May-23	CPS	Bexar

# Appendix – New Generation Projects Added

GINR	Project Name	Fuel	Projected COD	Capacity (MW)	County
21INR0395	SunRay	Solar	05/23/2024	200	Uvalde
22INR0368	Padua Grid BESS	Battery	12/31/2024	51.39	Bexar
22INR0422	Ferdinand Grid BESS	Battery	05/31/2026	202.65	Bexar
23INR0381	Soportar ESS	Battery	03/15/2025	102.11	Bexar
24INR0427	CPS AvR CT1 Rotor Replacement	Gas	01/30/2024	11.3	Bexar