CPS Energy Large Load Additions Project – ERCOT Independent Review Scope

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RPG Meeting
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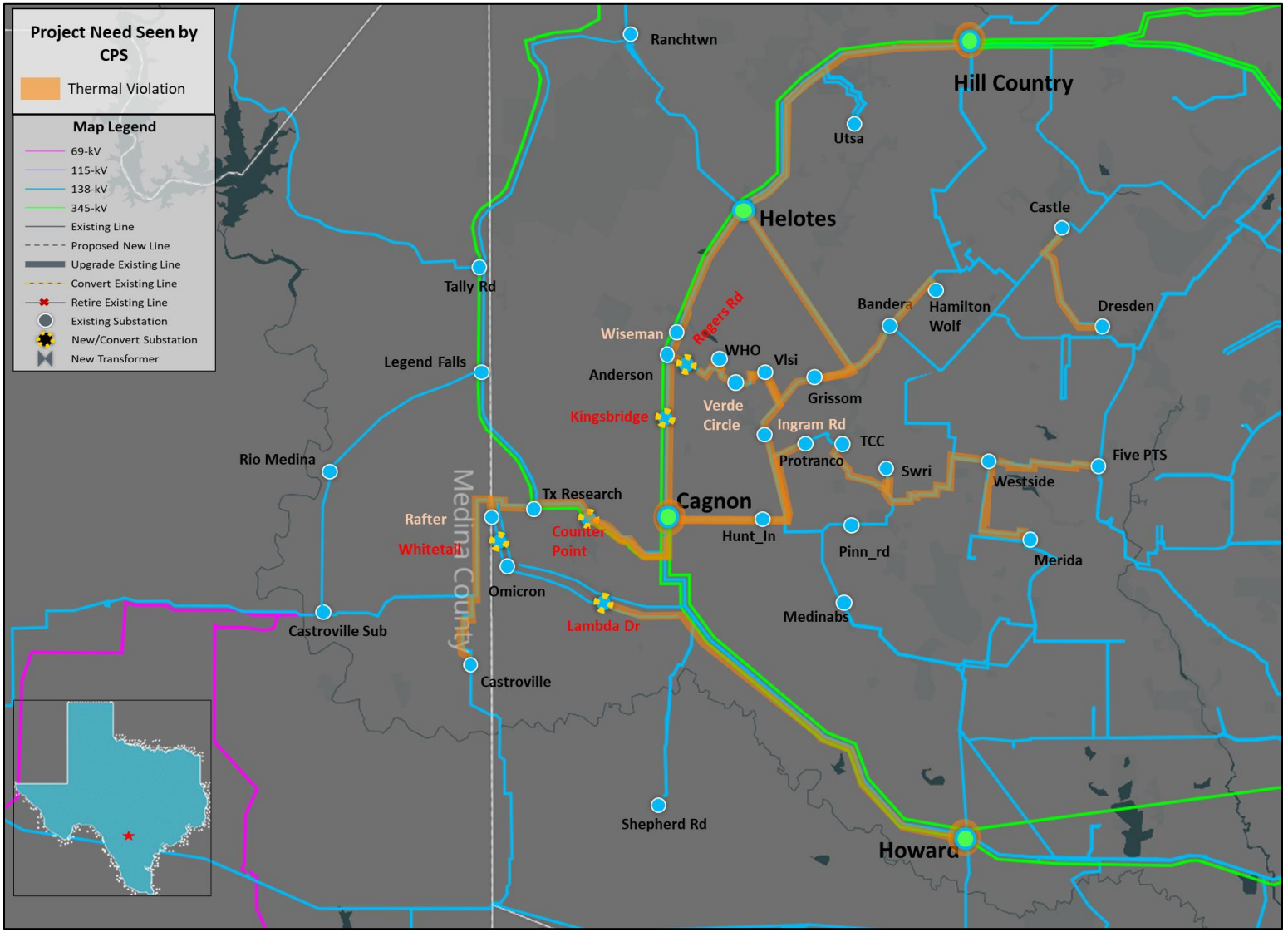
Introduction

- CPS Energy submitted the Large Load Additions Project for Regional Planning Group (RPG) review in June 2025.
  - This Tier 1 project is estimated to cost $333.7 million and will require a Certificate of Convenience and Necessity (CCN)
  - Estimated in-service date (ISD) is Summer Peak 2035
  - To address the reliability concerns seen by CPS Energy with addition of approximately 2 GW Load by 2035
- This project is currently under ERCOT Independent Review (EIR)

Study Area Map with the violations as seen by CPS Energy



New Loads Proposed by CPS Energy

- New Load Stations
  - Rogers Road, tapped between the existing Anderson and Westover Hills 138-kV transmission line;
  - Kingsbridge, tapped between the existing Wiseman and Cagnon 138-kV transmission line;
  - Counter Point, tapped between the existing Omicron and Cagnon 138-kV transmission line;
  - Whitetail, tapped between the existing Omicron and Rafter 138-kV transmission line; and
  - Lambda Drive, tapped between the existing Counter Point and Howard 138-kV transmission line.
- Loads Added at Existing Station
  - Wiseman
  - Verde Circle
  - Rafter
  - Ingram Road

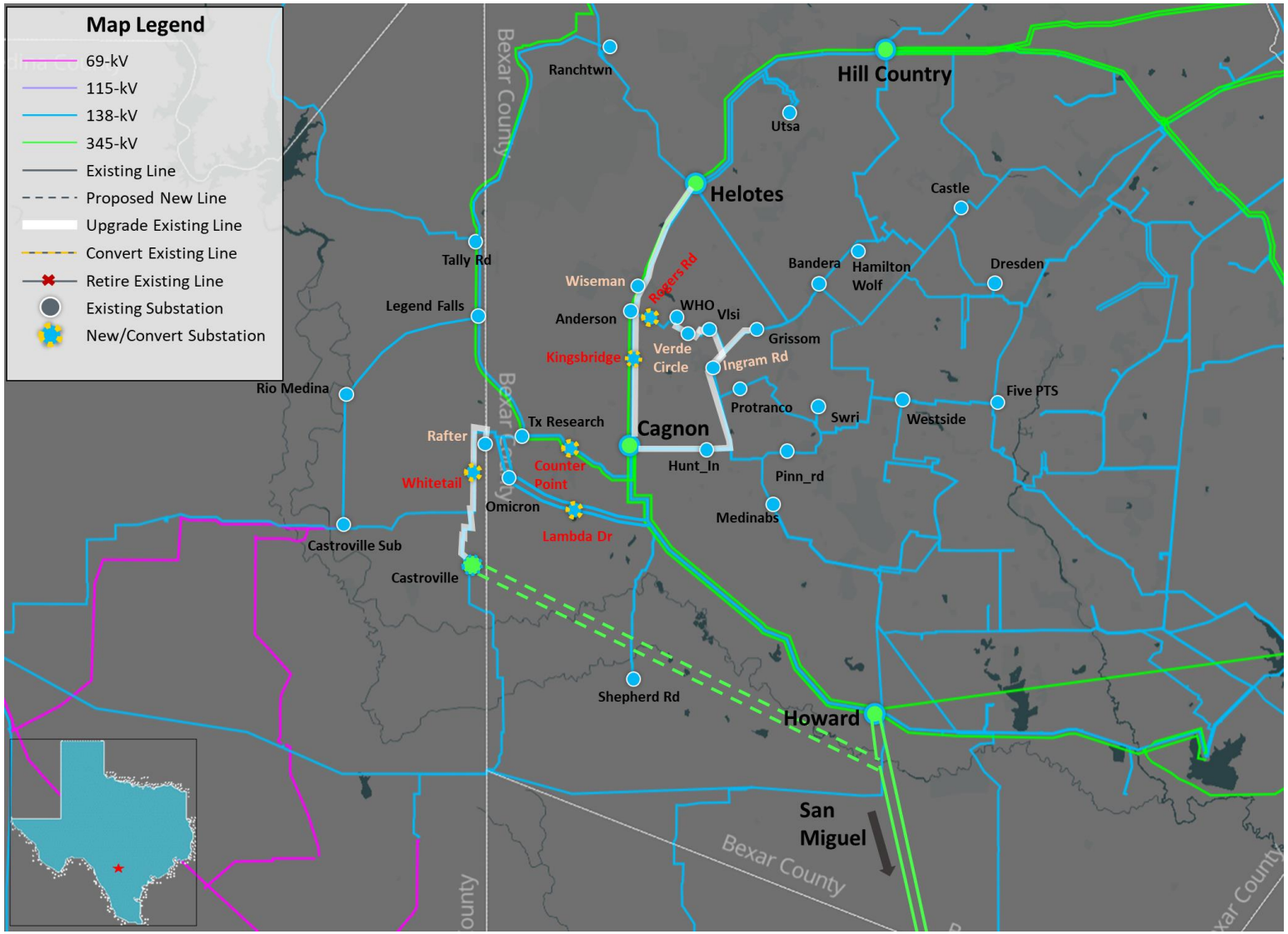
Project Proposed by CPS Energy

Project Name	Project ISD
Rebuild existing 138 kV Transmission Line from Grissom to VLSI (~3 miles) with minimum Normal and Emergency rating of 698 MVA.	SUM Peak 2028
Rebuild existing 138 kV Transmission Line from Cagnon to VLSI (~9 miles) with minimum Normal and Emergency rating of 698 MVA.	SUM Peak 2030
Construct a new 138 kV Transmission line from Grissom to Ingram (~1 mile) with minimum Normal and Emergency rating of 698 MVA.	SUM Peak 2031
Rebuild the existing 138 kV Transmission Line from Verde Circle to VLSI (~0.26 miles) with minimum Normal and Emergency rating of 698 MVA.	SUM Peak 2032
Rebuild the future 138 kV Transmission Line from Anderson to Rogers Rd to Westover Hills (~2 miles) with minimum Normal and Emergency rating of 698 MVA.	SUM Peak 2032
Rebuild the existing 138 kV Transmission Line from Verde Circle to Westover Hills in existing easement (~2 miles) with minimum Normal and Emergency rating of 698 MVA.	SUM Peak 2032
Rebuild existing 138 kV Transmission corridor from Anderson to Cagnon, which includes future 138kV Transmission Line(s) Cagnon to Kingsbridge and Kingsbridge to Wiseman. (~5 miles) with minimum Normal and Emergency rating of 698 MVA.	SUM Peak 2032
Rebuild the existing 138 kV Transmission corridor from Anderson to Helotes, which includes future 138kV Transmission Line Helotes to Wiseman. (~8 miles) with minimum Normal and Emergency rating of 698 MVA.	SUM Peak 2032
Construct a new 50 MVAr Capacitor Bank at Kingsbridge	SUM Peak 2032
Construct a new 50 MVAr Capacitor Bank at Rogers Rd	SUM Peak 2032

Project Proposed by CPS Energy (Continued)

Project Name	Project ISD
Rebuild the existing 138 kV Transmission Line from Castroville to Rafter Circuit 1 and construct a new 138 kV Transmission Line from Castroville to Rafter Circuit 2 (~6 miles) with minimum Normal and Emergency rating of 698 MVA.	SUM Peak 2035
Construct a new Castroville 345/138-kV Switching Station with three 600 MVA autotransformers.	SUM Peak 2035
Loop Howard to Miguel Circuit 1 into the new 345-kV Castroville station.	SUM Peak 2035
Construct a new 50 MVAr Capacitor Bank at Whitetail	SUM Peak 2035

Project Proposed by CPS Energy



Study Assumptions Base Case

- Study Region
  - Bexar county in South Central Weather Zone, focusing on the transmission elements near the Medina, Atacosa, Bandera, Kendal, Comal, Wilson and Guadalupe Counties.
  - Monitor surrounding counties that are electrically close to the area
- Steady-State Base Case
  - Final 2024 Regional Transmission Planning (RTP) 2030 summer peak case was used as a seed case, posted in Market Information System (MIS), will be updated to construct the summer peak load study base case
    - Case: 2024RTP_2030_SUM_12202024
    - Link: https://mis.ercot.com/secure/data-products/grid/regional-planning

Study Assumptions – Transmission

- Based on the July 2025 Transmission Project and Information Tracking (TPIT) posted on MIS, projects with in-service dates before June 1, 2035, within the study area will be added to the study base case if not already modeled in the case
  - TPIT Link: https://www.ercot.com/gridinfo/planning
  - See Appendix A for a list of transmission projects added
- Transmission projects identified in the 2024 RTP as placeholder projects within the study area will be removed to develop the study base case
  - See Appendix B for a list of placeholder projects removed
- The following projects are also included in the base case development
  - Permian Basin 765-kV Import Paths
  - CPS Helotes 345/138-kV Switching Station and Autotransformer Addition at Eastside Switching Station Project and Reactive Power Planning Project

Study Assumptions – Generation

- New generation that met Planning Guide Section 6.9(1) condition with Commercial Operation Date (COD) before the end of June 1, 2035, 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 the July 2025 Generator Interconnection Status (GIS) report posted in MIS in August 2025
  - GIS Link: https://www.ercot.com/gridinfo/resource
  - See Appendix C for a list of generation projects added
- Generation will be dispatched consistent with the 2024 RTP methodology
- All recent retired/indefinitely mothballed units will be reviewed and opened (turned off), if not already reflected in the 2024 RTP final case

Study Assumptions – Load & Reserve

- Load in study area
  - New loads in the study area will be added to the study base case
- Reserve
  - Load outside of study Weather Zone(s) will be adjusted to maintain the reserve consistent with the 2024 RTP

Contingencies & Criteria

- Contingencies for Study Region
  - NERC TPL-001-5.1 and ERCOT Planning Criteria
  - Link: http://www.ercot.com/mktrules/guides/planning/current)
    - P0 (System Intact)
    - P1, P2-1, P7 (N-1 conditions)
    - P2-2, P2-3, P4, and P5 (345-kV only)
    - P3: G-1+N-1 (G-1: Leon Creek U1, San Miguel U1, Sunray Solar U1, JK Spruce U1 Units)
    - P6: X-1+N-1 (X-1: Cagnon, Hill Country, Howard 345/138-kV transformer)
- 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 to serve Victoria county and surrounding 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
  - The TSP will provide the Cost Estimate and Feasibility Assessment
- Additional analyses may be performed on the preferred option
  - Generation Addition and Load Scaling Sensitivity Analyses
    - Planning Guide Section 3.1.3(4)
  - Subsynchronous Resonance (SSR) Assessment
    - Nodal Protocol Section 3.22.1.3(2)
  - Congestion Analysis 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 – Q4 2025

Thank you!

Stakeholder comments also welcomed through:

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Appendix A – Transmission Projects

- List of transmission projects added to study base case

RPG/TPIT No	Project Name	Tier	Project ISD	TSP
71917	Upgrade STEC castroville to Pearson to 138kV	Tier 2	Apr-26	STEC
73098	Castroville Cut-in 138 kV	Tier 2	Oct-26	ETT
81590	Rio Medina substation	Tier 2	Jan-27	STEC
81594	Dunlay substation	Tier 2	Jan-27	STEC
85008	Add Rio Medina - Legend Falls Tline	Tier 2	Jul-27	STEC
91392	Bergheim_Autotransformer_Upgrade	Tier 3	Dec-27	LCRATSC
91312	Austrop - Zorn Transmission Line Upgrade	Tier 1	May-29	LCRATSC
88046	Rebuild Omicron to Rafter	Tier 2	Oct-25	CPS
71873	CPSE_Hill Country Auto# 2 Impedance Upgrade	Tier 3	Jun-24	CPS
67992D	CPSE_345KV_Howard_Switching_Station,CPSE_Hamilton_to_MedCtr_Upgrade	Tier 3	May-25	CPS
72268	CPSE_New Ingram Rd Substation	Tier 4	Feb-26	CPS

Appendix A – Transmission Projects

- List of transmission projects added to study base case

RPG/TPIT No	Project Name	Tier	Project ISD	TSP
76242	Lytle: Construct New 138 kV Terminal	Tier 4	Jun-26	ETT
73063	Big Foot to Lytle: Convert to 138 kV	Tier 4	Jun-26	AEP TCC
81659	Lytle: Construct New 138 kV Terminal	Tier 4	Dec-26	AEP TCC/ETT
80319	Devine: Install Cap Bank	Tier 4	Dec-26	ETT
92743	Rebuild ~3 miles of double-ckt from VLSI to Grissom transmission line with normal and emergency ratings of at least 478MVA	Tier 4	May-27	CPS
91708	New San Geronimo Substation	Tier 4	Jul-27	STEC
73364	CPSE_New_Omicron_Substation	Tier 4	Oct-25	CPS
79683	Add Branch between Padua and Sommers	Tier 4	Feb-25	CPS

Appendix B – Transmission Projects

- List of transmission projects removed from the study base case

TPIT No	Project Name	County
2024-SC18	Lytton (9074) to Fayette Plant (7055) to Winchester (9042) 345-kV Upgrades	Caldwell, Bastrop, Fayette
2024-SC19	Hillje (44200) to Zorn (7042) 345-kV Line Upgrades	Wharton, Fayette, Bastrop, Caldwell, Guadalupe
2024-SC26	Shaula (5380) to Elm Creek (5133) to Cachena (5068) 345-kV Line Upgrades	Wilson, Guadalupe, Dewitt
2024-SC27	Lytton Springs (9074) to Garfield (7048) to Austrop (7040) 345-kV Line Upgrades	Caldwell, Bastrop, Travis
2024-SC31	Lytton Springs 345/138-kV Transformer Addition	Caldwell

Appendix C – New Generation Projects to Add

GINR	Project Name	Fuel	Projected COD	Max Capacity (~MW)	County
21INR0334	Nightfall Solar	SOL	06/30/2026	180.9	Uvalde
22INR0388	Cachi BESS	BAT	08/15/2025	205.5	Guadalupe
22INR0467	Bird Dog BESS	BAT	03/30/2026	60.4	Live Oak
23INR0035	Starling Solar	SOL	05/15/2027	123.0	Gonzales
23INR0078	Shaw Solar	SOL	04/29/2026	124.7	Bandera
23INR0181	Starling Storage	BAT	05/15/2027	63.6	Gonzales
23INR0479	Taormina Storage	BAT	05/26/2029	231.9	Bexar
24INR0533	Padua Grid BESS Unit 2	BAT	03/15/2026	150.9	Bexar
25INR0503	Timmerman Power Plant Phase 2	GAS	04/07/2026	188.4	Caldwell
25INR0531	CPS Energy AvR1CT2 Rotor Replacement	GAS	06/30/2025	23.2	Bexar
28INR0024	Padua Grid BESS Unit 3	BAT	05/15/2026	201.4	Bexar