STEC Ammonia Plant Load Project – ERCOT Independent Review Scope

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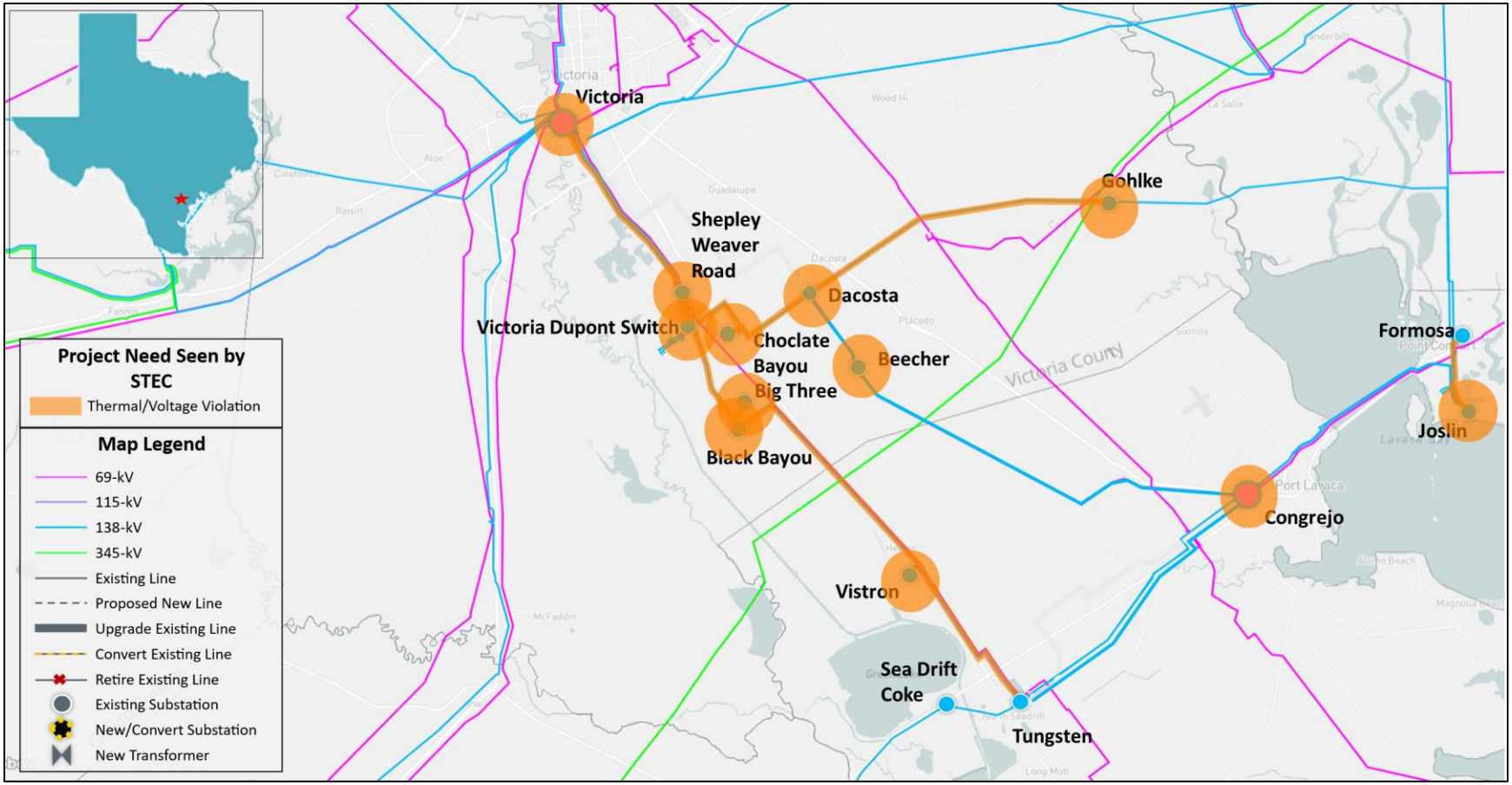
RPG Meeting
July 29, 2025

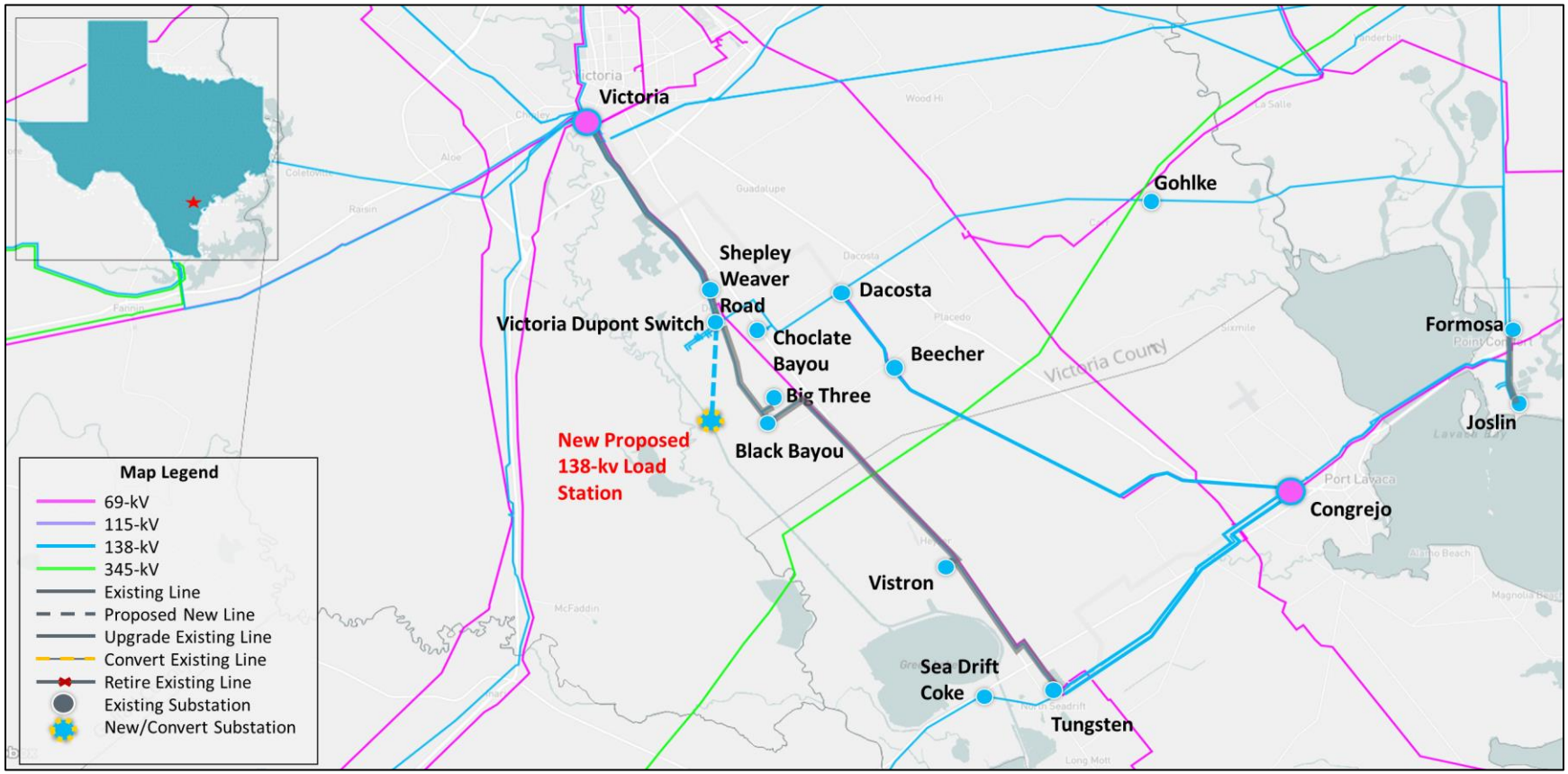
Introduction

- STEC submitted the Ammonia Plant Load Project for Regional Planning Group (RPG) review in May 2025.
  - This Tier 2 project is estimated to cost $65.47 million and will require a Certificate of Convenience and Necessity (CCN)
  - Estimated in-service date (ISD) is June 2028
  - To address the reliability concerns seen by STEC with addition of 300 MW of Ammonia Plant Load
- This project is currently under ERCOT Independent Review (EIR)

Study Area Map with the violations as seen by STEC



Project Proposed by STEC



Project Proposed by STEC

- Connect the Load to AEP's 138kV Dupont Switching station via a 3.4-mile 138 kV transmission line, which will require both a CCN and ROW acquisition. The line will have normal and emergency ratings of at least 427 MVA and 478 MVA, respectively.
- Rebuild AEP's 7.66-mile 138 kV Victoria Plant – Shepley – Dupont line with normal and emergency ratings of 485 MVA.
- Rebuild AEP's 7.66-mile 138 kV Victoria Plant – Dupont ckt2 with normal and emergency ratings of 485 MVA.
- Remove the double circuit section of the Victoria Plant to Shepley and Victoria Plant to Dupont circuits (by rebuilding the two circuits on separate structures) to eliminate the NERC P7/ERCOT_1 (common tower outage) events. This would require a new ROW and CCN.
- Rebuild AEP's 2.41-mile 138 kV Formosa – Joslin line with normal and emergency ratings of 485 MVA
- Rebuild AEP's 21.11-mile 138 kV Tungsten – Vistron – Black Bayou – Big Three – Dupont line with normal and emergency ratings of 485 MVA.

Study Assumptions Base Case

- Study Region
  - Victoria county in Coast Weather Zone, focusing on the transmission elements near the DeWitt, Lavaca, Jackson, Calhoun, Refugio and Goliad Counties.
  - Monitor surrounding counties that are electrically close to the area
- Steady-State Base Case
  - Final 2024 Regional Transmission Planning (RTP) 2029 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_2029_SUM_12202024
    - Link: https://mis.ercot.com/secure/data-products/grid/regional-planning

Study Assumptions – Transmission

- Based on the February 2025 Transmission Project and Information Tracking (TPIT) posted on MIS, projects with in-service dates before June 1, 2028, 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

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, 2028, 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 April 2025 Generator Interconnection Status (GIS) report posted in MIS in May 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: Victoria Port Units and Formosa Units)
    - P6: X-1+N-1 (X-1: Coleto Creek 345/138-kV transformer)
- Criteria
  - Monitor all 69-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
  - Congestion Analysis to ensure that the identified transmission upgrades do not result in new congestion within the study area
  - Generation Addition and Load Scaling Sensitivity Analyses
    - Planning Guide Section 3.1.3(4)

Deliverables

- Tentative Timelines
  - Status updates at future RPG meetings
  - Final recommendation – Q3 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
82829	New Furhman Substation	Tier 4	Apr-25	STEC
69473	Jaguar: Construct New Distribution Station	Tier 4	Jul-25	AEP TCC
76788	Upgrade Victoria-Rayburn	Tier 4	Dec-25	STEC
69489	Shepley: Construct New Distribution Station	Tier 4	Feb-26	AEP TCC
75989	Rebuild Vanderbilt -Pt Lavaca	Tier 4	May-26	STEC
81647	Dupont Switch to Sardinia: Construct New 138 kV Line	Tier 4	Jun-26	AEP TCC
76818	Upgrade Rayburn Auto Station	Tier 4	Oct-26	STEC
87029	Chocolate Bayou to Portside Energy Center: Construct New 138 kV Line	Tier 4	Dec-26	AEP TCC
87027	Black Bayou: Construct New 138 kV Terminal	Tier 4	Apr-27	AEP TCC
76777	Rebuild Nursery-El Toro	Tier 4	May-27	STEC
81556	Haber: Construct New 345 kV Terminal	Tier 4	May-27	AEP TCC
73441	Dupont Switch to Joslin: Rebuild 138 kV Line	Tier 4	May-27	AEP TCC
81548	Haber: Construct New 345 kV Station	Tier 4	May-27	AEP TCC
81553	Haber: Construct New 345 kV Terminal	Tier 4	May-27	AEP TCC

Appendix B – Transmission Projects

- List of transmission projects removed from the study base case

TPIT No	Project Name	County
2024-S10	Coleto (8164) to Haber (81003) to Raptor (8673) 345-kV Double-Circuit Line Addition	Victoria, Goliad
2024-CS2	Victoria (8169) to Refugio (8410) 69-kV Line Upgrades	Victoria, Refugio
2024-C12	Sam Rayburn Switchyd (5500) to Warburton Road Switching Station (5605) 69-kV Line Upgrades	Victoria
2024-C15	Victoria Area 138-kV Line Upgrades and Furhman Switch (5506) to Magruder (8194) 138-kV Line Addition	Victoria
2024-C19	Joslin (8140) to Gohlke (8141) to Dacosta (8722) 138-kV Line Upgrades	Calhoun, Victoria

Appendix C – New Generation Projects to Add

GINR	Project Name	Fuel	Projected COD	Capacity (~MW)	County
22INR0445	SPC Bloom BESS	OTH	04/07/2027	100.00	Victoria
23INR0090	Iguala Solar	SOL	12/31/2025	250.00	Victoria
23INR0342	Brizo BESS	OTH	12/01/2027	140.76	Victoria
24INR0093	Oriana Solar	SOL	08/08/2025	181.00	Victoria
24INR0109	Oriana BESS	OTH	06/15/2026	60.30	Victoria
24INR0168	Tejano Storage	OTH	07/01/2027	152.00	Victoria
24INR0283	Sunshine Solar	SOL	12/01/2026	130.72	Victoria
24INR0401	Portside Energy Center (Solar) SLF	SOL	12/31/2026	41.11	Victoria
24INR0403	Portside Energy Center (BESS) SLF	OTH	12/31/2026	41.11	Victoria
24INR0425	Two Brothers ESS	OTH	04/07/2027	152.00	Victoria
26INR0019	HyFuels Green Lake Solar	SOL	12/01/2027	346.00	Victoria
26INR0021	Crossroads Wind	WIN	06/30/2027	253.29	Victoria
26INR0028	HyFuels Calhoun Solar	SOL	10/01/2026	301.82	Victoria
26INR0046	Paluxy Solar	SOL	06/30/2027	1,029.06	Victoria
26INR0047	Paluxy Storage	OTH	06/30/2027	511.68	Victoria
26INR0505	Goldhill Energy Storage	OTH	09/30/2026	200.58	Victoria
26INR0559	Georgia-Lynn BESS	OTH	02/20/2028	108.70	Victoria
27INR0169	Marcos Solar	SOL	08/15/2027	115.88	Victoria
27INR0170	Marcos BESS	OTH	08/15/2027	115.88	Victoria
27INR0224	Leopard BESS	OTH	07/02/2027	264.24	Victoria
27INR0382	Calico BESS	OTH	03/01/2027	204.90	Victoria