AEPSC – Port Lavaca Area Improvement Project – ERCOT Independent Review (EIR) Status Update

Tanzila Ahmed

Regional Planning Group Meeting
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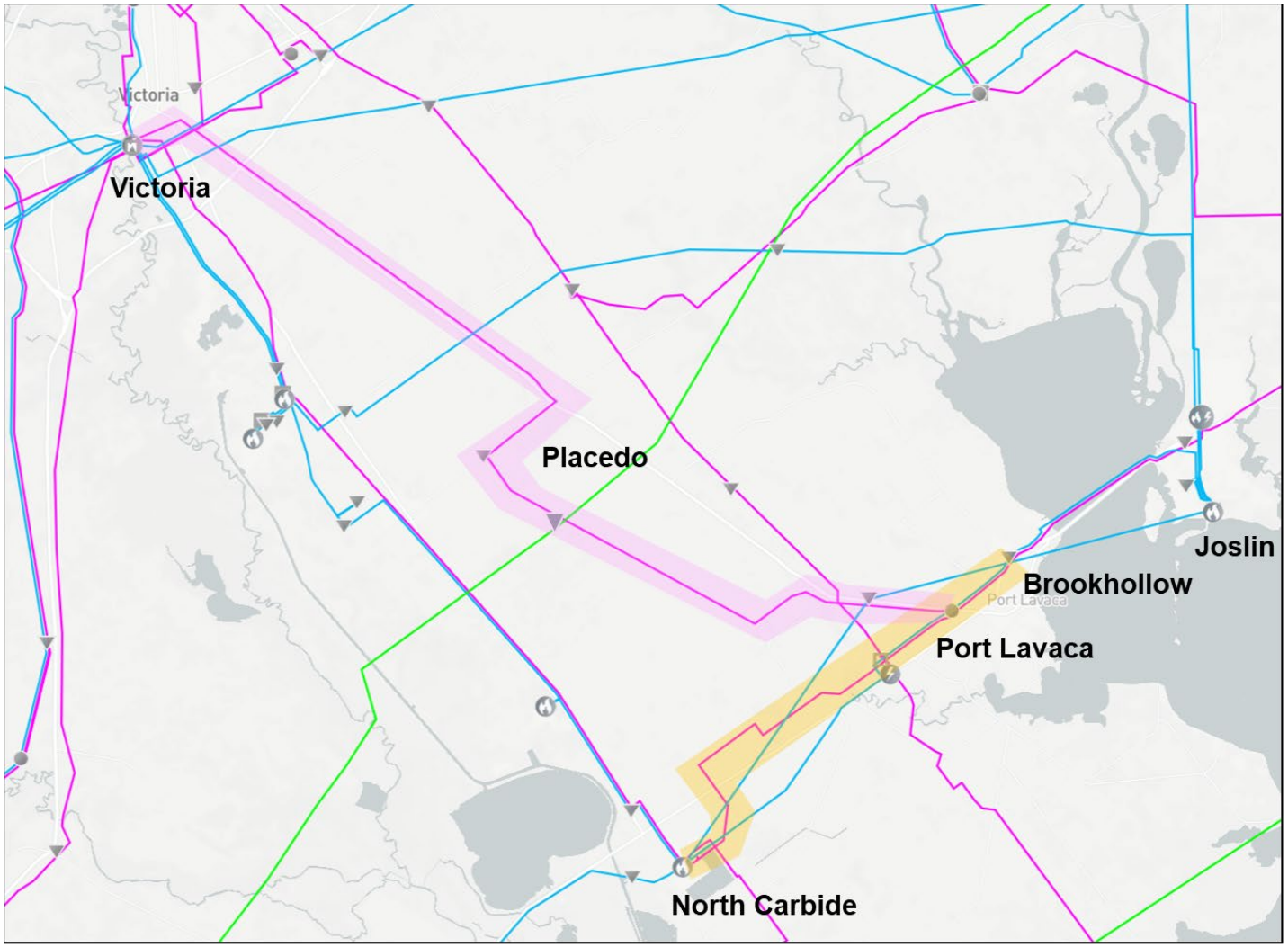
Current Status

- AEPSC submitted the Port Lavaca Area Improvement Project for RPG review in February 2021. This is a Tier 2 project with an estimated cost of $97.8 million that requires a Certificate of Convenience and Necessity (CCN)
- In-service year of the project proposed by AEPSC: May 2023 (reliability upgrades) and December 2024 (upgrades for aging infrastructure)
- ERCOT is conducting reliability analysis based on the study assumptions detailed in EIR scope presented on April 6, 2021 RPG meeting: http://www.ercot.com/calendar/2021/4/6/213850-RPG

Study Area Map



NOTE: More details of proposed project components can be found in Appendix

Recap: Study Assumptions

- Study Region
  - Coast and South Weather Zones (WZ) electrically close to the Port Lavaca area
- Steady-State Base Case
  - Final 2020 Regional Transmission Planning (RTP) 2025 summer peak case for East/Coast (EC) WZ was updated to construct the study base case

Recap: Study Assumptions

- Generation Updates
  - Generation that met Planning Guide Section 6.9(1) conditions based on Generator Interconnection Status (GIS) report published in MIS on March 1, 2021 was added to the study case
  - New renewable resources were dispatched consistent with the 2020 RTP methodology
  - All recent retired or indefinitely mothballed units were turned off, if not already reflected in the starting 2020 RTP case
- Transmission Updates
  - Based on Transmission Project and Information Tracking (TPIT) published in MIS on March 2021
    - New Tier 4 projects within the study region were added
    - No new Tier 1, 2 and 3 projects were added
  - Transmission projects identified in the 2020 RTP as placeholders for AEPSC's Port Lavaca Area Improvement project were removed

Recap: Study Assumptions

- Load Updates
  - Load level in the South WZ was updated to develop the South-Coast summer peak load case. The peak load level was kept consistent with 2020 RTP
  - Based on the input from TSP, loads from Port Lavaca station were shifted to Sand Crab station, which is also reflected in Tier 4 - Sand Crab Project
- Reserve
  - Load level outside the study region was adjusted to make up for the reserve to be consistent with 2020 RTP

Contingencies & Criteria

- Contingencies for Study Region
  - NERC TPL-001-4 and ERCOT Planning Criteria (http://www.ercot.com/mktrules/guides/planning/current)
    - Normal system condition (P0)
    - N-1 conditions (P1, P2-1, P7)
    - P2, P4, and P5 (EHV only)
    - X-1 + N-1 (X-1: Blessing 345/138 kV transformer)
    - G-1 + N-1 (G-1: Coleto Creek, Rayburn CC, & Victoria CC)

- 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

Preliminary Results of Reliability Analysis

- No voltage violation was observed in the study region
- Thermal overloads were observed

Monitored Facility	Length (mi)	Contingency	Max Overload (%)
Brookhollow to Port Lavaca 69-kV Line	2.02	N-1	105.44

➢ NOTE: Similar thermal overloads were observed under G-1+N-1 and X-1+N-1 conditions

Next Steps

- Project Evaluation
  - Project alternatives will be tested to address the transmission overload and the aging conditions of the existing lines
- 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 region

Deliverables

- Tentative Timelines
  - Status updates at the future RPG meetings
  - Final recommendation: July 2021

Thank You!

Stakeholder comments also welcomed through:

SunWook.Kang@ercot.com

Appendix: AEP's Proposed Project Components

- Upgrades to address reliability needs
  - Rebuild North Carbide to Port Lavaca using 2000 A conductor (10.32 miles) and convert to 138 kV. ISD: May 2023
  - Rebuild Brookhollow to Port Lavaca using 2000 A conductor (2.7 miles) and continue to operate at 69 kV. ISD: May 2023

- Upgrades to address aging infrastructures
  - Rebuild a portion of Port Lavaca to Victoria using 2000 A conductor (17.97 miles) and convert to 138 kV, retire the remaining 11.46 miles north to Victoria. ISD: December 2024
  - Eliminate the three terminal configuration at the Port Lavaca Tap by bringing the STEC Port Lavaca line into a breakered terminal at Cangrejo. ISD: December 2024
  - Build new Dacosta 138 kV station at the intersection of the Chocolate Bayou to Gohlke 138 kV line and Port Lavaca to Victoria 69 kV line, cutting in both lines. ISD: December 2024
  - Convert the existing Placedo 69 kV station to a 138 kV station (Beecher). ISD: December 2024
  - Build new Cangrejo 138/69 kV station to replace the Port Lavaca 69 kV station, install a new 138/69 kV transformer, and cut in the Joslin to North Carbide 138 kV line. ISD: December 2024
  - Rebuild portions of Blessing to Palacios using 2000 A conductor (0.3 miles) and continue to operate at 69 kV. ISD: December 2024