# Childress Area Upgrades Project

# Overview for ERCOT RPG Meeting
# 07/29/2025

# Background

- Weather related P6 contingencies cause low voltages and voltage deviation violations in the Childress area.
  - These events have occurred multiple times in the past five years and required American Electric Power Service Corporation (AEPSC) to conduct load transfer trips at the ERCOT side of West Childress station to draw power from the SPP side.
  - The recent 20 MW load increase at Brazos Electric Power Cooperative's Henry station has worsened these violations.

- The approximately 31-mile Childress to Quanah 69 kV was rebuilt in 2016, but there is approximately 3-miles of unfinished sections that still need to be rebuilt.
  - The unfinished sections were built with wooden structures and are prone to being knocked down during storms
  - The rebuilt sections were designed for 138 kV.

# Project Summary

**Preferred Option: 138 kV station source near Childress and 138 kV line conversion starting from Lake Pauline to the new station.**

- Construct a new 138/69 kV station along the Paducah to West Childress 138 kV line
  - 138 kV station will have a ring bus design, and the 69 kV station will have a straight bus design.
  - Install one (1) 138/69 kV transformer
  - Install one (1) 69 kV breaker and four (4) 138 kV breaker

- Cut the new station into the Childress to Quanah line approximately 3 miles outside of Childress station.
  - Construct a 138 kV and 69 kV double circuited line from the tap point to a new station.
  - The line to Childress will operate at 69 kV and the line to Quanah will operate at 138 kV.

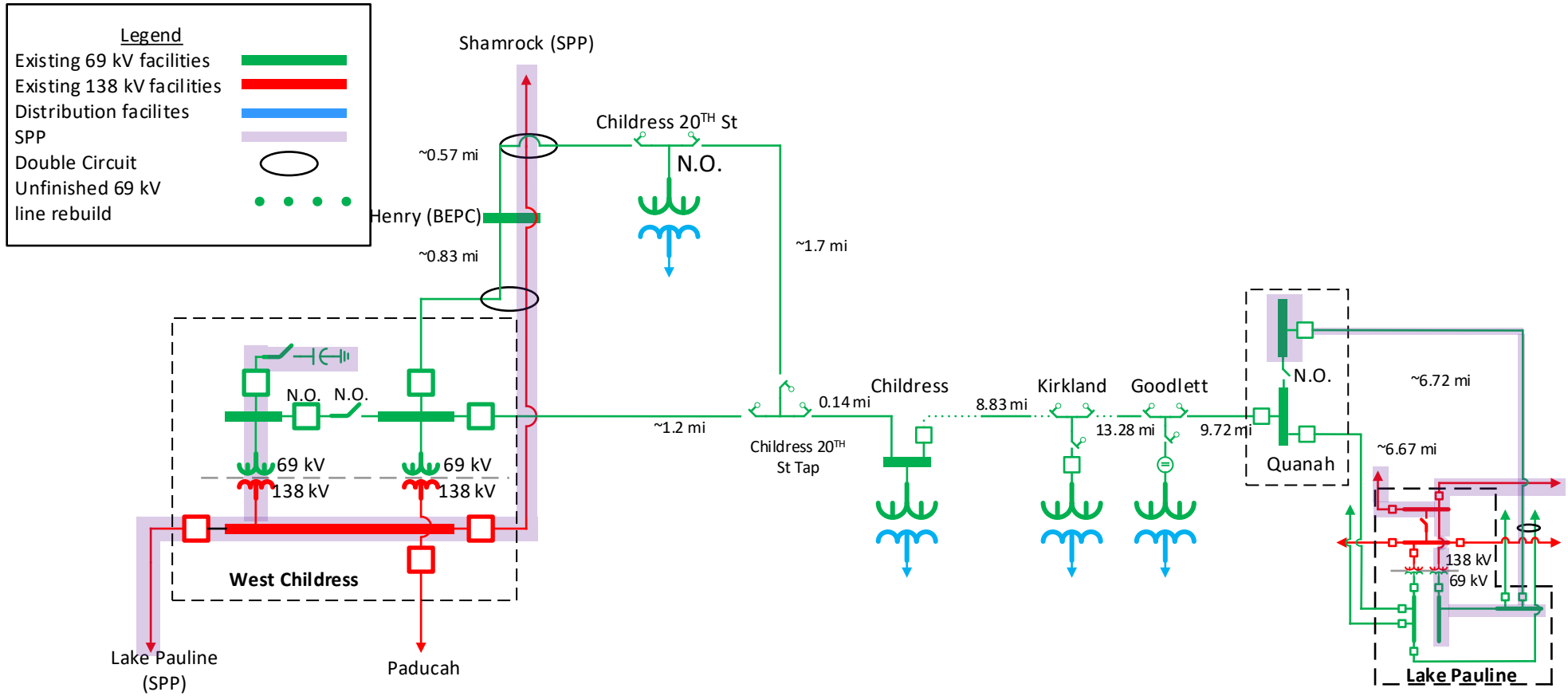
- Add two (2) new 138 kV terminals to the Lake Pauline station and re-terminate the Lake Pauline to Quanah lines into the terminals
  - Install three 138 kV breakers

- Rebuild the stations along the Childress to Quanah circuit to 138 kV design standards to allow the 138 kV conversion.
  - Rebuild the Kirkland station and replace the transformer at Goodlett station

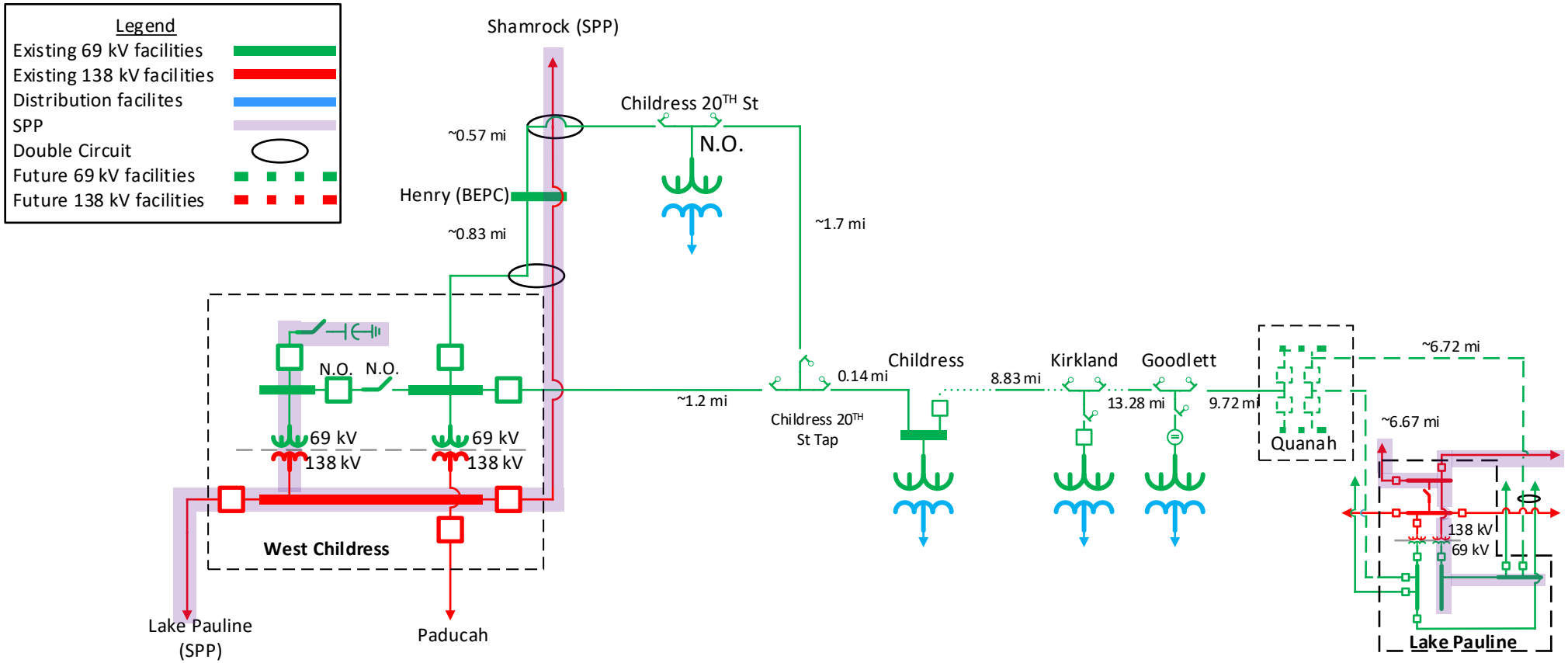
- Rebuild the approximately 3-mile Childress to West Childress 69 kV circuit lines and tap stations to current AEPSC design standards.
  - Install one (1) new 69 kV breaker at Childress station.

# Childress Area

# Project Vicinity – Pre-Project

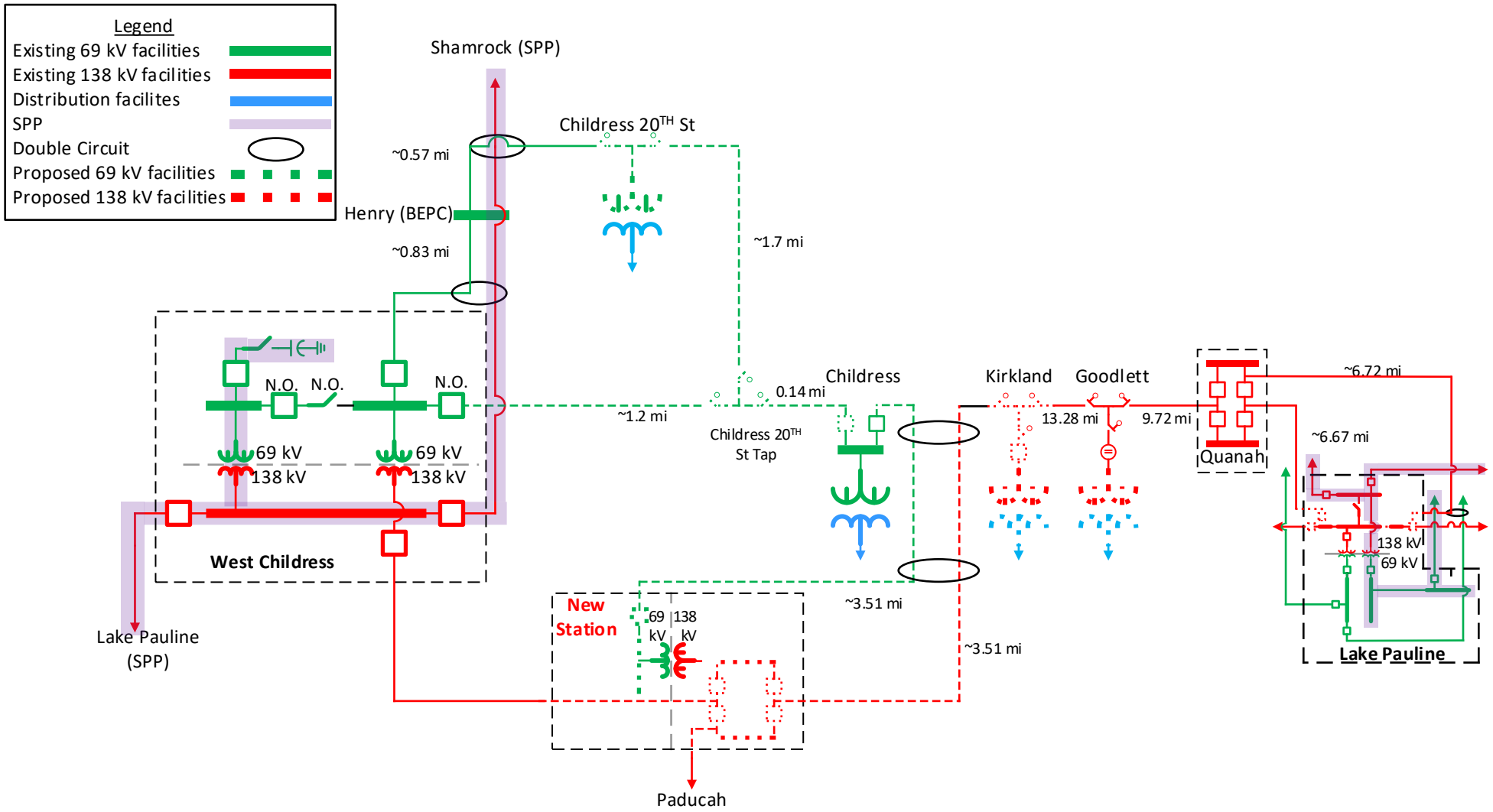


# Project Vicinity – Future Projects




Planned projects to rebuild the Quanah station and the Lake Pauline to Quanah lines with 138 kV design and 69 kV operation.

# Project Vicinity – Proposed Projects



# Project Overview

**Preferred Option: 138 kV source near Childress and 138 kV line conversion**

- Reliability driven Tier-2 with anticipation of CCN application
- Estimated in-service-date: November 2031
- Cost estimate: $ 53 M
- Resolves the voltage issues in the Childress area.

# Questions?