



Overview of Temple Area Projects

ERCOT RPG Meeting

2/12/2024

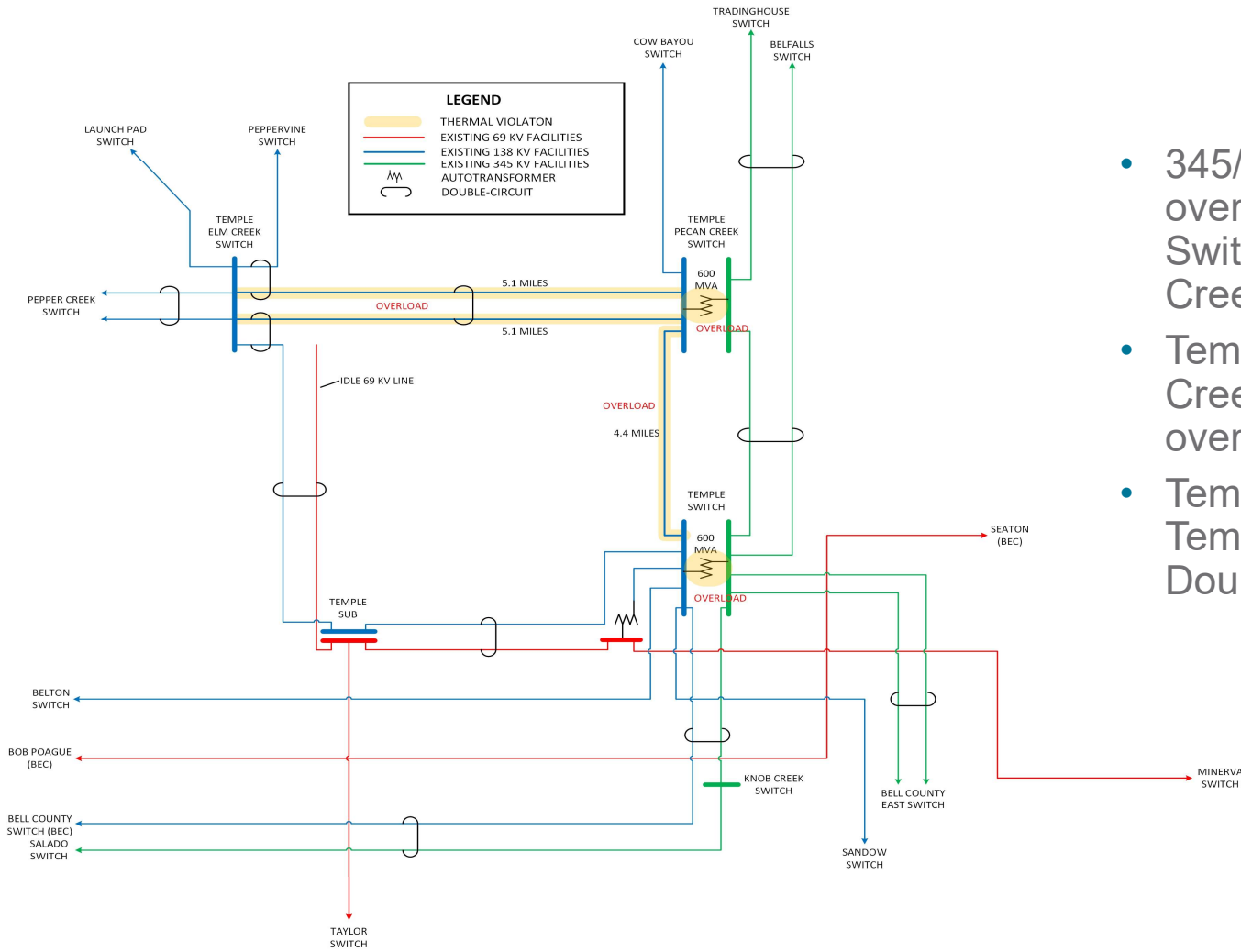
Allerick Tezeno



Project Overview

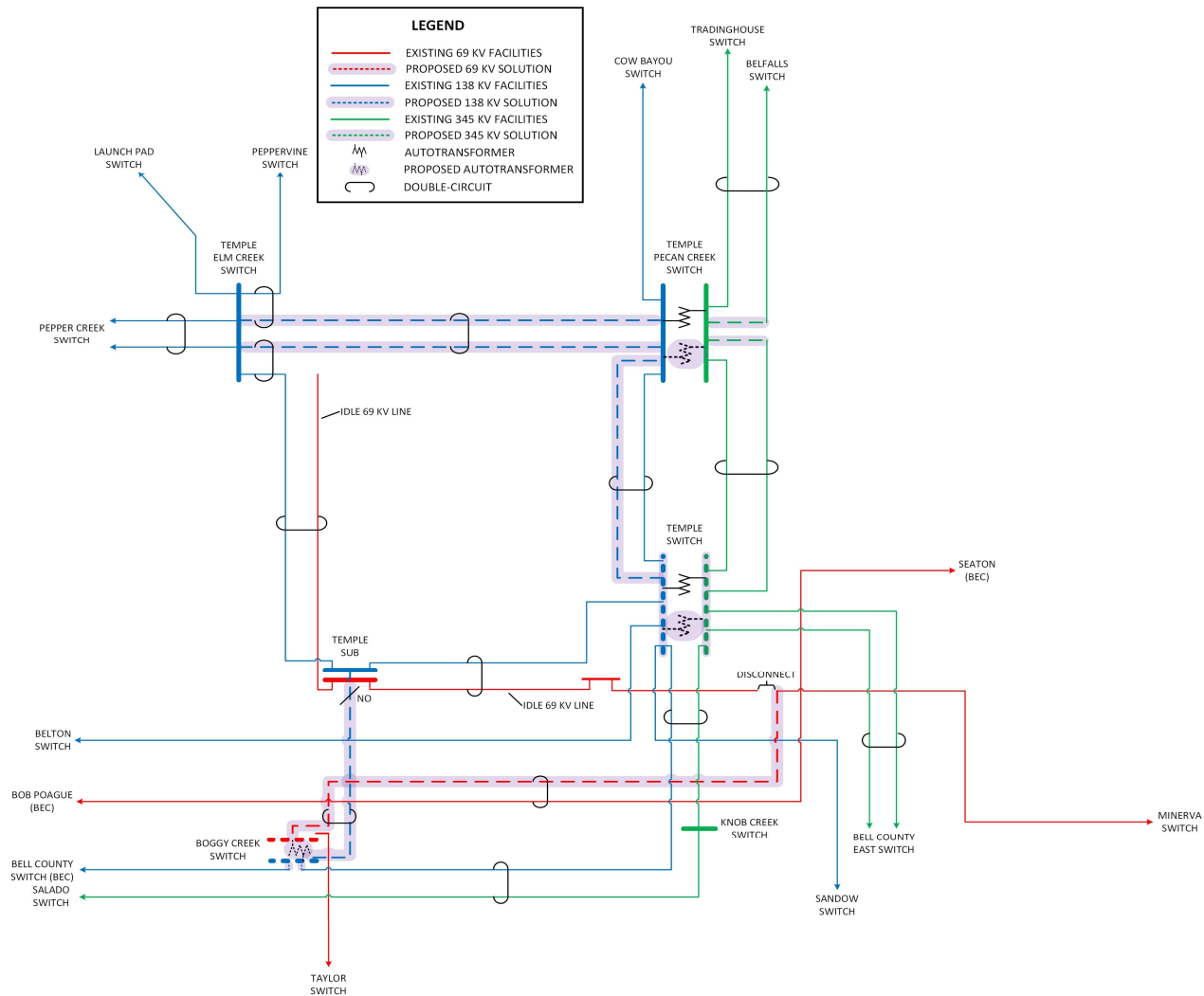
- Tier-1 Project in the Temple area
- Resolves identified thermal violations, provide additional 345 kV sources for the area, further network the area's transmission facilities, and enhance system reliability
- Cost Estimate: \$120.7M
- 2 new 345/138 kV autotransformers
- 1 new 138/69 kV switching station
- 4.4 miles of new 138 kV circuit on existing double-circuit structures
- 10.2 miles of 138 kV transmission line upgrades on existing double-circuit structures
- 5 miles of new 69 kV circuit on existing double-circuit structures

Post-Contingency Thermal Violations



- 345/138 kV autotransformer overloads observed at Temple Switch and Temple Pecan Creek Switch
- Temple Switch – Temple Pecan Creek Switch 138 kV Line overload
- Temple Elm Creek Switch – Temple Pecan Creek 138 kV Double-Circuit Line overload

Oncor's Proposed Project One-Line



Oncor Recommendation

- Install a second 345/138 kV autotransformer with nameplate rating of 600 MVA at Temple Pecan Creek Switch and loop the existing Belfalls Switch – Temple Switch 345 kV Line into the Temple Pecan Creek 345 kV Switch
- Install a second 345/138 kV autotransformer with nameplate rating of 600 MVA at Temple Switch and rebuild the Temple 345/138 kV Switch with eleven 345 kV circuit breakers in a breaker-and-a-half arrangement and sixteen 138 kV circuit breakers in a breaker-and-a-half arrangement
- Install a 4.4-mile second circuit on the vacant position of the existing Temple Switch – Temple Pecan Creek Switch 138 kV double-circuit capable line using a conductor rated 2064 A (493 MVA)
- Upgrade the existing 5.1-mile Temple Elm Creek Switch – Temple Pecan Creek Switch 138 kV Double-Circuit Line using a conductor rated 2033 A or greater (486 MVA)
- Establish the new Boggy Creek 138/69 kV Switch approximately 3.8 miles south of Temple 138 kV Substation using a 7-breaker, 138 kV breaker-and-a-half arrangement, and a 2-breaker, 69 kV single bus arrangement. Relocate the existing 138/69 kV autotransformer from Temple Switch to Boggy Creek Switch
- From Boggy Creek Switch, install a new, 5-mile 69 kV circuit rated 1649 A or greater (197 MVA) on the vacant sides of the existing double circuit capable structures of Taylor Switch – Temple Switch and Bob Poague (BEC) – Seaton (BEC) 69 kV lines, and connect the new 69 kV circuit to the 69 kV line towards Minerva Switch

Questions?

