



Short-Term Reliability Projects

In accordance with Attachment Y, Section I.3, of the SPP Tariff, SPP provides the following information:

During the 2016 Integrated Transmission Planning Near-Term (ITPNT) Assessment, SPP performed an N-1 AC Contingency Calculation (ACCC) analysis to determine reliability needs utilizing the models developed by SPP through its stakeholder process. The list of all time-sensitive transmission facility overload and voltage needs related to the Short-Term Reliability Project described below (STRP Needs List) can be found on the SPP [website](#). These needs are considered time-sensitive because a solution is needed within three (3) years.

To determine the best solution for the identified time-sensitive reliability needs, SPP evaluated proposed solutions, including those submitted through the Detailed Project Proposal (DPP) process, developed by SPP staff, and proposed by SPP stakeholders through the FERC Order 890 process. SPP tested proposed solutions against every reliability need, including the time-sensitive needs identified in the STRP Needs List. Once solutions were identified for the reliability need(s), reliability metrics (Metrics) were calculated for each solution capable of solving each need. Through use of the Metrics and application of sound engineering judgment, the optimal solution was selected.

SPP proposes the following Short-Term Reliability Project¹ as the best solution to mitigate the time-sensitive needs identified in the STRP Needs List.

New Mustang-Seminole 115 kV line

In the 2016 ITPNT Assessment, SPP determined the new Mustang-Seminole 115 kV line project (Mustang-Seminole Project) was the best solution to mitigate the time-sensitive thermal overload and voltage needs around the San Andreas and Denver City area in West Texas. The Mustang-Seminole Project consists of a new 17-mile 115 kV line from the Mustang substation to the Seminole substation. SPP's analysis in the 2016 ITPNT Assessment affirmed this was the best solution to mitigate the 2016 ITPNT Assessment time-sensitive needs. Other solutions evaluated included: 1) constructing a new Mustang-Gaines 230 kV line, 2) constructing a new Seagraves-Seminole 115 kV line, 3) constructing a new substation, constructing a new Seminole-Denver City

¹ A Short-Term Reliability Project includes any upgrade that would otherwise be considered a Competitive Upgrade but is needed to meet a time sensitive need. See Attachment Y, Section I.3 of the SPP Tariff.



230 kV line, and installing a new 230/115 kV transformer at the new substation, and 4) constructing a new Mustang-Gaines 230 kV line and installing a new 230/115 kV transformer at the Gaines substation.

Analysis showed that some alternatives solved fewer needs, while others addressed the same number of needs at a higher cost, and did not provide as much mitigation of the existing needs. Other alternatives addressed the same needs but had less beneficial Metrics. Based on this analysis and the application of sound engineering judgement, the Mustang-Seminole Project was selected.

The thermal reliability needs addressed by the Mustang-Seminole Project are related to the overload of Denver City Interchange S.-San Andreas 115 kV and the San Andreas-Seminole 115 kV lines. In the 2015 ITPNT Assessment, Denver City Interchange S.-San Andreas 115 kV and the San Andreas-Seminole 115 kV lines were not identified as needs. In the 2016 ITPNT Assessment, the Denver City Interchange S.-San Andreas 115 kV and the San Andreas-Seminole 115 kV lines were loaded at 118.4% and 101.5%, respectively.

The voltage reliability needs addressed by the Mustang-Seminole Project are low voltages (below 0.90 per unit) at the following substations: Doss Interchange 115 kV, Flannagan Sub 69 kV, Roz 115 kV, Seminole 115 kV, Oxy West Seminole Tap 115 kV, and Amerada Hess Sub 115 kV.

In the 2016 ITPNT Assessment, the overload of the Denver City Interchange S.-San Andreas 115 kV line occurred in the 2017 summer and winter peak, 2020 summer and winter peak models. The overload of the San Andreas-Seminole 115 kV line occurred in the 2017 and 2020 summer peak models. In the 2016 ITPNT Assessment, the voltage violations at Amerada Hess, Doss Interchange and Roz occurred in the 2017 summer peak, as well as the 2020 light load, summer and winter peak models. The voltage violations at Oxy West Seminole Tap and Seminole occurred in the 2020 light load, summer and winter peak models. The voltage violations at Flannagan Sub occurred in the 2020 summer peak case. The low voltage conditions are attributed to load growth in the local area at the following substations: Roz, Seminole, Doss, Flannagan, and Mustang, which aggregated to 55 MW. The additional 55 MW of load was not modeled in the previous ITPNT Assessments. These needs are considered time-sensitive because a solution is needed within three (3) years.