Attachment 13

Scenic Loop Substation Analysis Report

[redacted]

Contents

[redacted]

[redacted]

1.

[redacted]

capacity within the next few years. The area needs an additional substation by 2024 to serve the area demand in a reliable manner.

Figure 2: Histor

[redacted]

Figure 3: Load Growth based on SA Tomorrow's forecasted customers ï Baseline forecast only.

[redacted]

2.3 Existing Distribution Circuit Performance

The existing distribution

[redacted]

Table 7 and Table 8

[redacted]

Figure 7 shows the La Sierra circuits with overloads and low voltages on a few portions of the U114 circuit.

Table 9: La Sierra Distribution Circuit Loadings

La Sierra Distribution Circuits	Loading	Total Load		
	%	kW	kVAr	kVA
U111	59.06			

Figure 9: N-0 Model 0 Mdo N.002 (e).002 (e)2709[0 M) Cirel cuit.002 (o)-s 08 4. -s 409[ai (d1-s 4092 (e).00 O[:)-3.

[redacted]

Total	29089.75	3045.17	29248.7
Fair Oaks Ranch Distribution Circuits			

[redacted]

Table 14: La Sierra Distribution Circuit Loadings with R014 (FY 2025 & N-1)

La Sierra Distribution Circuits	Loading

[redacted]

Based on the reasonable growth and expected development described above, the current La Sierra and

[redacted]

Fe

F15T Q q 0 0 612 792 re W* n BT /TT0 11.6 Tf 81.02 0 0 286 Td [(F)-1.:e1-9 94 (11)3(996TJ4)-8(996TJ in (1s9 9.96F.00(e).96o.0s9 9.96r)

[redacted]

4. Transmission Interconnection

CPS Energy evaluated potential transmission options that are best capable to serve the proposed Scenic [22LJ {dzōăúlúż2y / t{ 9yŜMƎèăăú

analysis, / t { 9ýŜǈ∃èǿă ŜăűʎΥ ŀűŜŘ Ǒ2ăű ǇĴŜǈ Υʎ fŜ for double circuit 138-kV structure for the study area of $ 6.9 million/mile was assumed for this analysis.

The following are the three

[redacted]

Power Flow Analysis:

To evaluate the performance of the considered transmission options, power fl(n)n0.996 (m)-o2 792.004 (alu)5.996 (at)10 (

[redacted]

To evaluate the robustness of the transmission options, power flow contingency analysis was conductee

[redacted]

Table 21: Load Shift Desg

[redacted]

Figure 21: Relative Plots of MWh Comparing Energy Supplied by Source

Figure 21 shows August 2019 Peak day demand of a transformer at La Sierra substation and one of the circuits (U114) to study the benefits and costs associated with a reduction of peak that is possible by including Solar PV and BESS as potential means to reduce circuit loadings. The plot shows an output of a 6.64 MW solar site and how inclus.104 411Mudf a

[redacted]

resources to the distribution system and will not fully

[redacted]

6. Conclusion and Recommendation

As residential, commercial, and industrial development and associated electric demand increases in the northwestern region of Bexar County, CPS Energy has identified reliability violations in the Scenic Loop area today. Although few modifications of the existing distribution circuits will provide a

[redacted]

7. Appendix A: UTSA 2010-