

Study Area: **SCE East of Lugo**

Thermal Overloads



Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)						Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2031 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	
Pisgah - Calcite 230kV	Calcite - Lugo 230kV and ES-CALCITE-S	P3	G-1/L-1	NA	NA	<100	NA	NA	109.58	NA	NA	NA	Generation redispatch following first contingency

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High/Low Voltages



Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)									Voltage PU (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Winter Peak	2026 Winter Peak	2031 Winter Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2031 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	
BSCSCH T 70kV	MIDWAY-TAFT 115kV [2620]	P1-2		1.00	1.00	0.99	NA	NA	NA	1.03		1.04	0.99	0.99	1.04	Sensitivity Only
TAFT 115kV		P1-2		1.02	1.02	1.01	NA	NA	NA	1.03		1.03	1.02	1.01	1.03	Sensitivity Only
UNIVRSTY 115kV		P1-2		1.03	1.03	1.02	NA	NA	NA	1.03		1.03	1.03	1.02	1.03	Sensitivity Only
MCKTTRCK 70kV		P1-2		1.02	1.02	1.01	NA	NA	NA	1.03		1.03	1.02	1.00	1.03	Sensitivity Only
NORTHMWY 70kV		P1-2		1.02	1.02	1.01	NA	NA	NA	1.03		1.03	1.02	1.00	1.03	Sensitivity Only
MDWY_P_S 70kV		P1-2		1.02	1.02	1.01	NA	NA	NA	1.03		1.03	1.02	1.00	1.03	Sensitivity Only
TAFT A_J 70kV		P1-2		1.02	1.02	1.01	NA	NA	NA	1.04		1.03	1.02	1.01	1.03	Sensitivity Only
MARICOPA 70kV		P1-2		1.01	1.01	1.00	NA	NA	NA	1.03		1.03	1.01	1.00	1.03	Sensitivity Only
MOCO_JCT 70kV		P1-2		1.01	1.01	1.00	NA	NA	NA	1.03		1.03	1.01	1.00	1.03	Sensitivity Only
GARDNER 70kV		P1-2		1.01	1.01	1.00	NA	NA	NA	1.03		1.04	1.00	1.00	1.04	Sensitivity Only
BRY_PTLM 70kV		P1-2		1.02	1.02	1.01	NA	NA	NA	1.04		1.03	1.02	1.01	1.03	Sensitivity Only

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Voltage Deviation



Substation	Contingency (All and Worst P6)	Category	Category Description	Post Cont. Voltage Deviation % (Baseline Scenarios)									Post Cont. Voltage Deviation % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Winter Peak	2026 Winter Peak	2031 Winter Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2031 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	
None																

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Transient Stability



Contingency	Category	Category Description	Transient Stability Performance						Potential Mitigation Solutions
			Baseline Scenarios				Sensitivity Scenarios		
			2026 Summer Peak	2031 Summer Peak	2023 Spring Off-Peak	2031 Spring Off-Peak	2026 SP High CEC Forecast	2023 OP Heavy Renewable & Min Gas Gen	
Cima-Eldorado-Pisgah No.1 230 kV (fault at Eldorado)	P1	Normal clearing	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	No violation
Cima-Eldorado-Pisgah No.1 230 kV (fault at Pisgah)	P1	Normal clearing	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	No violation
Lugo-Pisgah No.2 230 kV (fault at Lugo)	P1	Normal clearing	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	No violation
Lugo-Pisgah No.2 230 kV (fault at Pisgah)	P1	Normal clearing	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	No violation
Eldorado-Mohave 500kV & series cap bypass of Eldordo-Eld_Lugo_11 500kV	P1	Normal clearing	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	No violation
Eldorado-Mohave 500kV & Lugo-Mohave 500kV line shunt	P1	Normal clearing	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	No violation
Eldorado-Lugo and Eldorado-Mohave	P6	Normal clearing	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	No violation
Eldorado-Lugo and Lugo-Mohave	P6	Normal clearing	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	No violation
Eldorado-Mohave and Lugo-Mohave	P6	Normal clearing	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	Stable/WECC criteria met	No violation

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Single Contingency Load Drop

Worst Contingency	Category	Category Description	Amount of Load Drop (MW)									Potential Mitigation Solutions
			2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2031 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	

No single contingency resulted in total load drop of more than 250 MW

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Single Source Substation with more than 100 MW Load

Substation	Load Served (MW)									Potential Mitigation Solutions
	2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2031 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	

No single source substation with more than 100 MW