

Study Area: SCE Eastern area

Thermal Overloads



ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)								Potential Mitigation Solutions
					2018 Summer Peak	2021 Summer Peak	2026 Summer Peak	2018 Spring Off-Peak	2021 Spring Light Load	2021 SP Heavy Renewable & Min Gas Gen	Select..	Select..	
Eastern-T-1	Line 24804 DEVERS 230 kV to 24942 SBLR 230 kV	Line SERRANO 500.0 to VALLEYSC 500.0 Circuit 1	P1	L-1				127.62					Inland Empire SPS, West of Devers SPS, Congestion Management and Curtailment
Eastern-T-2	Line 24132 SANBRDNO 230 kV to 24942 SBLR 230 kV	Line SERRANO 500.0 to VALLEYSC 500.0 Circuit 1	P1	L-1				127.62					Inland Empire SPS, West of Devers SPS, Congestion Management and Curtailment
Eastern-T-3	Line 24804 DEVERS 230 kV to 24944 Vista2LR 230 kV	Line SERRANO 500.0 to VALLEYSC 500.0 Circuit 1	P1	L-1				122.54					Inland Empire SPS, West of Devers SPS, Congestion Management and Curtailment
Eastern-T-4	Line 24944 Vista2LR 230 kV to 24901 VSTA 230 kV	Line SERRANO 500.0 to VALLEYSC 500.0 Circuit 1	P1	L-1				122.54					Inland Empire SPS, West of Devers SPS, Congestion Management and Curtailment
Eastern-T-5	Line 24804 DEVERS 230 kV to 24941 EICascoLR 230 kV	Line SERRANO 500.0 to VALLEYSC 500.0 Circuit 1	P1	L-1				106.53					Inland Empire SPS, West of Devers SPS, Congestion Management and Curtailment
Eastern-T-6	Line 24941 EICascoLR 230 kV to 25666 EL CASCO 230 kV	Line SERRANO 500.0 to VALLEYSC 500.0 Circuit 1	P1	L-1				106.53					Inland Empire SPS, West of Devers SPS, Congestion Management and Curtailment
Eastern-T-7	Line 24804 DEVERS 230 kV to 24942 SBLR 230 kV	Line DEVERS-Vista2LR-VSTA 230.0 Circuit 1 AND Line SERRANO 500.0 to VALLEYSC 500.0 Circuit 1	P6	L-1-1				165.41					Inland Empire SPS, West of Devers SPS, Congestion Management and Curtailment
Eastern-T-8	Line 24132 SANBRDNO 230 kV to 24942 SBLR 230 kV	Line DEVERS-Vista2LR-VSTA 230.0 Circuit 1 AND Line SERRANO 500.0 to VALLEYSC 500.0 Circuit 1	P6	L-1-1				165.41					Inland Empire SPS, West of Devers SPS, Congestion Management and Curtailment
Eastern-T-9	Line 24804 DEVERS 230 kV to 24944 Vista2LR 230 kV	Line DEVERS-EICascoLR-EL CASCO 230.0 Circuit 1 AND Line SERRANO 500.0 to VALLEYSC 500.0 Circuit 1	P6	L-1-1				148.90					Inland Empire SPS, West of Devers SPS, Congestion Management and Curtailment
Eastern-T-10	Line 24944 Vista2LR 230 kV to 24901 VSTA 230 kV	Line DEVERS-EICascoLR-EL CASCO 230.0 Circuit 1 AND Line SERRANO 500.0 to VALLEYSC 500.0 Circuit 1	P6	L-1-1				148.90					Inland Empire SPS, West of Devers SPS, Congestion Management and Curtailment
Eastern-T-11	Line 24804 DEVERS 230 kV to 24941 EICascoLR 230 kV	Line DEVERS-Vista2LR-VSTA 230.0 Circuit 1 AND Line SERRANO 500.0 to VALLEYSC 500.0 Circuit 1	P6	L-1-1				136.71					Inland Empire SPS, West of Devers SPS, Congestion Management and Curtailment
Eastern-T-12	Line 24941 EICascoLR 230 kV to 25666 EL CASCO 230 kV	Line DEVERS-Vista2LR-VSTA 230.0 Circuit 1 AND Line SERRANO 500.0 to VALLEYSC 500.0 Circuit 1	P6	L-1-1				136.71					Inland Empire SPS, West of Devers SPS, Congestion Management and Curtailment

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					2018 Summer Peak	2021 Summer Peak	2026 Summer Peak	2018 Spring Off-Peak	2021 Spring Light Load	2021 SP Heavy Renewable & Min Gas Gen	Select..	Select..	
Eastern-T-13	Transformer Devers 500/230 kV ck 1T	Line ALBERHIL 500.0 to VALLEYSC 500.0 Circuit 1 AND Tran DEVERS 500.00 to DEVERS 230.00 Circuit 2DEVERS2T 13.80	P6	L-1						130.10			Congestion Management, Expansion of Colorado River Corridor SPS
Eastern-T-14	Transformer Devers 500/230 kV ck 2T	Line ALBERHIL 500.0 to VALLEYSC 500.0 Circuit 1 AND Tran DEVERS 500.00 to DEVERS 230.00 Circuit 1DEVERS 1T 13.80	P6	L-1						127.76			Congestion Management, Expansion of Colorado River Corridor SPS
Eastern-T-15	Line 25666 EL CASCO 230 kV to 24132 SANBRDNO 230 kV	Line DEVERS-Vista2LR-VSTA 230.0 Circuit 1 AND Line SERRANO 500.0 to VALLEYSC 500.0 Circuit 1	P6	L-1-1				113.78					West of Devers SPS, Congestion Management and Curtailment
Eastern-T-16	Line 24804 DEVERS 230 kV to 24942 SBLR 230 kV	Line DEVERS 500.0 to VALLEYSC 500.0 Circuit 1 AND Line DEVERS 500.0 to VALLEYSC 500.0 Circuit 2	P7	L-2	117.31			150.00					West of Devers SPS, Congestion Management and Curtailment
Eastern-T-17	Line 24132 SANBRDNO 230 kV to 24942 SBLR 230 kV	Line DEVERS 500.0 to VALLEYSC 500.0 Circuit 1 AND Line DEVERS 500.0 to VALLEYSC 500.0 Circuit 2	P7	L-2	117.31			149.99					West of Devers SPS, Congestion Management and Curtailment
Eastern-T-18	Line 24944 Vista2LR 230 kV to 24901 VSTA 230 kV	Line DEVERS 500.0 to VALLEYSC 500.0 Circuit 1 AND Line DEVERS 500.0 to VALLEYSC 500.0 Circuit 2	P7	L-2	123.59			144.74					West of Devers SPS, Congestion Management and Curtailment
Eastern-T-19	Line 24804 DEVERS 230 kV to 24944 Vista2LR 230 kV	Line DEVERS 500.0 to VALLEYSC 500.0 Circuit 1 AND Line DEVERS 500.0 to VALLEYSC 500.0 Circuit 2	P7	L-2	123.59			144.74					West of Devers SPS, Congestion Management and Curtailment
Eastern-T-20	Line 24941 EICascoLR 230 kV to 25666 EL CASCO 230 kV	Line DEVERS 500.0 to VALLEYSC 500.0 Circuit 1 AND Line DEVERS 500.0 to VALLEYSC 500.0 Circuit 2	P7	L-2	101.84			124.47					West of Devers SPS, Congestion Management and Curtailment
Eastern-T-21	Line 24804 DEVERS 230 kV to 24941 EICascoLR 230 kV	Line DEVERS 500.0 to VALLEYSC 500.0 Circuit 1 AND Line DEVERS 500.0 to VALLEYSC 500.0 Circuit 2	P7	L-2	101.84			124.47					West of Devers SPS, Congestion Management and Curtailment
Eastern-T-22	Line 25666 EL CASCO 230 kV to 24132 SANBRDNO 230 kV	Line DEVERS 500.0 to VALLEYSC 500.0 Circuit 1 AND Line DEVERS 500.0 to VALLEYSC 500.0 Circuit 2	P7	L-2				101.36					West of Devers SPS, Congestion Management and Curtailment

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Voltage Deviations



ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %								Potential Mitigation Solutions
					2018 Summer Peak	2021 Summer Peak	2026 Summer Peak	2018 Spring Off-Peak	2021 Spring Light Load	2021 SP Heavy Renewable & Min Gas Gen	Select..	Select..	

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High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)								Potential Mitigation Solutions
					2018 Summer Peak	2021 Summer Peak	2026 Summer Peak	2018 Spring Off-Peak	2021 Spring Light Load	2021 SP Heavy Renewable & Min Gas Gen	Select..	Select..	

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Transient Stability



ID	Contingency	Category	Category Description	Transient Stability Performance								Potential Mitigation Solutions
				2018 Summer Peak	2021 Summer Peak	2026 Summer Peak	2018 Spring Off-Peak	2021 Spring Light Load	2021 SP Heavy Renewable & Min Gas Gen	Select..	Select..	
Eastern-TS-1	3-Phase Line Fault on Eagle Mountain - Iron Mountain 230 kV line at Iron Mountain End	P1		Unstable	Unstable	Unstable			Unstable			Install Pilot Relay
Eastern-TS-2	Eagle Mountain SLG Fault with stuck breaker CB407 at Eagle Mountain, no LBFB and fault not cleared	P4		Unstable	Unstable	Unstable			Unstable			Install LBFB, Further Investigation
Eastern-TS-3	Eagle Mountain SLG Fault with stuck breaker CB405 at Eagle Mountain, no LBFB and fault not cleared	P4		Unstable	Unstable	Unstable			Unstable			Install LBFB, Further Investigation

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Single Contingency Load Drop

ID	Worst Contingency	Category	Category Description	Amount of Load Drop (MW)								Potential Mitigation Solutions
				Select..	Select..	Select..	Select..	Select..	Select..	Select..	Select..	
X-SLD-1												

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

ID	Substation	Load Served (MW)								Potential Mitigation Solutions
		Select..	Select..	Select..	Select..	Select..	Select..	Select..	Select..	
X-SS-1										

No single source substation with more than 100 MW Load