



Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)					Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2020 Summer Peak	2023 Summer Peak	2028 Summer Peak	2020 Spring Off-Peak	2023 Spring Peak	2023 SP High CEC Forecast	2023 SpOP Hi Renew & Min Gas Gen	2020 SP Heavy Renewable & Min Gas Gen	
Lugo - Victorville 500kV	Delany - Colorado River 500kV 1 and Paloverde - Colorado River 500kV 1	P6	N-1-1	<100	-	-	-	-	-	-	<100	Project: Lugo-Victorville line upgrade In-Service Date: 6/2021 Short Term: System re-dispatch
	Devers - Redbluff 500kV 1 and 2	P7	N-2	<100	-	-	-	-	-	-	<100	
	Colorado River - Redbluff 500kV 1 and 2	P7	N-2	<100	-	-	-	-	-	-	<100	
	Mohave - Eldorado & Colorado River–Paloverde 500kV	P6	N-1-1	<100	-	-	-	-	-	-	<100	
	Lugo - Mohave & Colorado River–Paloverde 500kV	P6	N-1-1	<100	-	-	-	-	-	-	<100	

Study Area: SCE Bulk

High/Low Voltages



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
				2020 Summer Peak	2023 Summer Peak	2028 Summer Peak	2020 Spring Off-Peak	2023 Spring Off-Peak	2023 SP High CEC Forecast	2023 SpOP Hi Renew & Min Gas Gen	2020 SP Heavy Renewable & Min Gas Gen	
				No High/low Voltage issues identified								

Study Area: SCE Bulk

Voltage Deviation



Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)					Voltage PU (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2020 Summer Peak	2023 Summer Peak	2028 Summer Peak	2020 Spring Off-Peak	2023 Spring Off-Peak	2023 SP High CEC Forecast	2023 SpOP Hi Renew & Min Gas Gen	2020 SP Heavy Renewable & Min Gas Gen	
				No voltage deviation issues identified								

Study Area: SCE Bulk

Transient Stability



Contingency	Category	Category Description	Transient Stability Performance (Number of voltage and frequency violations)								Potential Mitigation Solutions
			2020 Summer Peak	2023 Summer Peak	2028 Summer Peak	2020 Spring Off-Peak	2023 Spring Off-Peak	2023 SP High CEC Forecast	2023 SpOP Hi Renew & Min Gas Gen	2020 SP Heavy Renewable & Min Gas Gen	
Imperial Valley–N.Gila 500 kV; 3-Phase fault @ Imperial Valley, normal clearing	P1	N-1	Stable	-	Stable	-	Stable	-	Stable	Stable	
Lugo–Victorville 500 kV, 3-Phase fault @ Lugo, normal clearing	P1	N-1	Stable	-	Stable	-	Stable	-	Stable	Stable	
Paloverde–Colorado River 500 kV; 3-Phase fault @ Paloverde, normal clearing	P1	N-1	Stable	-	Stable	-	Stable	-	Stable	Stable	
PDCI Monopole; 3-Phase fault @ Sylmar, normal clearing	P1	N-1	Stable	-	Stable	-	Stable	-	Stable	Stable	
Serrano–Valley 500 kV; 3-Phase fault @ Valley, normal clearing	P1	N-1	Stable	-	Stable	-	Stable	-	Stable	Stable	
Palo Verde G-1; 3-Phase fault @ 500 kV, normal clearing	P1	G-1	Stable	-	Stable	-	Stable	-	Stable	Stable	
Devers-Valley No.1 500 kV & Serrano-Valley 500 kV; 3-Phase fault @ Valley, normal clearing	P6	N-1-1	Stable	-	Stable	-	Stable	-	Stable	Stable	
Lugo–Eldorado & Lugo–Mohave 500 kV; 3-Phase fault @ Lugo, normal clearing	P6	N-1-1	Stable	-	Stable	-	Stable	-	Stable	Stable	
Colorado River–Paloverde & Imperial Valley–N.Gila 500 kV; 3-Phase fault @ Paloverde, normal clearing	P6	N-1-1	Stable	-	Stable	-	Stable	-	Stable	Stable	
Sunrise & SWPL 500 kV; 3-Phase fault @ Suncrest, normal clearing	P6	N-1-1	Stable	-	Stable	-	Stable	-	Stable	Stable	
Midway–Vincent # 1 & Midway - Whirlwind #3 500 kV with RAS; 3-Phase fault @ Midway, normal clearing	P7	N-2	Stable	-	Stable	-	Stable	-	Stable	Stable	
Midway - Vincent No. 1 & 2 500 kV with RAS; 3-Phase fault @ Midway, normal clearing	P7	N-2	Stable	-	Stable	-	Stable	-	Stable	Stable	
Vincent–Miraloma & Lugo–Rancho Vista 500 kV; 3-Phase fault @ Mira Loma, normal clearing	P7	N-2	Stable	-	Stable	-	Stable	-	Stable	Stable	
Colorado River–Red Bluff 500kV #1 & #2; 3-Phase fault @ Red Bluff, normal clearing	P7	N-2	Stable	-	Stable	-	Stable	-	Stable	Stable	
Devers–Red Bluff 500 kV #1 & #2; 3-Phase fault @ Devers, normal clearing	P7	N-2	Stable	-	Stable	-	Stable	-	Stable	Stable	
Lugo–Vincent 500 KV #1 & #2; 3-Phase fault @ Vincent, normal clearing	P7	N-2	Stable	-	Stable	-	Stable	-	Stable	Stable	
Antelope–Vincent #1 & #2 500 kV; 3-Phase fault @ Vincent, normal clearing	P7	N-2	Stable	-	Stable	-	Stable	-	Stable	Stable	
Loss of PDCI Bipole Converters; 3-Phase fault @ Sylmar, normal clearing	P7	N-2	Stable	-	Stable	-	Stable	-	Stable	Stable	
Loss of IPPDC Bipole; 3-Phase fault @ Adelanto, normal clearing	P7	N-2	Stable	-	Stable	-	Stable	-	Stable	Stable	
Lugo–Miraloma & Lugo–Rancho Vista 500 kV; 3-Phase fault @ Lugo, normal clearing	P7	N-2	Stable	-	Stable	-	Stable	-	Stable	Stable	
Serrano–Mira Loma & Serrano–Rancho Vista 500 kV; 3-Phase fault @ Serrano, normal clearing	P7	N-2	Stable	-	Stable	-	Stable	-	Stable	Stable	

Study Area: SCE Bulk



Single Contingency Load Drop

Worst Contingency	Category	Category Description	Amount of Load Drop (MW)								Potential Mitigation Solutions
			Select..	Select..	Select..	Select..	Select..	Select..	Select..	Select..	

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

Study Area: SCE Bulk



Single Source Substation with more than 100 MW Load

Substation	Load Served (MW)								Potential Mitigation Solutions
	Select..	Select..	Select..	Select..	Select..	Select..	Select..	Select..	

No single source substation with more than 100 MW Load