

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-1	22356 IMPRLVLY 230 21025 ELCENTRO 230 1	L_50006_Line N.GILA 500.0 to IMPRLVLY 500.0 Ckt 1	B	L-1	100%			Post-SONGS Mitigation Plan including following alternatives under investigation:
SD-A-SP-T-2	22356 IMPRLVLY 230 21025 ELCENTRO 230 1	L_50006_Line N.GILA 500.0 to IMPRLVLY 500.0 Ckt 1 With OtayMesa Outage	B	G-1/L-1	110%	109%		
SD-A-SP-T-3	22356 IMPRLVLY 230 21025 ELCENTRO 230 1 (PSLF)	L_50006_Line N.GILA 500.0 to IMPRLVLY 500.0 Ckt 1 with TMD Plant outage	B	G-1/L-1	113%	107%		
SD-A-SP-T-4	22610 OTAYME&1 230 20149 TJI-230 230 1	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	L-1	103%	109%		
SD-A-SP-T-5	22610 OTAYME&1 230 20149 TJI-230 230 1	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1 With OtayMesa Outage	B	G-1/L-1	108%	121%	101%	1. Transmission alternatives including but not limited to: (a) 500kV AC line or HVDC line connecting SCE and SDG&E system; (b) 500kV AC line or HVDC line connecting Imperial Valley to a new substation in the northeast San Diego area; (c) Submarine cable connecting SCE and SDG&E system; (d) Flow control device between SDG&E and CFE and IID

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SD-A-SP-T-6	22610 OTAYME&1 230 20149 TJI-230 230 1	L_50005_Line IMPRLVLY 500.0 to ECO 500.0 Ckt 1	B	L-1	122%	123%	107%	2. Non-conventional mitigation alternatives including energy efficiency, demand response, distributed generation and storage 3. Resource need by itself or with combination of the above 4. Other mitigation options such as existing SPS modification and/or operating procedures
SD-A-SP-T-7	22610 OTAYME&1 230 20149 TJI-230 230 1	L_50005_Line IMPRLVLY 500.0 to ECO 500.0 Ckt 1 With OtayMesa Outage	B	G-1/L-1	129%	139%	122%	
SD-A-SP-T-8	22610 OTAYME&1 230 20149 TJI-230 230 1	L_50007_Line OCOTILLO 500.0 to SUNCREST 500.0 Ckt 1	B	L-1	103%	109%		
SD-A-SP-T-9	22610 OTAYME&1 230 20149 TJI-230 230 1	L_50007_Line OCOTILLO 500.0 to SUNCREST 500.0 Ckt 1 With OtayMesa Outage	B	G-1/L-1	108%	120%	102%	
SD-A-SP-T-10	22610 OTAYME&1 230 20149 TJI-230 230 1	L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	B	L-1	122%	123%	107%	
SD-A-SP-T-11	22610 OTAYME&1 230 20149 TJI-230 230 1	L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1 With OtayMesa Outage	B	G-1/L-1	129%	139%	122%	
SD-A-SP-T-12	22610 OTAYME&1 230 20149 TJI-230 230 1	L_50007_Line OCOTILLO 500.0 to SUNCREST 500.0 Ckt 1	B	L-1	103%	109%		
SD-A-SP-T-13	22930 ECO 500 22468 MIGUEL 500 1	L_50007_Line OCOTILLO 500.0 to SUNCREST 500.0 Ckt 1 with cross tripping IV-La Rosita 230 kV tie with CFE (PSLF)	B	L-1		102%	105%	

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					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-14	22930 ECO 500 22468 MIGUEL 500 1	L_50007_Line OCOTILLO 500.0 to SUNCREST 500.0 Ckt 1 With OtayMesa Outage, along with cross tripping IV-La Rosita 230 kV tie with CFE (PSLF)	B	G-1/L-1	101%	112%	114%	
SD-A-SP-T-15	22886 SUNCREST 230 228860 SUNCREST TP1 230 1	L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1 with cross tripping IV-La Rosita 230 kV tie with CFE (PSLF)	B	L-1	101%	111%	115%	
SD-A-SP-T-16	22886 SUNCREST 230 228860 SUNCREST TP1 230 1	L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1 With OtayMesa Outage, along with cross tripping IV-La Rosita 230 kV tie with CFE (PSLF)	B	G-1/L-1	111%	123%	127%	
SD-A-SP-T-17	22886 SUNCREST 230 228860 SUNCREST TP1 230 2	L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1 with cross tripping IV-La Rosita 230 kV tie with CFE (PSLF)	B	L-1	101%	111%	115%	
SD-A-SP-T-18	22886 SUNCREST 230 228860 SUNCREST TP1 230 2	L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1 With OtayMesa Outage, along with cross tripping IV-La Rosita 230 kV tie with CFE (PSLF)	B	G-1/L-1	111%	123%	127%	
SD-A-SP-T-19	23310 OCOTILLO 500.0 22885 SUNCREST 500.0 1	L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1 With OtayMesa Outage, along with cross tripping IV-La Rosita 230 kV tie with CFE (PSLF)	B	G-1/L-1		101%	104%	

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					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-20	22609 OTAYMESA 230 22464 MIGUEL 230 1	L_20023_Line OTAYMESA 230.0 to MIGUEL 230.0 Ckt 2	B	L-1		112%		Modify the existing SPS to shed generation in the Otay Mesa area
SD-A-SP-T-21	22609 OTAYMESA 230 22464 MIGUEL 230 2	L_20022_Line OTAYMESA 230.0 to MIGUEL 230.0 Ckt 1	B	L-1		112%		
SD-A-SP-T-22	22692 ROSCYNTP 69.0 22696 ROSE CYN 69.0 1	L_21063_Line PACFCBCH 69.0 to OLD TOWN 69.0 Ckt 1	B	L-1		101%	106%	Rose Canyon Tap Removal
SD-A-SP-T-23	22512 MONSRATE 69.0 22016 AVCADOTP 69.0 1	L_24028_Line PENDLETN 69.0 to SANLUSRY 69.0 Ckt 1	B	L-1			105%	Relay resetting to achieve a 102 MVA rating - in work per Protection
SD-A-SP-T-24	22588 OCNSDETP 69.0 22708 SANLUSRY 69.0 1	L_24032_Line SANLUSRY 69.0 to OCEANSDE 69.0 Ckt 1	B	L-1		107%	112%	Wood to Steel reconductor San Luis Rey-Ocean Tap 69 kV line and Stuart Tap-Las Pulgas 69 kV line
SD-A-SP-T-25	22808 STUARTTP 69.0 22400 LASPULGS 69.0 1	L_26019_Line BASILONE 69.0 to TALEGATP 69.0 Ckt 1	B	L-1		112%		
SD-A-SP-T-26	22808 STUARTTP 69.0 22400 LASPULGS 69.0 1	T_26029_Tran TALEGA 69.00 to TALEGA 138.00 Ckt 1	B	L-1	103%	124%	133%	
SD-A-SP-T-27	22808 STUARTTP 69.0 22400 LASPULGS 69.0 1	TL0695_TL0695 CRSTNTS-BASILONE- TALEGA ck 1	B	L-1		112%	121%	
SD-A-SP-T-28	22360 IMPRLVLY 500 22930 ECO 500 1	L_20009_Line IMPRLVLY 230.0 to ROA-230 230.0 Ckt 1 & L_50007_Line OCOTILLO 500.0 to SUNCREST 500.0 Ckt 1	C3	L-1-1			103%	

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					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-29	22360 IMPRLVLY 500 22930 ECO 500 1	L_20021_Line OTAYMESA 230.0 to TJI-230 230.0 Ckt 1 & L_50007_Line OCOTILLO 500.0 to SUNCREST 500.0 Ckt 1	C3	L-1-1			103%	Post-SONGS Mitigation Plan including following alternatives under investigation: 1. Transmission alternatives including but not limited to: (a) 500kV AC line or HVDC line connecting SCE and SDG&E system; (b) 500kV AC line or HVDC line connecting Imperial Valley to a new substation in the northeast San Diego area; (c) Submarine cable connecting SCE and SDG&E system; (d) Flow control device between SDG&E and CFE and IID
SD-A-SP-T-30	22930 ECO 500 22468 MIGUEL 500 1	L_20009_Line IMPRLVLY 230.0 to ROA-230 230.0 Ckt 1 & L_50007_Line OCOTILLO 500.0 to SUNCREST 500.0 Ckt 1	C3	L-1-1			103%	
SD-A-SP-T-31	22930 ECO 500 22468 MIGUEL 500 1	L_20021_Line OTAYMESA 230.0 to TJI-230 230.0 Ckt 1 & L_50007_Line OCOTILLO 500.0 to SUNCREST 500.0 Ckt 1	C3	L-1-1			104%	
SD-A-SP-T-32	22356 IMPRLVLY 230 21025 ELCENTRO 230 1	L_20000_Line DIXIE230 230.0 to IMPRLVLY 230.0 Ckt 1 & L_50006_Line N.GILA 500.0 to IMPRLVLY 500.0 Ckt 1	C3	L-1-1				

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					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-33	22356 IMPRLVLY 230 20118 ROA-230 230 1	L_50007_Line OCOTILLO 500.0 to SUNCREST 500.0 Ckt 1 & L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	C3	L-1-1	129%	137%	134%	2. Non-conventional mitigation alternatives including energy efficiency, demand response, distributed generation and storage 3. Resource need by itself or with combination of the above 4. Other mitigation options such as existing SPS modification and/or operating procedures
SD-A-SP-T-34	22610 OTAYME&1 230 20149 TJI-230 230 1	L_20046_Line BAY BLVD 230.0 to MIGUEL 230.0 Ckt 1 & L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	C3	L-1-1	111%	118%	103%	
SD-A-SP-T-35	22610 OTAYME&1 230 20149 TJI-230 230 1	L_50003_Line HDWSH 500.0 to N.GILA 500.0 Ckt 1 & L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	C3	L-1-1		118%	103%	
SD-A-SP-T-36	22610 OTAYME&1 230 20149 TJI-230 230 1	L_40033_Line ELLIS 230.0 to JOHANNA 230.0 Ckt 1 & L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	C3	L-1-1	116%	123%	109%	
SD-A-SP-T-37	22610 OTAYME&1 230 20149 TJI-230 230 1	L_40084_Line S.ONOFRE 230.0 to SERRANO 230.0 Ckt 1 & L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	C3	L-1-1	116%	124%	110%	
SD-A-SP-T-38	22610 OTAYME&1 230 20149 TJI-230 230 1	L_20035_Line SYCAMORE 230.0 to PENSQTOS 230.0 Ckt 1 & L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	C3	L-1-1		124%	109%	

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					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-39	22610 OTAYME&1 230 20149 TJI-230 230 1	L_40106_Line VIEJOSC 230.0 to CHINO 230.0 Ckt 1 & L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	C3	L-1-1	119%	126%	112%	
SD-A-SP-T-40	22610 OTAYME&1 230 20149 TJI-230 230 1	L_45002_Line PALOVRDE 500.0 to COLRIVER 500.0 Ckt 1 & L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	C3	L-1-1	123%	129%	114%	
SD-A-SP-T-41	22610 OTAYME&1 230 20149 TJI-230 230 1	L_45002_Line PALOVRDE 500.0 to COLRIVER 500.0 Ckt 1 & L_50007_Line OCOTILLO 500.0 to SUNCREST 500.0 Ckt 1	C3	L-1-1	103%	114%		
SD-A-SP-T-42	22610 OTAYME&1 230 20149 TJI-230 230 1	L_50007_Line OCOTILLO 500.0 to SUNCREST 500.0 Ckt 1 & L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	C3	L-1-1	178%	193%	181%	
SD-A-SP-T-43	22886 SUNCREST 230 228860 SUNCREST TP1 230 1	L_20009_Line IMPRLVLY 230.0 to ROA-230 230.0 Ckt 1 & L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	C3	L-1-1		111%	116%	
SD-A-SP-T-44	22886 SUNCREST 230 228860 SUNCREST TP1 230 1	L_20021_Line OTAYMESA 230.0 to TJI-230 230.0 Ckt 1 & L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	C3	L-1-1		110%	116%	
SD-A-SP-T-45	22886 SUNCREST 230 228861 SUNCREST TP2 230 2	L_20009_Line IMPRLVLY 230.0 to ROA-230 230.0 Ckt 1 & L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	C3	L-1-1		111%	116%	
SD-A-SP-T-46	22886 SUNCREST 230 228861 SUNCREST TP2 230 2	L_20021_Line OTAYMESA 230.0 to TJI-230 230.0 Ckt 1 & L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	C3	L-1-1		110%	116%	

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					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-47	22828 SYCAMORE 69.0 22756 SCRIPPS 69.0 1	L_20046_Line BAY BLVD 230.0 to MIGUEL 230.0 Ckt 1 & L_20035_Line SYCAMORE 230.0 to PENSQTOS 230.0 Ckt 1	C3	L-1-1		107%	111%	re-arrange the PQ-Mesa Rim-Miramar 69 kV system, or strengthen Sycamore-Scripps 69 kV line (TL6916)
SD-A-SP-T-48	22597 OLDTWNT 230 22504 MISSION 230 1	L_20046_Line BAY BLVD 230.0 to MIGUEL 230.0 Ckt 1 & L_20019_Line OLD TOWN 230.0 to MISSION 230.0 Ckt 1 (PSLF)	C3	L-1-1	137%			a temporary SPS/OP to shed load, or developing higher short term emergency line rating until SX-PQ 230 kV line is in service.
SD-A-SP-T-49	22596 OLDTWN 230 22504 MISSION 230 1	L_20046_Line BAY BLVD 230.0 to MIGUEL 230.0 Ckt 1 & L_20019_Line OLDTOWNTP 230.0 to MISSION 230.0 Ckt 1 (PSLF)	C3	L-1-1	147%			a temporary SPS/OP to shed load, or developing higher short term emergency line rating until SX-PQ 230 kV line is in service.
SD-A-SP-T-50	22400 LASPULGS 69.0 22368 JAP MESA 69.0 1	L_20160_Line TALEGA 230.0 to S.ONOFRE 230.0 Ckt 1 & L_20159_Line TALEGA 230.0 to S.ONOFRE 230.0 Ckt 2	C3	L-1-1	107%			OP to operate the 69 kV system in radial mode after first contingency
SD-A-SP-T-51	22400 LASPULGS 69.0 22368 JAP MESA 69.0 1	L_20070_Line S.ONOFRE 230.0 to SONGSMESSA 230.0 Ckt 2 & L_20069_Line S.ONOFRE 230.0 to SONGSMESA 230.0 Ckt 1	C3	L-1-1		124%	144%	
SD-A-SP-T-52	22400 LASPULGS 69.0 22368 JAP MESA 69.0 1	L_20068_Line SONGSMESA 230.0 to CAPSTRNO 230.0 Ckt 1 & L_20066_Line SONGSMESSA 230.0 to TALEGA 230.0 Ckt 1	C3	L-1-1		124%	144%	

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					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-53	22808 STUARTTP 69.0 22400 LASPULGS 69.0 1	L_20070_Line S.ONOFRE 230.0 to SONGSMESA 230.0 Ckt 2 & L_20069_Line S.ONOFRE 230.0 to SONGSMESA 230.0 Ckt 1	C3	L-1-1		172%	196%	Wood to Steel reconductor Stuart Tap-Las Pulgas 69 kV line (TL690E)
SD-A-SP-T-54	22808 STUARTTP 69.0 22400 LASPULGS 69.0 1	L_20068_Line SONGSMESA 230.0 to CAPSTRNO 230.0 Ckt 1 & L_20066_Line SONGSMESA 230.0 to TALEGA 230.0 Ckt 1	C3	L-1-1		172%	196%	
SD-A-SP-T-55	22808 STUARTTP 69.0 22400 LASPULGS 69.0 1	L_20160_Line TALEGA 230.0 to S.ONOFRE 230.0 Ckt 1 & L_20159_Line TALEGA 230.0 to S.ONOFRE 230.0 Ckt 2	C3	L-1-1	156%			
SD-A-SP-T-56	22841 TA TAP 138 22396 LAGNA NL 138 1	L_26004_Line CAPSTRNO 138.0 to TRABUCO 138.0 Ckt 1 & L_26002_Line CAPSTRNO 138.0 to PICO 138.0 Ckt 1	C3	L-1-1	109%			Mitigated by the approved southern Orange county upgrade
SD-A-SP-T-57	22841 TA TAP 138 22396 LAGNA NL 138 1	L_26035_Line PICO 138.0 to TRABUCO 138.0 Ckt 1 & L_26002_Line CAPSTRNO 138.0 to PICO 138.0 Ckt 1	C3	L-1-1	117%			Mitigated by the approved southern Orange county upgrade
SD-A-SP-T-58	22841 TA TAP 138 22396 LAGNA NL 138 1	L_26010_Line R.MSNVJO 138.0 to MARGARTA 138.0 Ckt 1 & L_26002_Line CAPSTRNO 138.0 to PICO 138.0 Ckt 1	C3	L-1-1	115%			Mitigated by the approved southern Orange county upgrade
SD-A-SP-T-59	22841 TA TAP 138 22396 LAGNA NL 138 1	L_26002_Line CAPSTRNO 138.0 to PICO 138.0 Ckt 1 & L_26015_Line TALEGA 138.0 to R.MSNVJO 138.0 Ckt 1	C3	L-1-1	119%			Mitigated by the approved southern Orange county upgrade

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					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-60	22112 CAPSTRNO 138 22656 PICO 138 1	L_26010_Line R.MSNVJO 138.0 to MARGARTA 138.0 Ckt 1 & L_26035_Line PICO 138.0 to TRABUCO 138.0 Ckt 1	C3	L-1-1	112%			Mitigated by the approved southern Orange county upgrade
SD-A-SP-T-61	22112 CAPSTRNO 138 22860 TRABUCO 138 1	L_26010_Line R.MSNVJO 138.0 to MARGARTA 138.0 Ckt 1 & L_26035_Line PICO 138.0 to TRABUCO 138.0 Ckt 1	C3	L-1-1	133%			Mitigated by the approved southern Orange county upgrade
SD-A-SP-T-62	22841 TA TAP 138 22396 LAGNA NL 138 1	L_26013_Line TALEGA 138.0 to PICO 138.0 Ckt 1 & L_26014_Line TALEGA 138.0 to PICO 138.0 Ckt 2	C3	L-1-1	132%			Mitigated by the approved southern Orange county upgrade
SD-A-SP-T-63	22840 TALEGA 138 22656 PICO 138 2	L_26013_Line TALEGA 138.0 to PICO 138.0 Ckt 1 & L_26015_Line TALEGA 138.0 to R.MSNVJO 138.0 Ckt 1	C3	L-1-1	113%			Mitigated by the approved southern Orange county upgrade
SD-A-SP-T-64	22840 TALEGA 138 22656 PICO 138 1	L_26014_Line TALEGA 138.0 to PICO 138.0 Ckt 2 & L_26015_Line TALEGA 138.0 to R.MSNVJO 138.0 Ckt 1	C3	L-1-1	111%			Mitigated by the approved southern Orange county upgrade
SD-A-SP-T-65	22112 CAPSTRNO 138 22656 PICO 138 1	L_26015_Line TALEGA 138.0 to R.MSNVJO 138.0 Ckt 1 & L_26035_Line PICO 138.0 to TRABUCO 138.0 Ckt 1	C3	L-1-1	118%			Mitigated by the approved southern Orange county upgrade
SD-A-SP-T-66	22112 CAPSTRNO 138 22860 TRABUCO 138 1	L_26015_Line TALEGA 138.0 to R.MSNVJO 138.0 Ckt 1 & L_26035_Line PICO 138.0 to TRABUCO 138.0 Ckt 1	C3	L-1-1	144%			Mitigated by the approved southern Orange county upgrade

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					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-67	22844 TALEGA 230 22840 TALEGA 138 1	T_26030_Line TALEGA 230.00 to TALEGA 138.00 Ckt 2 & T_26031_Line TALEGA 230.00 to TALEGA 138.00 Ckt 4	C3	L-1-1	119%			Mitigated by the approved southern Orange county upgrade
SD-A-SP-T-68	22844 TALEGA 230 22840 TALEGA 138 3	T_26030_Line TALEGA 230.00 to TALEGA 138.00 Ckt 2 & T_26031_Line TALEGA 230.00 to TALEGA 138.00 Ckt 4	C3	L-1-1	117%			Mitigated by the approved southern Orange county upgrade
SD-A-SP-T-69	22112 CAPSTRNO 138 22860 TRABUCO 138 1	L_26010_Line R.MSNVJO 138.0 to MARGARTA 138.0 Ckt 1 & L_26005_Line CAPSTRNO 138.0 to TRABUCO 138.0 Ckt 2	C3	L-1-1		134%	142%	Upgrade TL13834 section from Trabuco to Capistrano, or SPS to shed load
SD-A-SP-T-70	22112 CAPSTRNO 138 22860 TRABUCO 138 1	L_26005_Line CAPSTRNO 138.0 to TRABUCO 138.0 Ckt 2 & L_26015_Line TALEGA 138.0 to R.MSNVJO 138.0 Ckt 1	C3	L-1-1		157%	167%	
SD-A-SP-T-71	22008 ASH 69.0 22012 ASH TP 69.0 1	L_25022_Line ESCNDIDO 69.0 to FELICITA 69.0 Ckt 1 & L_25032_Line FELCTATP 69.0 to FELICITA 69.0 Ckt 1	C3	L-1-1	109%	118%	127%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-72	22056 BERNARDO 69.0 22676 R.CARMEL 69.0 1	L_25020_Line ESCNDIDO 69.0 to ESCO 69.0 Ckt 1 & L_25048_Line POWAY 69.0 to POMERADO 69.0 Ckt 1	C3	L-1-1			111%	Build a new Artesian 230/69 kV sub on TL23051 and re-arrange the 69 kV network to make two 69 kV lines between Artesian and Bernardo along with OP as needed

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					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-73	22256 ESCNDIDO 69.0 22272 ESCO 69.0 1	L_25006_Line BERNARDO 69.0 to R.CARMEL 69.0 Ckt 1 & L_25048_Line POWAY 69.0 to POMERADO 69.0 Ckt 1	C3	L-1-1	130%	151%	165%	Consider OP to operate the 69 kV system in radial mode, and/or higher emergency rating on the local network as needed
SD-A-SP-T-74	22512 MONSRATE 69.0 22016 AVCADOTP 69.0 1	L_25003_Line AVOCADO 69.0 to MNSRATTP 69.0 Ckt 1 & L_24028_Line PENDLETN 69.0 to SANLUSRY 69.0 Ckt 1	C3	L-1-1	139%	141%	152%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-75	22640 PENDLETN 69.0 22708 SANLUSRY 69.0 1	L_25043_Line PALA 69.0 to MNSRATTP 69.0 Ckt 1 & L_24021_Line MORHILTP 69.0 to MELROSE 69.0 Ckt 1	C3	L-1-1	126%	134%	144%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-76	22668 POWAY 69.0 22676 R.CARMEL 69.0 1	L_25005_Line BERNARDO 69.0 to FELCTATP 69.0 Ckt 1 & L_21079_Line SYCAMORE 69.0 to BERNARDO 69.0 Ckt 1	C3	L-1-1	106%	115%	123%	Build a new Artesian 230/69 kV sub on TL23051 and re-arrange the 69 kV network to make two 69 kV lines between Artesian and Bernardo along with OP as needed
SD-A-SP-T-77	22708 SANLUSRY 69.0 22582 OCEAN RANCH 69.0 2	L_25024_Line ESCNDIDO 69.0 to SANMRCOS 69.0 Ckt 1 & L_24033_Line SANLUSRY 69.0 to OCEAN RANCH 69.0 Ckt 1	C3	L-1-1		110%	119%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-78	22736 SANTYSBL 69.0 22152 CREELMAN 69.0 1	L_25051_Line RINCON 69.0 to LILAC 69.0 Ckt 1 & L_25056_Line VALCNTR 69.0 to ASH TP 69.0 Ckt 1	C3	L-1-1		105%	113%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-79	22884 WARNERS 69.0 22688 RINCON 69.0 1	L_25051_Line RINCON 69.0 to LILAC 69.0 Ckt 1 & L_25056_Line VALCNTR 69.0 to ASH TP 69.0 Ckt 1	C3	L-1-1	144%	163%	174%	Consider DG, OP, and/or higher emergency rating on the local network as needed

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-80	22884 WARNERS 69.0 22736 SANTYSBL 69.0 1	L_25051_Line RINCON 69.0 to LILAC 69.0 Ckt 1 & L_25056_Line VALCNTR 69.0 to ASH TP 69.0 Ckt 1	C3	L-1-1	165%	182%	198%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-81	22512 MONSRATE 69.0 22524 MORHILTP 69.0 1	L_24028_Line PENDLETN 69.0 to SANLUSRY 69.0 Ckt 1 & L_25043_Line PALA 69.0 to MNSRATTP 69.0 Ckt 1	C3	L-1-1	132%	138%	148%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-82	22524 MORHILTP 69.0 22440 MELROSE 69.0 1	L_24028_Line PENDLETN 69.0 to SANLUSRY 69.0 Ckt 1 & L_25043_Line PALA 69.0 to MNSRATTP 69.0 Ckt 1	C3	L-1-1	142%	149%	160%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-83	22624 PALA 69.0 22508 MNSRATTP 69.0 1	L_24021_Line MORHILTP 69.0 to MELROSE 69.0 Ckt 1 & L_24028_Line PENDLETN 69.0 to SANLUSRY 69.0 Ckt 1	C3	L-1-1	107%	109%	115%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-84	22640 PENDLETN 69.0 22708 SANLUSRY 69.0 1	L_24020_Line MONSRATE 69.0 to MORHILTP 69.0 Ckt 1 & L_25043_Line PALA 69.0 to MNSRATTP 69.0 Ckt 1	C3	L-1-1	114%	121%	131%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-85	22712 SANLUSRY 138 22708 SANLUSRY 69.0 1	T_24046_Trans ENCINA 230.00 to ENCINA 138.00 Ckt 1 & L_21001_Line BATIQTP 138.0 to PENSQTOS 138.0 Ckt 1	C3	L-1-1	123%			Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-86	22306 GARFIELD 69.0 22208 EL CAJON 69.0 1	L_23032_Line MISSION 69.0 to MURRAY 69.0 Ckt 2 & L_21053_Line MISSION 69.0 to MURRAY 69.0 Ckt 1	C3	L-1-1	120%	127%	135%	Consider DG, OP, and/or higher emergency rating on the local network as needed

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-87	22408 LOSCOCHS 69.0 22216 ELLIOTT 69.0 1	L_23038_Line SYCAMORE 138.0 to SANTEE 138.0 Ckt 1 & L_22027_Line ML60 TAP 138.0 to JAMUL 138.0 Ckt 1	C3	L-1-1		107%	117%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-88	22416 LOVELAND 69.0 22168 DESCANSO 69.0 1	L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1 & L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1	C3	L-1-1	113%	122%	117%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-89	22416 LOVELAND 69.0 22168 DESCANSO 69.0 1	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 & L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C3	L-1-1	122%	115%	109%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-90	22532 MURRAY 69.0 22306 GARFIELD 69.0 1	L_23032_Line MISSION 69.0 to MURRAY 69.0 Ckt 2 & L_21053_Line MISSION 69.0 to MURRAY 69.0 Ckt 1	C3	L-1-1		111%	118%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-91	22736 SANTYSBL 69.0 22152 CREELMAN 69.0 1	L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1 & L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1	C3	L-1-1	185%	180%	192%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-92	22884 WARNERS 69.0 22688 RINCON 69.0 1	L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1 & L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1	C3	L-1-1	150%	144%	153%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-93	22884 WARNERS 69.0 22736 SANTYSBL 69.0 1	L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1 & L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1	C3	L-1-1	133%	130%	131%	Consider DG, OP, and/or higher emergency rating on the local network as needed

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-94	22152 CREELMAN 69.0 22828 SYCAMORE 69.0 1	L_22027_Line ML60 TAP 138.0 to JAMUL 138.0 Ckt 1 & L_21084_Line SYCAMORE 138.0 to SANTEE 138.0 Ckt 1	C3	L-1-1			116%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-95	22408 LOSCOCHS 69.0 22216 ELLIOTT 69.0 1	L_22027_Line ML60 TAP 138.0 to JAMUL 138.0 Ckt 1 & L_21084_Line SYCAMORE 138.0 to SANTEE 138.0 Ckt 1	C3	L-1-1		107%	117%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-96	22420 SILVERGT 69.0 22868 URBAN 69.0 1	L_22001_Line B 69.0 to SILVERGT 69.0 Ckt 1 & L_22002_Line B 69.0 to SILVERGT 69.0 Ckt 2	C3	L-1-1	108%	130%	136%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-97	22548 NATNLCTY 69.0 22820 SWEETWTR 69.0 1	L_22036_Line NAVSTMTR 69.0 to SWEETWTR 69.0 Ckt 1 & T_22077_Tran SILVERGT 230.00 to SILVERGT 69.00 Ckt 2	C3	L-1-1		111%	121%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-98	22768 BAY BLVD 69.0 22516 MONTGMRY 69.0 1	L_22063_Line BAY BLVD 69.0 to SWEETWTR 69.0 Ckt 1 & L_22060_Line BAY BLVD 69.0 to MONTGYTP 69.0 Ckt 1	C3	L-1-1	165%	183%	193%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-99	22064 BLDCKRTP 69.0 22168 DESCANSO 69.0 1	L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1 & L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1	C3	L-1-1	150%	153%	168%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-100	22064 BLDCKRTP 69.0 22736 SANTYSBL 69.0 1	L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1 & L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1	C3	L-1-1	150%	153%	168%	Consider DG, OP, and/or higher emergency rating on the local network as needed

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-101	22136 CLAIMNT 69.0 22140 CLARMTTP 69.0 1	L_21031_Line KEARNY 69.0 to MISSION 69.0 Ckt 1 & L_21041_Line MESAHTS 69.0 to MISSION 69.0 Ckt 1	C3	L-1-1	117%	142%	142%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-102	22160 DEL MAR 69.0 22644 PENSQTOS 69.0 1	L_21009_Line DEL MAR 69.0 to PENSQTOS 69.0 Ckt 2 & L_21057_Line NORTHCTY 69.0 to PENSQTOS 69.0 Ckt 1	C3	L-1-1	109%	129%	137%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-103	22160 DEL MAR 69.0 22644 PENSQTOS 69.0 2	L_21008_Line DEL MAR 69.0 to PENSQTOS 69.0 Ckt 1 & L_21057_Line NORTHCTY 69.0 to PENSQTOS 69.0 Ckt 1	C3	L-1-1	111%	130%	138%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-104	22188 DOUBLTTP 69.0 22164 DELMARTP 69.0 1	L_21026_Line GENESEE 69.0 to UCM 69.0 Ckt 1 & L_21068_Line PENSQTOS 69.0 to TOREYPNS 69.0 Ckt 1	C3	L-1-1	106%	114%	120%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-105	22188 DOUBLTTP 69.0 22164 DELMARTP 69.0 1	L_21028_Line MIRASNT 69.0 to PENSQTOS 69.0 Ckt 1 & L_21068_Line PENSQTOS 69.0 to TOREYPNS 69.0 Ckt 1	C3	L-1-1		120%	126%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-106	22192 DOUBLTTP 138 22300 FRIARS 138 1	T_21108_Tran PENSQTOS 230.00 to PENSQTOS 69.00 Ckt 2 & T_21109_Tran PENSQTOS 230.00 to PENSQTOS 138.00 Ckt 1	C3	L-1-1		104%	106%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-107	22200 DUNHILTP 69.0 22188 DOUBLTTP 69.0 1	L_21025_Line GENESEE 69.0 to PENSQTOS 69.0 Ckt 2 & L_21028_Line MIRASNT 69.0 to PENSQTOS 69.0 Ckt 1	C3	L-1-1		115%	121%	Consider DG, OP, and/or higher emergency rating on the local network as needed

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-108	22200 DUNHILTP 69.0 22188 DOUBLTTP 69.0 1	L_21026_Line GENESEE 69.0 to UCM 69.0 Ckt 1 & L_21068_Line PENSQTOS 69.0 to TOREYPNS 69.0 Ckt 1	C3	L-1-1	106%	114%	120%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-109	22200 DUNHILTP 69.0 22188 DOUBLTTP 69.0 1	L_21028_Line MIRASNT0 69.0 to PENSQTOS 69.0 Ckt 1 & L_21068_Line PENSQTOS 69.0 to TOREYPNS 69.0 Ckt 1	C3	L-1-1		120%	126%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-110	22306 GARFIELD 69.0 22208 EL CAJON 69.0 1	L_21053_Line MISSION 69.0 to MURRAY 69.0 Ckt 1 & L_21054_Line MISSION 69.0 to MURRAY 69.0 Ckt 2	C3	L-1-1	120%	127%	135%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-111	22316 GENESEE 69.0 22644 PENSQTOS 69.0 2	L_21028_Line MIRASNT0 69.0 to PENSQTOS 69.0 Ckt 1 & L_21089_Line TOREYPNS 69.0 to UCM 69.0 Ckt 1	C3	L-1-1	104%	146%	155%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-112	22316 GENESEE 69.0 22864 UCM 69.0 1	L_21012_Line DOUBLTTP 69.0 to DELMARTP 69.0 Ckt 1 & L_21068_Line PENSQTOS 69.0 to TOREYPNS 69.0 Ckt 1	C3	L-1-1	113%	123%	129%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-113	22331 MIRASNT0 69.0 22316 GENESEE 69.0 1	L_21025_Line GENESEE 69.0 to PENSQTOS 69.0 Ckt 2 & L_21089_Line TOREYPNS 69.0 to UCM 69.0 Ckt 1	C3	L-1-1		111%	117%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-114	22331 MIRASNT0 69.0 22644 PENSQTOS 69.0 1	L_21025_Line GENESEE 69.0 to PENSQTOS 69.0 Ckt 2 & L_21089_Line TOREYPNS 69.0 to UCM 69.0 Ckt 1	C3	L-1-1		138%	146%	Consider DG, OP, and/or higher emergency rating on the local network as needed

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-115	22372 KEARNY 69.0 22140 CLARMTTP 69.0 1	L_21031_Line KEARNY 69.0 to MISSION 69.0 Ckt 1 & L_21041_Line MESAHTS 69.0 to MISSION 69.0 Ckt 1	C3	L-1-1	131%	151%	160%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-116	22416 LOVELAND 69.0 22168 DESCANSO 69.0 1	L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1 & L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1	C3	L-1-1	113%	122%	117%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-117	22480 MIRAMAR 69.0 22296 FENTONTP 69.0 1	L_21066_Line PENSQTOS 69.0 to MESA RIM 69.0 Ckt 1 & L_21081_Line SYCAMORE 69.0 to SCRIPPS 69.0 Ckt 1	C3	L-1-1		113%	116%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-118	22484 MIRAMAR1 69.0 22296 FENTONTP 69.0 1	L_21066_Line PENSQTOS 69.0 to MESA RIM 69.0 Ckt 1 & L_21081_Line SYCAMORE 69.0 to SCRIPPS 69.0 Ckt 1	C3	L-1-1		116%	119%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-119	22500 MISSION 138 22496 MISSION 69.0 2	T_21096_Tran MISSION 138.00 to MISSION 69.00 Ckt 1 & T_21098_Tran MISSION 138.00 to MISSION 69.00 Ckt 3	C3	L-1-1		104%	113%	Add a new 230/69 kV bank and get rid of the aged Banks 51 & 50
SD-A-SP-T-120	22532 MURRAY 69.0 22306 GARFIELD 69.0 1	L_21053_Line MISSION 69.0 to MURRAY 69.0 Ckt 1 & L_21054_Line MISSION 69.0 to MURRAY 69.0 Ckt 2	C3	L-1-1		111%	118%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-121	22644 PENSQTOS 69.0 22164 DELMARTP 69.0 1	L_21028_Line MIRASNT0 69.0 to PENSQTOS 69.0 Ckt 1 & L_21068_Line PENSQTOS 69.0 to TOREYPNS 69.0 Ckt 1	C3	L-1-1		120%	126%	Consider DG, OP, and/or higher emergency rating on the local network as needed

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-122	22644 PENSQTOS 69.0 22856 TOREYPNS 69.0 1	L_21015_Line DUNHILTP 69.0 to DOUBLTTP 69.0 Ckt 1 & L_21026_Line GENESEE 69.0 to UCM 69.0 Ckt 1	C3	L-1-1	107%	149%	121%	TL662 should have 136MVA emergency rating. In the works to change relay settings.
SD-A-SP-T-123	22644 PENSQTOS 69.0 22856 TOREYPNS 69.0 1	L_21028_Line MIRASNT 69.0 to PENSQTOS 69.0 Ckt 1 & L_21064_Line PENSQTOS 69.0 to DELMARTP 69.0 Ckt 1	C3	L-1-1		148%	120%	TL662 should have 136MVA emergency rating. In the works to change relay settings.
SD-A-SP-T-124	22644 PENSQTOS 69.0 22856 TOREYPNS 69.0 1	L_21088_Line TOREYPNS 69.0 to DUNHILTP 69.0 Ckt 1 & L_21026_Line GENESEE 69.0 to UCM 69.0 Ckt 1	C3	L-1-1	105%	146%	119%	TL662 should have 136MVA emergency rating. In the works to change relay settings.
SD-A-SP-T-125	22644 PENSQTOS 69.0 22856 TOREYPNS 69.0 1	L_21025_Line GENESEE 69.0 to PENSQTOS 69.0 Ckt 2 & L_21064_Line PENSQTOS 69.0 to DELMARTP 69.0 Ckt 1	C3	L-1-1		134%	109%	TL662 should have 136MVA emergency rating. In the works to change relay settings.
SD-A-SP-T-126	22652 PENSQTOS 230 22644 PENSQTOS 69.0 2	T_21107_Tran PENSQTOS 230.00 to PENSQTOS 69.00 Ckt 1 & T_21109_Tran PENSQTOS 230.00 to PENSQTOS 138.00 Ckt 1	C3	L-1-1		105%	113%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-127	22668 POWAY 69.0 22676 R.CARMEL 69.0 1	L_21000_Line ARTESN 69.0 to SYCAMORE 69.0 Ckt 1 & L_21079_Line SYCAMORE 69.0 to BERNARDO 69.0 Ckt 1	C3	L-1-1	108%	114%	121%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-128	22692 ROSCYNTP 69.0 22696 ROSE CYN 69.0 1	L_21063_Line PACFCBCH 69.0 to OLD TOWN 69.0 Ckt 1 & L_21035_Line LA JOLLA 69.0 to ROSE CYN 69.0 Ckt 1	C3	L-1-1	116%	127%	134%	Consider DG, OP, and/or higher emergency rating on the local network as needed

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-129	22768 BAY BLVD 69.0 22516 MONTGMRY 69.0 1	T_21102_Tran OLD TOWN 69.0 to OLD TOWN 230.00 Ckt 1 & L_22060_Line BAY BLVD 69.0 to MONTGYTP 69.0 Ckt 1	C3	L-1-1	115%	128%	135%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-130	22832 SYCAMORE 230 22828 SYCAMORE 69.0 2	T_21110_Tran SYCAMORE 230.00 to SYCAMORE 69.00 Ckt 1 & T_21111_Tran SYCAMORE 230.00 to SYCAMORE 69.00 Ckt 3	C3	L-1-1	117%	106%	112%	Build a new Artesian 230/69 kV sub on TL23051
SD-A-SP-T-131	22832 SYCAMORE 230 22828 SYCAMORE 69.0 3	T_21110_Tran SYCAMORE 230.00 to SYCAMORE 69.00 Ckt 1 & T_21111_Tran SYCAMORE 230.00 to SYCAMORE 69.00 Ckt 2	C3	L-1-1	117%	106%	112%	Build a new Artesian 230/69 kV sub on TL23051 and re-arrange the 69 kV network to make two 69 kV lines between Artesian and Bernardo
SD-A-SP-T-132	22856 TOREYPNS 69.0 22200 DUNHILTP 69.0 1	L_21028_Line MIRASNT0 69.0 to PENSQTOS 69.0 Ckt 1 & L_21068_Line PENSQTOS 69.0 to TOREYPNS 69.0 Ckt 1	C3	L-1-1	105%	128%	135%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-133	22856 TOREYPNS 69.0 22864 UCM 69.0 1	L_21028_Line MIRASNT0 69.0 to PENSQTOS 69.0 Ckt 1 & L_21025_Line GENESEE 69.0 to PENSQTOS 69.0 Ckt 2	C3	L-1-1	104%	146%	154%	Consider DG, OP, and/or higher emergency rating on the local network as needed
SD-A-SP-T-134	22884 WARNERS 69.0 22688 RINCON 69.0 1	L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1 & L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1	C3	L-1-1	150%	144%	153%	Consider DG, OP, and/or higher emergency rating on the local network as needed

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-T-135	22256 ESCNDIDO 69.0 22724 SANMRCOS 69.0 1	Line ESCNDIDO 230.0 to TA230 TA 230.0 Ckt 1 & Line ENCINA-ENCINATP-PEN 230.0 Ckt 1 (PSLF)	C	L-1-1		109%	120%	Energize an existing abandoned 138 kV line and make it the 2nd 69 kV line between Escondido and San Marcos (the overload was observed based on the posted supplemental Post-SONGS base cases)
SD-A-SP-T-136	22609 OTAYMESA 230 20149 TJI-230 230 1	IV-8032_IV 8032 50004 & BK82 CB	C	Breaker Failure	105%	111%		Post-SONGS Transmission Strengthen Plan TBD
SD-A-SP-T-137	22844 TALEGA 230 22840 TALEGA 138 1	TA-5W_TALEGA 138 kV 5W CB	C	Breaker Failure	121%			Mitigated by the approved southern Orange county upgrade
SD-A-SP-T-138	22844 TALEGA 230 22840 TALEGA 138 3	TA-5W_TALEGA 138 kV 5W CB	C	Breaker Failure	119%			Mitigated by the approved southern Orange county upgrade
SD-A-SP-T-139	22112 CAPSTRNO 138 22656 PICO 138 1	13835/13831_TA-TA TAP33-PICO 1 + TA-RMV 1 138 kV	C	common structure	104%			Mitigated by the approved southern Orange county upgrade
SD-A-SP-T-140	22808 STUARTTP 69.0 22400 LASPULGS 69.0 1	TA-5W_TALEGA 138 kV 5W CB	C	Breaker Failure	104%	124%	133%	Wood to Steel reconductor TL690D, or OP to operate the 69 kV system in radial mode

San Onofre Nuclear Generation Station was retired on June 7, 2013 and therefore was removed from the base cases used for the 2013/14 ISO transmission planning process.

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Summer Off-Peak	2018 Summer Light Load	N/A	
SD-A-NP-T-1	22610 OTAYME&1 230 20149 TJI-230 230 1	L_50005_Line IMPRLVLY 500.0 to ECO 500.0 Ckt 1	B	L-1	104%			Post-SONGS Mitigation Plan TBD
SD-A-NP-T-2	22610 OTAYME&1 230 20149 TJI-230 230 1	L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	B	L-1	105%			Post-SONGS Mitigation Plan TBD
SD-A-NP-T-3	22040 BARRETT 69.0 22104 CAMERON 69.0 1	TL0629_TL0629 CW-DE-GC ck 1	B	L-1		103%		Existing RAS to trip Kumeyaay wind farm
SD-A-NP-T-4	22064 BLDCKRTP 69.0 22168 DESCANSO 69.0 1	Bus_LL69_Loveland 69kV Bus	C	Bus Section		118%		Existing RAS to trip Kumeyaay wind farm
SD-A-NP-T-5	22064 BLDCKRTP 69.0 22736 SANTYSBL 69.0 1	Bus_LL69_Loveland 69kV Bus	C	Bus Section		118%		Existing RAS to trip Kumeyaay wind farm

Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-VD-1	OCOTILLO 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	L-1	-6.09%			Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-A-SP-VD-2	OCOTILLO 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	G-1/L-1	-6.35%		-5.86%	Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-A-SP-VD-3	SUNCREST 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	L-1	-6.06%			Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-A-SP-VD-4	SUNCREST 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	G-1/L-1	-6.02%	-5.21%	-6.55%	Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-A-SP-VD-5	BASILONE 69 KV	L_26018_Line BASILONE 69.0 to JAP MESA 69.0 Ckt 1	B	L-1		-7.45%		Put distribution cap banks in auto mode
SD-A-SP-VD-6	BASILONE 69 KV	L_26018_Line BASILONE 69.0 to JAP MESA 69.0 Ckt 1	B	G-1/L-1		-7.34%		Put distribution cap banks in auto mode
SD-A-SP-VD-7	ENCNITAS 69 KV	L_24015_Line ENCNITAS 69.0 to DEL MAR 69.0 Ckt 1	B	L-1	5.60%	5.17%	7.42%	Put distribution cap banks in auto mode
SD-A-SP-VD-8	ENCNITAS 69 KV	L_24015_Line ENCNITAS 69.0 to DEL MAR 69.0 Ckt 1	B	G-1/L-1	5.79%	5.60%	7.34%	Put distribution cap banks in auto mode
SD-A-SP-VD-9	PENDLETN 69 KV	L_24028_Line PENDLETN 69.0 to SANLUSRY 69.0 Ckt 1	B	L-1	6.57%	5.04%	5.46%	Put distribution cap banks in auto mode
SD-A-SP-VD-10	PENDLETN 69 KV	L_24028_Line PENDLETN 69.0 to SANLUSRY 69.0 Ckt 1	B	G-1/L-1	6.65%	5.11%	5.42%	Put distribution cap banks in auto mode
SD-A-SP-VD-11	CREELMAN 69 KV	L_25015_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1 L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1	C	L-1-1	25.29%	27.58%	29.07%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-12	SANTYSBL 69 KV	L_25015_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1 L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1	C	L-1-1	12.40%	15.08%	15.85%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed

Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-VD-13	WARNERS 69 KV	L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1 L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1	C	L-1-1		11.16%	12.39%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-14	BLDCRKTP 69 KV	L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1 L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1	C	L-1-1		11.14%	12.38%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-15	BOLDRCRK 69 KV	L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1 L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1	C	L-1-1		11.14%	12.38%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-16	SANTYSBL 69 KV	L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1 L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1	C	L-1-1	12.48%	14.48%	16.29%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-17	ALPINE 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	30.09%	33.45%	36.90%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-18	BARRETT 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	29.60%	32.96%	36.18%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-19	BARRETT 69 KV	L_23026_Line LOVELAND 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1		11.78%	13.98%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed

Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-VD-20	CAMERON 69 KV	L_23026_Line LOVELAND 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1		11.37%	13.18%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-21	CRESTWD 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	28.09%	31.43%	34.00%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-22	CRESTWD 69 KV	L_23026_Line LOVELAND 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1		11.16%	12.76%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-23	BLDCRKTP 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	17.11%	19.21%	20.99%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-24	DESCANSO 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	27.82%	30.62%	33.46%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-25	DESCANSO 69 KV	L_23026_Line LOVELAND 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1		11.23%	13.13%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-26	GLENCLIF 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	27.98%	31.00%	33.72%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed

Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-VD-27	GLENCLIF 69 KV	L_23026_Line LOVELAND 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1		11.22%	12.99%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-28	GLNCLFTP 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	27.98%	31.00%	33.72%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-29	GLNCLFTP 69 KV	L_23026_Line LOVELAND 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1		11.22%	12.99%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-30	KUMEYAAY 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	28.08%	31.43%	34.00%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-31	KUMEYAAY 69 KV	L_23026_Line LOVELAND 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1		11.16%	12.76%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-32	LOVELAND 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	30.04%	33.47%	36.93%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-33	LOVELAND 69 KV	L_23026_Line LOVELAND 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1		11.93%	14.34%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed

Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-A-SP-VD-34	SANTYSBL 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1		11.85%	12.97%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-35	PENDLETN 69 KV	L_25044_Line PA GEN 69.0 to PALA 69.0 Ckt 1 L_24028_Line PENDLETN 69.0 to SANLUSRY 69.0 Ckt 1	C	L-1-1	9.82%	8.88%	10.08%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-36	POWAY 69 KV	L_25006_Line BERNARDO 69.0 to R.CARMEL 69.0 Ckt 1 L_25048_Line POWAY 69.0 to POMERADO 69.0 Ckt 1	C	L-1-1	12.02%	16.05%	17.74%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-37	R.CARMEL 69 KV	L_25006_Line BERNARDO 69.0 to R.CARMEL 69.0 Ckt 1 L_25048_Line POWAY 69.0 to POMERADO 69.0 Ckt 1	C	L-1-1	12.13%	16.29%	18.01%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-38	WARCYNTP 69 KV	L_25006_Line BERNARDO 69.0 to R.CARMEL 69.0 Ckt 1 L_25048_Line POWAY 69.0 to POMERADO 69.0 Ckt 1	C	L-1-1	10.23%	13.65%	15.10%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-A-SP-VD-39	WARENCYN 69 KV	L_25006_Line BERNARDO 69.0 to R.CARMEL 69.0 Ckt 1 L_25048_Line POWAY 69.0 to POMERADO 69.0 Ckt 1	C	L-1-1	10.23%	13.66%	15.11%	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed

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Study Area: **San Diego Area- Summer Off-Peak & Summer Light Load**



Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2015 Summer Off-Peak	2018 Summer Light Load	N/A	
SD-A-NP-VD-1	SUNCREST 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	L-1	-6.0%			Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-A-NP-VD-2	OCOTILLO 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	L-1	-5.9%			Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-A-NP-VD-3	OCOTILLO 1 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	L-1	-5.9%			Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-A-NP-VD-4	CRSTNTS 69 KV	L_26018_Line BASILONE 69.0 to JAP MESA 69.0 Ckt 1	B	L-1		-6.7%		Put distribution cap banks in auto mode
SD-A-NP-VD-5	BASILONE 69 KV	L_26018_Line BASILONE 69.0 to JAP MESA 69.0 Ckt 1	B	L-1		-7.4%		Put distribution cap banks in auto mode
SD-A-NP-VD-6	ENCNITAS 69 KV	L_24015_Line ENCNITAS 69.0 to DEL MAR 69.0 Ckt 1	B	L-1	5.3%			Put distribution cap banks in auto mode
SD-A-NP-VD-7	JAP MESA 69 KV	L_26008_Line LASPULGS 69.0 to JAP MESA 69.0 Ckt 1	B	L-1		-6.5%		Put distribution cap banks in auto mode
SD-A-NP-VD-8	MESA RIM 69 KV	LD_MRMA_LD_MRM OPEN 675 PEAK MRM/MR/SS	B	L-1	5.4%	6.7%		Put distribution cap banks in auto mode

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Study Area: **San Diego Area - Summer Peak**

High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-SP-V-2	OCOTILLO 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	L-1	1.12			Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-SP-V-3	OCOTILLO 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	G-1/L-1	1.13	1.11		Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-SP-V-4	SNCRSMP1 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	L-1	1.11			Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-SP-V-5	SNCRSMP1 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	G-1/L-1	1.12	1.11		Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-SP-V-6	SNCRSMP2 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	L-1	1.11			Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-SP-V-7	SNCRSMP2 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	G-1/L-1	1.12	1.11		Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-SP-V-8	SUNCREST 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	L-1	1.12			Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-SP-V-9	SUNCREST 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	G-1/L-1	1.13	1.12	1.07	Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-SP-V-10	OCOTILLO 1 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	L-1	1.12			Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-SP-V-11	OCOTILLO 1 500 KV	L_50004_Line IMPRLVLY 500.0 to OCOTILLO 500.0 Ckt 1	B	G-1/L-1	1.13	1.11		Put the existing shunt reactors at Suncrest 500 kV sub in auto mode
SD-SP-V-12	BOULEVRD 69 KV	L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	B	L-1	1.11			Re-set transformer tap position
SD-SP-V-13	BOULEVRD 69 KV	L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1 L_50003_Line HDWSH 500.0 to N.GILA 500.0 Ckt 1	C	L-1-1	1.13			Re-set transformer tap position
SD-SP-V-14	BOULEVRD 69 KV	L_50006_Line N.GILA 500.0 to IMPRLVLY 500.0 Ckt 1 L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1	C	L-1-1	1.11			Re-set transformer tap position

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Study Area: **San Diego Area - Summer Peak**

High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-SP-V-15	BOULEVRD 138 KV	L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1 L_50003_Line HDWSH 500.0 to N.GILA 500.0 Ckt 1	C	L-1-1	1.11			Re-set transformer tap position
SD-SP-V-16	ECO 138 KV	L_50008_Line ECO 500.0 to MIGUEL 500.0 Ckt 1 L_50003_Line HDWSH 500.0 to N.GILA 500.0 Ckt 1	C	L-1-1	1.11			Re-set transformer tap position
SD-SP-V-17	WARNERS 69 KV	L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1 L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1	C	L-1-1		0.88	0.88	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-18	BLDCRKTP 69 KV	L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1 L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1	C	L-1-1		0.88	0.88	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-19	BOLDRCRK 69 KV	L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1 L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1	C	L-1-1		0.88	0.88	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-20	SANTYSBL 69 KV	L_23009_Line CREELMAN 69.0 to LOSCOCHS 69.0 Ckt 1 L_21006_Line CREELMAN 69.0 to SYCAMORE 69.0 Ckt 1	C	L-1-1		0.84	0.85	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-21	BLDCRKTP 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	0.86	0.79	0.79	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed

High/Low Voltage

ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-SP-V-22	BOLDRCRK 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	0.86	0.79	0.79	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-23	DESCANSO 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	0.75	0.66	0.65	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-24	GLNCLFTP 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	0.74	0.66	0.65	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-25	GLENCLIF 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	0.74	0.66	0.65	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-26	KUMEYAAY 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	0.73	0.65	0.64	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-27	CRESTWD 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	0.73	0.65	0.64	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-28	CAMERON 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	0.73	0.64	0.63	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed

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Study Area: **San Diego Area - Summer Peak**

High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-SP-V-29	BARRETT 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	0.73	0.63	0.62	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-30	LOVELAND 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	0.73	0.63	0.62	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-31	ALPINE 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1	0.72	0.62	0.61	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-32	SANTYSBL 69 KV	L_23020_Line LOSCOCHS 69.0 to ALPINE 69.0 Ckt 1 L_23023_Line LOSCOCHS 69.0 to LOVELAND 69.0 Ckt 1	C	L-1-1		0.87	0.87	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-33	PENDLETN 69 KV	L_25044_Line PA GEN 69.0 to PALA 69.0 Ckt 1 L_24028_Line PENDLETN 69.0 to SANLUSRY 69.0 Ckt 1	C	L-1-1	0.90	0.88	0.87	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-34	MNSRATTP 69 KV	L_25044_Line PA GEN 69.0 to PALA 69.0 Ckt 1 L_24028_Line PENDLETN 69.0 to SANLUSRY 69.0 Ckt 1	C	L-1-1		0.89	0.89	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-35	MONSRATE 69 KV	L_25044_Line PA GEN 69.0 to PALA 69.0 Ckt 1 L_24028_Line PENDLETN 69.0 to SANLUSRY 69.0 Ckt 1	C	L-1-1		0.89	0.89	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed

2013/2014 ISO Reliability Assessment - Study Results

Study Area: **San Diego Area - Summer Peak**

High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SD-SP-V-36	AVCADOTP 69 KV	L_25044_Line PA GEN 69.0 to PALA 69.0 Ckt 1 L_24028_Line PENDLETN 69.0 to SANLUSRY 69.0 Ckt 1	C	L-1-1		0.89	0.89	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-37	AVOCADO 69 KV	L_25044_Line PA GEN 69.0 to PALA 69.0 Ckt 1 L_24028_Line PENDLETN 69.0 to SANLUSRY 69.0 Ckt 1	C	L-1-1		0.88	0.88	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-38	R.CARMEL 69 KV	L_25006_Line BERNARDO 69.0 to R.CARMEL 69.0 Ckt 1 L_25048_Line POWAY 69.0 to POMERADO 69.0 Ckt 1	C	L-1-1	0.89	0.81	0.80	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-39	WARENCYN 69 KV	L_25006_Line BERNARDO 69.0 to R.CARMEL 69.0 Ckt 1 L_25048_Line POWAY 69.0 to POMERADO 69.0 Ckt 1	C	L-1-1		0.85	0.84	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed
SD-SP-V-40	POWAY 69 KV	L_25006_Line BERNARDO 69.0 to R.CARMEL 69.0 Ckt 1 L_25048_Line POWAY 69.0 to POMERADO 69.0 Ckt 1	C	L-1-1		0.82	0.81	Put distribution cap banks in auto mode and/or consider OP to manage voltage issue as needed

2013/2014 ISO Reliability Assessment - Study Results

Study Area: **San Diego Area- Summer Off-Peak & Summer Light Load**

High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2015 Summer Off-Peak	2018 Summer Light Load	N/A	
SD-A-NP-V-1	CRSTNTS 69 KV	L_26018_Line BASILONE 69.0 to JAP MESA 69.0 Ckt 1	B	L-1	1.11	-	-	Put distribution cap banks in auto mode
SD-A-NP-V-2	BOULEVRD 69 KV	L_50001_Line HASSYAMP 500.0 to HDWSH 500.0 Ckt 1	B	L-1	1.12	-	-	Re-set transformer tap position
SD-A-NP-V-3	LASPULGS 69 KV	L_24025_Line OCNSDETP 69.0 to STUARTTP 69.0 Ckt 1	B	L-1	1.11	-	-	Put distribution cap banks in auto mode
SD-A-NP-V-4	PENDLETN 69 KV	L_24028_Line PENDLETN 69.0 to SANLUSRY 69.0 Ckt 1	B	L-1	1.12	-	-	Put distribution cap banks in auto mode

2013/2014 ISO Reliability Assessment - Study Results

Study Area: **San Diego Area - Summer Peak**

Post-Transient Voltage Deviations



ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
X-SP-PTVD-1	SDGE System	Otay Mesa Plant outage followed by N.GILA 500.0 to IMPRLVLY 500.0 Ckt 1 Outage with Otaymesa-TJI cross-tripping	C	G-1/L-1	diverged	diverged	diverged	Post-SONGS Mitigation Plan TBD
X-SP-PTVD-2	SDGE System	OCOTILLO to SUNCREST 500KV Ckt 1 Outage followed by ECO to MIGUEL 500kV Ckt 1	C	L-1-1	diverged	diverged	diverged	Post-SONGS Mitigation Plan TBD

2013/2014 ISO Reliability Assessment - Study Results

Study Area: **San Diego Area - Summer Peak**



Single Contingency Load Drop

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

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

2013/2014 ISO Reliability Assessment - Study Results

Study Area: **San Diego Area- Summer Off-Peak & Summer Light Load**



Single Contingency Load Drop

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

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

2013/2014 ISO Reliability Assessment - Study Results

Study Area: **San Diego Area - Summer Peak**

Single Source Substation with more than 100 MW Load



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

No single source substation with more than 100 MW Load

Study Area: **San Diego Area- Summer Off-Peak & Summer Light Load**



Single Source Substation with more than 100 MW Load

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

No single source substation with more than 100 MW Load