Study Area: San Diego Area - Summer Peak

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2014	2017	2022	
SD-T-001	22644 PENSQTOS 69 - 22856 TOREYPNS 69 - ckt 1	TL0666 PQ-DM-DB-DH-TP ck 1	B	N-1	87%	94%	102%	Re-evaluate in future planning cycles. Investigate the potential for re-rating this line.
SD-T-002	22664 POMERADO 69 - 22828 SYCAMORE 69 - ckt 1	TL06924 POMERADO -SYCAMORE ck 2	B	N-1	98%	96%	103%	Dispatch local generation. Re-evaluate in future planning cycles
SD-T-003	22664 POMERADO 69 - 22828 SYCAMORE 69 - ckt 2	TL06915 POMERADO -SYCAMORE ck 1	B	N-1	98%	96%	103%	Dispatch local generation. Re-evaluate in future planning cycles
SD-T-004	22740 SANYSDRO 69 - 22608 OTAY TP 69 - ckt 1	TL0649 BD-OY-SYO ck 1	B	N-1	85%	92%	100%	Re-evaluate in future planning cycles. Reconfigure and reconductor overloaded elements in the metro area 69kV system.
SD-T-005	22740 SANYSDRO 69 - 22616 OTAYLKTP 69 - ckt 1	TL0623 OY-SYO-IB ck 1	B	N-1	85%	92%	100%	Re-evaluate in future planning cycles. Reconfigure and reconductor overloaded elements in the metro area 69kV system.
SD-T-006	22828 SYCAMORE 69 - 22756 SCRIPPS 69 - ckt 1	TL23042 OTAYMESA - BAY BLVD ck 1	B	N-1	101%	106%	N/A	Generation re-dispatch or reconductor.
SD-T-007	22831 SYCAMORE 138 - 22124 CHCARITA 138 - ckt 1	EA BK 60 230/138	B	N-1	< 80%	< 80%	106%	Generation re-dispatch or reconductor. Re-evaluate in future planning cycles
SD-T-008	22112 CAPSTRNO 138 - 22396 LAGNA NL 138 - ckt 1	13831/36 N-2 TRIP 13812 SPS8.4C	C	N-2	255%	< 80%	< 80%	Pico loop-in (operational solution) or SPS to drop load
SD-T-009	22112 CAPSTRNO 138 - 22860 TRABUCO 138 - ckt 1	13831/36 N-2 TRIP 13812 SPS8.4C	C	N-2	142%	< 80%	< 80%	Pico loop-in (operational solution) or SPS to drop load
SD-T-010	22160 DEL MAR 69 - 22164 DELMARTP 69 - ckt 1	Del Mar 69kV E Bus	C	Bus	121%	131%	136%	Reconductor or SPS to drop local network load post-contingency or system reconfiguration

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Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2014	2017	2022	
SD-T-011	22188 DOUBLTTP 69 - 22164 DELMARTP 69 - ckt 1	PQ-TP + PQ-GE	C	N-2	93%	100%	109%	Reconductor or SPS to drop load post-contingency
SD-T-012	22200 DUNHILTP 69 - 22188 DOUBLTTP 69 - ckt 1	PQ-TP + PQ-GE	C	N-2	93%	100%	109%	Reconductor or SPS to drop load post-contingency
SD-T-013	22208 EL CAJON 69 - 22408 LOSCOCHS 69 - ckt 1	Murray 69kV N Bus	C	Bus	116%	125%	90%	Reconductor or SPS to drop load post-contingency
SD-T-014	22272 ESCO 69 - 22876 WARCYNTP 69 - ckt 1	POM-SX #1+#2	C	N-2	107%	96%	105%	Reconductor or SPS to drop load post-contingency
SD-T-015	22306 GARFIELD 69 - 22208 EL CAJON 69 - ckt 1	Murray 69kV N Bus	C	Bus	122%	132%	143%	Reconductor or SPS to drop load post-contingency
SD-T-016	22420 SILVERGT 69 - 22868 URBAN 69 - ckt 1	SG-CR + SG-B	C	N-2	84%	100%	118%	Re-evaluate in future planning cycles.
SD-T-017	22440 MELROSE 69 - 22442 MELRSETP 69 - ckt 1	TL69YY SANLUSRY to OCEAN RANCH ck 1 and ck 2	C	N-2	N/A	116%	110%	Re-rate and dispatch generation or SPS to drop load post-contingency
SD-T-018	22456 MIGUEL 69 - 22364 JAMACHA 69 - ckt 2	Miguel 69kV S Bus	C	Bus	93%	90%	102%	Re-evaluate in future planning cycles.
SD-T-019	22512 MONSRATE 69 - 22016 AVCADOTP 69 - ckt 1	Lilac 69kV S Bus	C	Bus	95%	102%	< 80%	Re-rate and dispatch existing generation or SPS to drop load post-contingency
SD-T-020	22532 MURRAY 69 - 22306 GARFIELD 69 - ckt 1	Murray 69kV N Bus	C	Bus	101%	109%	118%	Reconductor or SPS to drop load post-contingency
SD-T-021	22604 OTAY 69 - 22616 OTAYLKTP 69 - ckt 1	ML-SW-SU-PD-BD-SS + ML-BD	C	N-2	< 80%	< 80%	101%	Also seen as a cat-B issue. Re-evaluate in future planning cycles.
SD-T-022	22640 PENDLETN 69 - 22708 SANLUSRY 69 - ckt 1	Lilac 69kV S Bus	C	Bus	103%	108%	< 80%	Re-rate and dispatch existing generation or SPS to drop load post-contingency
SD-T-023	22644 PENSQTOS 69 - 22164 DELMARTP 69 - ckt 1	PQ-TP + PQ-GE	C	N-2	104%	112%	121%	Re-rate the line or SPS to drop local post-contingency

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Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2014	2017	2022	
SD-T-024	22644 PENSQTOS 69 - 22856 TOREYPNS 69 - ckt 1	Penasquitos 69kV SW Bus	C	Bus	93%	101%	109%	Reconductor or re-rate or SPS to drop load post-contingency
SD-T-025	22664 POMERADO 69 - 22828 SYCAMORE 69 - ckt 2	Sycamore 69kV S Bus	C	Bus	145%	137%	148%	Install SPS to drop local area load post contingency or expand an existing SPS at Rancho Carmel
SD-T-026	22668 POWAY 69 - 22664 POMERADO 69 - ckt 1	PEN-ES #1 + #2 230 kV	C	N-2	119%	109%	107%	Not an N-2. Operational action plan (e.g. generation dispatch or switching solution or local network load drop after the first contingency)
SD-T-027	22668 POWAY 69 - 22676 R.CARMEL 69 - ckt 1	SX-PEN 230 kV + AR-SX 69 kV B	C	N-2	104%	86%	94%	Install SPS to drop load post-contingency
SD-T-028	22740 SANYSDRO 69 - 22616 OTAYLKTP 69 - ckt 1	Otay 69kV E Bus	C	Bus	< 80%	< 80%	120%	Also seen as a cat-B issue. Reconductor or system reconfiguration. Re-evaluate in future planning cycles
SD-T-029	22768 BAY BLVD 69 - 22604 OTAY 69 - ckt 1	Bay Blvd 69kV SW Bus	C	Bus	99%	107%	< 80%	Install SPS to drop load post-contingency
SD-T-030	22828 SYCAMORE 69 - 22756 SCRIPPS 69 - ckt 1	MR-PQ + PQ-MRM	C	N-2	107%	112%	105%	Re-rate (short-term) and dispatch local generation or Install an SPS to drop load post-contingency
SD-T-031	22831 SYCAMORE 138 - 22124 CHCARITA 138 - ckt 1	ENCINA 230 kV 1E CB	C	CB	< 80%	< 80%	107%	Re-evaluate in future planning cycles.
SD-T-032	22831 SYCAMORE 138 - 22124 CHCARITA 138 - ckt 1	ENCINA 230 kV 2E CB	C	CB	< 80%	< 80%	107%	Re-evaluate in future planning cycles.
SD-T-033	22840 TALEGA 138 - 22656 PICO 138 - ckt 1	TA-PICO 1 + TA-RMV 1 138 kV	C	N-2	113%	< 80%	< 80%	Pico loop-in (operational solution) or SPS to drop load

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ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2014	2017	2022	
SD-T-034	22840 TALEGA 138 - 22841 TA TAP 138 - ckt 1	13831/36 N-2 TRIP 13812 SPS8.4C	C	N-2	178%	N/A	N/A	Previously approved M-SOCRUP will mitigate this issue. Install SPS or operational solution in the interim
SD-T-035	22840 TALEGA 138 - 22842 TA TAP33 138 - ckt 1	TALEGA 138 kV 8T CB	C	CB	114%	N/A	N/A	Previously approved M-SOCRUP will mitigate this issue. Install SPS or operational solution in the interim
SD-T-036	22841 TA TAP 138 - 22396 LAGNA NL 138 - ckt 1	13831/36 N-2 TRIP 13812 SPS8.4C	C	N-2	332%	N/A	N/A	Previously approved M-SOCRUP will mitigate this issue. Install SPS or operational solution in the interim
SD-T-037	22856 TOREYPNS 69 - 22200 DUNHILTP 69 - ckt 1	PQ-TP + PQ-GE	C	N-2	99%	107%	116%	Re-rate the line or install SPS to drop load post-contingency
SD-T-038	22884 WARNERS 69 - 22688 RINCON 69 - ckt 1	DE-ST-BC + CRE-ST	C	N-2	105%	116%	125%	Re-rate the line or install SPS to drop load post-contingency
SD-T-039	22842 TA TAP33 138 - 22656 PICO 138 - ckt 1	TALEGA 138 kV 8T CB	C	CB	111%	N/A	N/A	Previously approved M-SOCRUP will mitigate this issue. Install SPS or operational solution in the interim
SD-T-040	22256 ESCNDIDO 69 - 22260 ESCNDIDO 230 - ckt 2	ESCNDIDO 230 kV 2N CB	C	CB	128%	128%	107%	Upgrade or SPS to drop load post-contingency
SD-T-041	22844 TALEGA 230 - 22840 TALEGA 138 - ckt 1	TALEGA 230 kV 4W CB	C	CB	120%	N/A	N/A	Previously approved M-SOCRUP will mitigate this issue. Install SPS or operational solution in the interim
SD-T-042	22708 SANLUSRY 69 - 22582 OCEAN RANCH 69 - ckt 1	San Luis Rey 69kV SW Bus	C	Bus	N/A	136%	121%	Reconfiguration or SPS to dropload post-contingency
SD-T-043	22771 BAY BLVD 230 - 22464 MIGUEL 230 - ckt 1	ML-MS 230 kV #1&#2	C	N-2	N/A	N/A	100%	Re-evaluate in future planning cycles.

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ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2014	2017	2022	
SD-T-044	22771 BAY BLVD 230 - 22464 MIGUEL 230 - ckt 1	MISSION 230 kV 5T CB	C	CB	N/A	N/A	100%	Re-evaluate in future planning cycles.
SD-T-045	22008 ASH 69 - 22012 ASH TP 69 - ckt 1	TL0679 ESCNDIDO-FELICITA ck 1 _TL0689 ES-FE-BR ck 1	C	N-1-1	<80%	<80%	125%	Re-evaluate in future planning cycles. (drop local network load prior to the second contingency or implement a short-term rating and drop load after the second contingency or install SPS)
SD-T-046	22084 BORREGO 69 - 22540 NARROWS 69 - ckt 1	TL0681 ASH-FE-VC ck 1 _TL0683 RINCON-LILAC ck 1	C	N-1-1	<80%	117%	Diverged	Drop local network load after prior to the second contingency or re-rate the line and drop local network load after the second contingency or install an SPS to drop load post-contingency
SD-T-047	22112 CAPSTRNO 138 - 22656 PICO 138 - ckt 1	TL13830 MARGARTA-TRABUCO ck 1 _TL13835 SANMATEO-LAGNA NL-TA TAP B	C	N-1-1	111%	N/A	N/A	Pico loop-in (operational solution) or SPS to drop load
SD-T-048	22112 CAPSTRNO 138 - 22860 TRABUCO 138 - ckt 1	TL13831 TALEGA-R.MSNVJO ck 1 _TL13833 CAPSTRNO-TRABUCO ck 1	C	N-1-1	146%	<80%	<80%	Pico loop-in (operational solution) or SPS to drop load
SD-T-049	22152 CREELMAN 69 - 22828 SYCAMORE 69 - ckt 1	TL13821 SYCAMORE-SANTEE ck 1 _TL13824 TELECYN-ML60 TAP-LOSCOCHS ck 1	C	N-1-1	115%	122%	120%	Dispatch local generation and drop local network load prior to the second contingency or implement a short-term rating and drop load after the second contingency or install SPS
SD-T-050	22188 DOUBLTTP 69 - 22164 DELMARTP 69 - ckt 1	TL0662 PENSQTOS -TOREYPNS ck 1 _TL0665 MIRASNTO-GENESEE ck 1	C	N-1-1	<80%	<80%	113%	Re-evaluate in future planning cycles
SD-T-051	22200 DUNHILTP 69 - 22188 DOUBLTTP 69 - ckt 1	TL0662 PENSQTOS -TOREYPNS ck 1 _TL0665 MIRASNTO-GENESEE ck 1	C	N-1-1	<80%	<80%	113%	Re-evaluate in future planning cycles

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Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2014	2017	2022	
SD-T-052	22252 ENCNITAS 69 - 22685 R.SNTTP1 69 - ckt 1	TL0617 PB-RN-LJ ck 1 _TL06952 NORTHCTY-PENSQTOS 69 ck 1	C	N-1-1	<80%	91%	102%	Re-evaluate in future planning cycles
SD-T-053	22256 ESCNDIDO 69 - 22260 ESCNDIDO 230 - ckt 1	ES BK 71 69/230 _ES 72 BK 69/230	C	N-1-1	126%	127%	106%	Dispatch local generation
SD-T-054	22256 ESCNDIDO 69 - 22260 ESCNDIDO 230 - ckt 2	ES BK 70 69/230 _ES 72 BK 69/230	C	N-1-1	127%	86%	107%	Dispatch local generation
SD-T-055	22256 ESCNDIDO 69 - 22260 ESCNDIDO 230 - ckt 3	ES BK 70 69/230 _ES BK 71 69/230	C	N-1-1	129%	129%	108%	Dispatch local generation
SD-T-056	22256 ESCNDIDO 69 - 22272 ESCO 69 - ckt 1	TL06913 POWAY-POMERADO ck 1 _TL06918 ESCO-GOALLINE ck 1	C	N-1-1	<80%	95%	105%	Re-evaluate in future planning cycles.
SD-T-057	22256 ESCNDIDO 69 - 22724 SANMRCOS 69 - ckt 1	LD_ME OPEN 680A PEAK ME _LD_ME OPEN 693 PEAK ME/SM	C	N-1-1	<80%	136%	129%	Generation dispatch or switching solution or local network load drop prior to the second contingency
SD-T-058	22272 ESCO 69 - 22876 WARCYNTP 69 - ckt 1	TL06915 POMERADO -SYCAMORE ck 1 _TL06924 POMERADO -SYCAMORE ck 2	C	N-1-1	<80%	<80%	105%	Re-evaluate in future planning cycles.
SD-T-059	22306 GARFIELD 69 - 22208 EL CAJON 69 - ckt 1	TL0618 MISSION-MURRAY ck 1 _TL0619 MISSION-MURRAY ck 2	C	N-1-1	122%	132%	143%	Reconfigure the system by switching actions
SD-T-060	22316 GENESEE 69 - 22644 PENSQTOS 69 - ckt 2	TL0665 MIRASNTO-GENESEE ck 1 _TL069 TOREYPNS to UCM ck 1	C	N-1-1	<80%	<80%	119%	Re-evaluate in future planning cycles
SD-T-061	22336 GRANITE 69 - 22340 GRANITTP 69 - ckt 1	TL0620 MURRAY-GARFIELD ck 1 _TL0631 EL CAJON-LOSCOCHS ck 1	C	N-1-1	97%	103%	86%	Dispatch local generation
SD-T-062	22356 IMPRLVLY 230 - 22360 IMPRLVLY 500 - ckt 2	IV BK 81 230/500 _IV BK 82 230/500	C	N-1-1	114%	104%	109%	Re-dispatch local generation
SD-T-063	22408 LOSCOCHS 69 - 22004 ALPINE 69 - ckt 1	TL06914 LOVELAND-LOSCOCHS ck 1 _TL06917 CREELMAN-SYCAMORE ck 1	C	N-1-1	<80%	90%	102%	Re-evaluate in future planning cycles.

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Thermal Overloads

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					2014	2017	2022	
SD-T-064	22408 LOSCOCHS 69 - 22216 ELLIOTT 69 - ckt 1	TL13821 SYCAMORE-SANTEE ck 1 _TL13824 TELECYN-ML60 TAP-LOSCOCHS ck 1	C	N-1-1	108%	119%	109%	Dispatch local generation
SD-T-065	22420 SILVERGT 69 - 22868 URBAN 69 - ckt 1	OT BK 70 69/230 _OT BK 71 69/230	C	N-1-1	100%	108%	120%	Generation dispatch or switching solution or local network load drop prior to the second contingency
SD-T-066	22440 MELROSE 69 - 22442 MELRSETP 69 - ckt 1	DIV QF 13.80 _LD_ME OPEN 693 PEAK ME/SM	C	N-1-1	<80%	117%	103%	Dispatch local generation
SD-T-067	22456 MIGUEL 69 - 22340 GRANITTP 69 - ckt 1	TL13821 SYCAMORE-SANTEE ck 1 _TL13824 TELECYN-ML60 TAP-LOSCOCHS ck 1	C	N-1-1	93%	98%	106%	Re-evaluate in future planning cycles.
SD-T-068	22464 MIGUEL 230 - 22461 MIGUEL60 138 - ckt 1	TL23042A BAY BLVD - MIGUEL ck 1 _TL13826 PRCTRVLY-MIGUEL ck 1	C	N-1-1	88%	95%	121%	Re-evaluate in future planning cycles.
SD-T-069	22464 MIGUEL 230 - 22468 MIGUEL 500 - ckt 2	IV BK 82 230/500 _ML BK 80 230/500 ck 1	C	N-1-1	89%	90%	106%	Re-evaluate in future planning cycles.
SD-T-070	22464 MIGUEL 230 - 22472 MIGUELMP 500 - ckt 1	LC BK 50 138/69 _ML BK 81 230/500 ck 2	C	N-1-1	91%	90%	107%	Re-evaluate in future planning cycles.
SD-T-071	22464 MIGUEL 230 - 22504 MISSION 230 - ckt 1	TL23004 SANLUSRY - MISSION ck 2 _TL23042A BAY BLVD - MIGUEL ck 1	C	N-1-1	<80%	<80%	101%	Re-evaluate in future planning cycles.
SD-T-072	22464 MIGUEL 230 - 22504 MISSION 230 - ckt 2	TL23003 SANLUSRY - ENCINA ck 1 _TL23042A BAY BLVD - MIGUEL ck 1	C	N-1-1	<80%	<80%	101%	Re-evaluate in future planning cycles.
SD-T-073	22476 MIGUELTP 69 - 22456 MIGUEL 69 - ckt 1	TL23042A BAY BLVD - MIGUEL ck 1 _TL0621 PARADISE-MIGUEL ck 1	C	N-1-1	<80%	80%	104%	Re-evaluate in future planning cycles.
SD-T-074	22480 MIRAMAR 69 - 22296 FENTONTP 69 - ckt 1	TL06914 LOVELAND-LOSCOCHS ck 1 _LD_MRM OPEN 675 PEAK MRM/MR/SS	C	N-1-1	<80%	<80%	110%	Re-evaluate in future planning cycles.
SD-T-075	22480 MIRAMAR 69 - 22644 PENSQTOS 69 - ckt 1	TL0675 PENSQTOS-MESA RIM ck 1 _TL06916 SYCAMORE-SCRIPPS ck 1	C	N-1-1	113%	<80%	<80%	Dispatch local generation

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					2014	2017	2022	
SD-T-076	22500 MISSION 138 - 22496 MISSION 69 - ckt 1	MS BK 51 138/69 _MS BK 52 138/69	C	N-1-1	95%	106%	107%	Generation dispatch or switching solution or local network load drop prior to the second contingency
SD-T-077	22500 MISSION 138 - 22496 MISSION 69 - ckt 2	MS BK 50 138/69 _MS BK 52 138/69	C	N-1-1	123%	138%	140%	Generation dispatch or switching solution or local network load drop prior to the second contingency
SD-T-078	22500 MISSION 138 - 22496 MISSION 69 - ckt 3	ML BK 81 230/500 ck 2 _MS BK 51 138/69	C	N-1-1	<80%	116%	83%	Generation dispatch or switching solution or local network load drop prior to the second contingency
SD-T-079	22512 MONSRATE 69 - 22016 AVCADOTP 69 - ckt 1	LD_ME OPEN 680A PEAK ME _LD_ME OPEN 693 PEAK ME/SM	C	N-1-1	<80%	147%	87%	Dispatch local generation
SD-T-080	22512 MONSRATE 69 - 22524 MORHILTP 69 - ckt 1	TL06908 ESCNDIDO-ESCO ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	134%	<80%	<80%	Dispatch local generation
SD-T-081	22524 MORHILTP 69 - 22440 MELROSE 69 - ckt 1	TL06908 ESCNDIDO-ESCO ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	145%	<80%	<80%	Dispatch local generation
SD-T-082	22532 MURRAY 69 - 22306 GARFIELD 69 - ckt 1	TL0618 MISSION-MURRAY ck 1 _TL0619 MISSION-MURRAY ck 2	C	N-1-1	101%	109%	118%	Reconfigure the system
SD-T-083	22540 NARROWS 69 - 22884 WARNERS 69 - ckt 1	TL0681 ASH-FE-VC ck 1 _TL0683 RINCON-LILAC ck 1	C	N-1-1	<80%	106%	Diverged	Drop local network load prior to the second contingency or re-rate the line and drop local network load after the second contingency or install an SPS to drop load post-contingency
SD-T-084	22604 OTAY 69 - 22608 OTAY TP 69 - ckt 1	TL0647 BAY BLVD - IMPRLBCH ck 1 _TL0649 BD-OY-SYO ck 1	C	N-1-1	94%	102%	111%	Generation dispatch or switching solution or local network load drop prior to the second contingency

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					2014	2017	2022	
SD-T-085	22604 OTAY 69 - 22616 OTAYLKTP 69 - ckt 1	TL0643 MIGUEL - JAMACHA ck 2 _TL06910 SALT CREEK - BORDER ck 1	C	N-1-1	<80%	<80%	102%	Re-evaluate in future planning cycles.
SD-T-086	22636 PARADISE 69 - 22812 SUNYSDTP 69 - ckt 1	TL0621 PARADISE-MIGUEL ck 1 _TL06911 JAMACHA-SPRNGVLY ck 1	C	N-1-1	<80%	<80%	114%	Re-evaluate in future planning cycles.
SD-T-087	22640 PENDLETN 69 - 22016 AVCADOTP 69 - ckt 1	TL0680 SA-ME-SM ck 1 _LD_ME OPEN 680A PEAK ME	C	N-1-1	<80%	121%	<80%	Generation dispatch or switching solution or local network load drop prior to the second contingency
SD-T-088	22644 PENSQTOS 69 - 22164 DELMARTP 69 - ckt 1	TL0662 PENSQTOS -TOREYPNS ck 1 _TL0665 MIRASNTO-GENESEE ck 1	C	N-1-1	<80%	<80%	124%	Re-evaluate in future planning cycles.
SD-T-089	22644 PENSQTOS 69 - 22648 PENSQTOS 138 - ckt 2	PQ BK 70 230/69 _PQ BK 71 230/69	C	N-1-1	92%	101%	91%	Dispatch local generation
SD-T-090	22644 PENSQTOS 69 - 22856 TOREYPNS 69 - ckt 1	TL23012 PENSQTOS - ENCINA ck 1 _TL0666 PQ-DM-DB-DH-TP ck 1	C	N-1-1	88%	94%	103%	Re-evaluate in future planning cycles.
SD-T-091	22648 PENSQTOS 138 - 22644 PENSQTOS 69 - ckt 1	PQ BK 70 230/69 _PQ BK 71 230/69	C	N-1-1	91%	100%	96%	Dispatch local generation
SD-T-092	22652 PENSQTOS 230 - 22644 PENSQTOS 69 - ckt 2	PQ60 PENSQTOS-PENSQTOS ck 1 _PQ BK 70 230/69	C	N-1-1	98%	100%	98%	Dispatch local generation
SD-T-093	22668 POWAY 69 - 22664 POMERADO 69 - ckt 1	TL23014 PEN-ESCNDIDO ck 1 _TL23015 PEN-ESCNDIDO ck 2	C	N-1-1	119%	109%	107%	Generation dispatch or switching solution or local network load drop prior to the second contingency
SD-T-094	22668 POWAY 69 - 22676 R.CARMEL 69 - ckt 1	TL06939 BERNARDO-ARTESN ck 1 _TL06961 SYCAMORE-BERNARDO 69 ck 1	C	N-1-1	N/A	106%	114%	Generation dispatch or switching solution or local network load drop prior to the second contingency

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Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2014	2017	2022	
SD-T-095	22680 R.SNTAFE 69 - 22685 R.SNTTP1 69 - ckt 1	TL0660 ENCNITAS-DEL MAR ck 1 _TL06952 NORTHCTY-PENSQTOS 69 ck 1	C	N-1-1	101%	<80%	<80%	Generation dispatch or switching solution or local network load drop prior to the second contingency
SD-T-096	22716 SANLUSRY 230 - 22708 SANLUSRY 69 - ckt 1	SA BK 71 69/230 _SA BK 72 69/230	C	N-1-1	97%	100%	102%	Re-evaluate in future planning cycles.
SD-T-097	22740 SANYSDRO 69 - 22608 OTAY TP 69 - ckt 1	TL0612 OLD TOWN-POINTLMA ck 2 _TL0649 BD-OY-SYO ck 1	C	N-1-1	85%	92%	101%	Re-evaluate in future planning cycles.
SD-T-098	22740 SANYSDRO 69 - 22616 OTAYLKTP 69 - ckt 1	TL0600 CM-KY-RN ck 1 _TL06910 SALT CREEK - BORDER ck 1	C	N-1-1	<80%	<80%	113%	Re-evaluate in future planning cycles.
SD-T-099	22768 BAY BLVD 69 - 22352 IMPRLBCH 69 - ckt 1	TL0645 BAY BLVD-OTAY ck 1 _TL0646 BAY BLVD - OTAY ck 2	C	N-1-1	127%	136%	<80%	Dispatch local generation
SD-T-100	22768 BAY BLVD 69 - 22604 OTAY 69 - ckt 1	TL0646 BAY BLVD - OTAY ck 2 _TL0647 BAY BLVD - IMPRLBCH ck 1	C	N-1-1	98%	106%	<80%	Dispatch local generation
SD-T-101	22768 BAY BLVD 69 - 22604 OTAY 69 - ckt 2	TL0645 BAY BLVD-OTAY ck 1 _TL0647 BAY BLVD - IMPRLBCH ck 1	C	N-1-1	99%	108%	<80%	Dispatch local generation
SD-T-102	22771 BAY BLVD 230 - 22464 MIGUEL 230 - ckt 1	TL23004 SANLUSRY - MISSION ck 2 _TL23022 MIGUEL - MISSION ck 1	C	N-1-1	N/A	N/A	100%	Re-evaluate in future planning cycles.
SD-T-103	22820 SWEETWTR 69 - 22824 SWTWTRTP 69 - ckt 1	TL23022 MIGUEL - MISSION ck 1 _TL23026 SILVERGT - BAY BLVD ck 1	C	N-1-1	91%	103%	118%	Generation dispatch or switching solution or local network load drop prior to the second contingency
SD-T-104	22832 SYCAMORE 230 - 22828 SYCAMORE 69 - ckt 1	SX BK 71 230/69 _SX BK 72 230/69	C	N-1-1	110%	123%	132%	Generation dispatch or switching solution or local network load drop prior to the second contingency

Study Area: San Diego Area - Summer Peak

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2014	2017	2022	
SD-T-105	22832 SYCAMORE 230 - 22828 SYCAMORE 69 - ckt 2	SX BK 70 230/69 _SX BK 71 230/69	C	N-1-1	115%	129%	138%	Generation dispatch or switching solution or local network load drop prior to the second contingency
SD-T-106	22832 SYCAMORE 230 - 22828 SYCAMORE 69 - ckt 3	LC BK 51 69/138 _SX BK 70 230/69	C	N-1-1	85%	95%	102%	Re-evaluate in future planning cycles.
SD-T-107	22840 TALEGA 138 - 22656 PICO 138 - ckt 1	TL13834 CAPSTRNO-TRABUCO ck 1 _TL13846 TALEGA-TA TAP33-PICO-SMO	C	N-1-1	113%	N/A	N/A	Previously approved M-SOCRUP will mitigate this issue. Install SPS or operational solution in the interim
SD-T-108	22840 TALEGA 138 - 22842 TA TAP33 138 - ckt 1	TL13828 SYCAMORE-CARLTNHS ck 1 _TL13836 TALEGA-PICO ck 1	C	N-1-1	114%	N/A	N/A	Previously approved M-SOCRUP will mitigate this issue. Install SPS or operational solution in the interim
SD-T-109	22842 TA TAP33 138 - 22656 PICO 138 - ckt 1	TL13828 SYCAMORE-CARLTNHS ck 1 _TL13836 TALEGA-PICO ck 1	C	N-1-1	111%	N/A	N/A	Previously approved M-SOCRUP will mitigate this issue. Install SPS or operational solution in the interim
SD-T-110	22844 TALEGA 230 - 22840 TALEGA 138 - ckt 1	TA BK 62 230/138 _TA BK 63 230/138	C	N-1-1	120%	N/A	N/A	Previously approved M-SOCRUP will mitigate this issue. Install SPS or operational solution in the interim
SD-T-111	22844 TALEGA 230 - 22840 TALEGA 138 - ckt 3	TA BK 62 230/138 _TA BK 63 230/138	C	N-1-1	118%	N/A	N/A	Previously approved M-SOCRUP will mitigate this issue. Install SPS or operational solution in the interim
SD-T-112	22856 TOREYPNS 69 - 22200 DUNHILTP 69 - ckt 1	TL0662 PENSQTOS -TOREYPNS ck 1 _TL0665 MIRASNTO-GENESEE ck 1	C	N-1-1	<80%	<80%	120%	Re-evaluate in future planning cycles.

Study Area: San Diego Area - Summer Peak

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2014	2017	2022	
SD-T-113	22856 TOREYPNS 69 - 22200 DUNHILTP 69 - ckt 1	TL06905 GENESEE -PENSQTOS ck 2 _TL06959 MIRASNTO-PENSQTOS ck 1	C	N-1-1	<80%	102%	<80%	Generation dispatch or switching solution or local network load drop prior to the second contingency
SD-T-114	22856 TOREYPNS 69 - 22864 UCM 69 - ckt 1	TL06905 GENESEE -PENSQTOS ck 2 _TL06959 MIRASNTO-PENSQTOS ck 1	C	N-1-1	<80%	109%	<80%	Generation dispatch or switching solution or local network load drop prior to the second contingency
SD-T-115	22884 WARNERS 69 - 22736 SANTYSBL 69 - ckt 1	TL0681 ASH-FE-VC ck 1 _TL0683 RINCON-LILAC ck 1	C	N-1-1	213%	273%	Diverged	Drop local network load prior to the second contingency or re-rate the line and drop local network load after the second contingency or install an SPS to drop load post-contingency
SD-T-116	22884 WARNERS 69 - 22736 SANTYSBL 69 - ckt 1	TL0682 WARNERS-RINCON ck 1 _TL06926 RINCON -VALCNTR ck 1	C	N-1-1	<80%	<80%	153%	Generation dispatch or switching solution or local network load drop prior to the second contingency
SD-T-117	-	23052/07/30 OC area	D	-	Diverged	Diverged	Diverged	Further evaluation
SD-T-118	-	Los Coches 69kV E+W Bus	D	-	Diverged	Diverged	Diverged	Further evaluation
SD-T-119	-	San Luis Rey 69kV N+S Bus	D	-	Diverged	Diverged	Diverged	Further evaluation
SD-T-120	-	Penasquitos 69kV NE+NW+SE+SW Bus	D	-	Diverged	Diverged	Diverged	Further evaluation

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

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2014 Summer Light Load	2017 Summer Off-Peak	2022 Summer Light Load	
SD-T-121	22841 TA TAP 138 - 22396 LAGNA NL 138 - ckt 1	13831/36 N-2 TRIP 13812 SPS8.4C	C	N-2	107%	N/A	N/A	Previously approved M-SOCRUP will mitigate this issue. Install SPS or operational solution in the interim

Study Area: San Diego Area - Summer Peak

Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2014	2017	2022	
SD-dV-01	AVCADOTP 69 kV	TL06912 PENDLETN-SANLUSRY ck 1	B	N-1	-5.41%	-5.70%	-3.61%	Upgrade the 69kV system from Pendleton to Rincon-Warners area and/or change tap settings at Escondido, Talega, San Luis Rey. Distribution caps in automatic mode can also mitigate the deviations.
SD-dV-02	AVOCADO 69 kV	TL06912 PENDLETN-SANLUSRY ck 1	B	N-1	-5.24%	-5.53%	-3.43%	Upgrade the 69kV system from Pendleton to Rincon-Warners area and/or change tap settings at Escondido, Talega, San Luis Rey. Distribution caps in automatic mode can also mitigate the deviations.
SD-dV-03	KETTNER 69 kV	TL0609 KETTNER-B ck 1	B	N-1	-3.12%	-4.98%	-5.12%	Re-evaluate in future planning cycles
SD-dV-04	MNSRATTP 69 kV	TL06912 PENDLETN-SANLUSRY ck 1	B	N-1	-5.03%	-5.31%	-3.22%	Upgrade the 69kV system from Pendleton to Rincon-Warners area and/or change tap settings at Escondido, Talega, San Luis Rey. Distribution caps in automatic mode can also mitigate the deviations.
SD-dV-05	MONSRATE 69 kV	TL06912 PENDLETN-SANLUSRY ck 1	B	N-1	-5.03%	-5.32%	-3.22%	Upgrade the 69kV system from Pendleton to Rincon-Warners area and/or change tap settings at Escondido, Talega, San Luis Rey. Distribution caps in automatic mode can also mitigate the deviations.
SD-dV-06	NORTHCTY 69 kV	TL06952 NORTHCTY-PENSQTOS 69 ck 1	B	N-1	-3.86%	-6.01%	-5.09%	Additional dynamic reactive support or adjust taps on Penasquitos banks. Adjust set points of reactive power sources.
SD-dV-07	PENDLETN 69 kV	TL06912 PENDLETN-SANLUSRY ck 1	B	N-1	-7.38%	-7.67%	-5.58%	Upgrade the 69kV system from Pendleton to Rincon-Warners area and/or change tap settings at Escondido, Talega, San Luis Rey. Distribution caps in automatic mode can also mitigate the deviations.
SD-dV-08	POWAY 69 kV	TL06913 POWAY-POMERADO ck 1	B	N-1	-4.89%	-4.79%	-6.01%	Re-evaluate in future planning cycles
SD-dV-09	WARCYNTP 69 kV	TL06913 POWAY-POMERADO ck 1	B	N-1	-4.18%	-4.05%	-5.06%	Re-evaluate in future planning cycles
SD-dV-10	WARENCYN 69 kV	TL06913 POWAY-POMERADO ck 1	B	N-1	-4.19%	-4.05%	-5.06%	Re-evaluate in future planning cycles

Study Area: San Diego Area - Summer Peak

Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2014	2017	2022	
SD-dV-11	LILAC 69 kV	Lilac 69kV S Bus	C	Bus	-10.80%	-7.90%	-2.20%	Dynamic reactive support or SPS to drop load post-contingency
SD-dV-12	MARGARTA 138 kV	13831/36 N-2 TRIP 13812 SPS8.4C	C	N-2	-10.10%	-0.50%	-0.60%	Dynamic reactive support or SPS to drop load post-contingency
SD-dV-13	PICO 138 kV	13831/36 N-2 TRIP 13812 SPS8.4C	C	N-2	-10.20%	-0.10%	-0.10%	Dynamic reactive support or SPS to drop load post-contingency
SD-dV-14	POMERADO 69 kV	POM-SX #1+#2	C	N-2	-10.00%	-10.60%	-12.30%	Dynamic reactive support or SPS to drop load post-contingency
SD-dV-15	R.MSNVJO 138 kV	13831/36 N-2 TRIP 13812 SPS8.4C	C	N-2	-10.20%	-0.70%	-0.80%	Dynamic reactive support or SPS to drop load post-contingency
SD-dV-16	AVCADOTP 69 kV	TL06912 PENDLETN-SANLUSRY ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	-14.70%	-1.20%	-4.00%	Dispatch local generation after the first contingency
SD-dV-17	AVOCADO 69 kV	TL06912 PENDLETN-SANLUSRY ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	-14.60%	-1.20%	-3.80%	Dispatch local generation after the first contingency
SD-dV-18	BLDCRKTP 69 kV	TL0681 ASH-FE-VC ck 1 _TL0683 RINCON-LILAC ck 1	C	N-1-1	-4.40%	-11.10%	Diverged	Local network load reduction prior to the second contingency or SPS to drop load after the second contingency
SD-dV-19	BOLDRCRK 69 kV	TL0681 ASH-FE-VC ck 1 _TL0683 RINCON-LILAC ck 1	C	N-1-1	-4.40%	-11.10%	Diverged	Local network load reduction prior to the second contingency or SPS to drop load after the second contingency
SD-dV-20	MNSRATTP 69 kV	TL06912 PENDLETN-SANLUSRY ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	-14.30%	-1.30%	-3.60%	Dispatch local generation after the first contingency
SD-dV-21	MONSRATE 69 kV	TL06912 PENDLETN-SANLUSRY ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	-14.30%	-1.20%	-3.60%	Dispatch local generation after the first contingency
SD-dV-22	NARROWS 69 kV	TL0681 ASH-FE-VC ck 1 _TL0683 RINCON-LILAC ck 1	C	N-1-1	-4.90%	-10.50%	Diverged	Local network load reduction prior to the second contingency or SPS to drop load after the second contingency
SD-dV-23	PALA 69 kV	TL06912 PENDLETN-SANLUSRY ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	-15.40%	-2.10%	-1.80%	Dispatch local generation after the first contingency
SD-dV-24	PA99MW 69 kV	TL06912 PENDLETN-SANLUSRY ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	-15.40%	-2.10%	-1.70%	Dispatch local generation after the first contingency
SD-dV-25	PENDLETN 69 kV	TL06912 PENDLETN-SANLUSRY ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	-16.80%	-0.90%	-6.00%	Dispatch local generation after the first contingency

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

Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2014	2017	2022	
SD-dV-26	POMERADO 69 kV	TL06915 POMERADO -SYCAMORE ck 1 _TL06924 POMERADO -SYCAMORE ck 2	C	N-1-1	-0.80%	-0.70%	-12.30%	Operational action plan (Dispatch local generation after the first contingency) or rely on the existing SPS which drops load at Rancho Carmel.
SD-dV-27	RINCON 69 kV	TL0681 ASH-FE-VC ck 1 _TL0683 RINCON-LILAC ck 1	C	N-1-1	-11.50%	-32.70%	Diverged	Local network load reduction prior to the second contingency or SPS to drop load after the second contingency
SD-dV-28	SANTYSBL 69 kV	TL0681 ASH-FE-VC ck 1 _TL0683 RINCON-LILAC ck 1	C	N-1-1	-5.70%	-14.10%	Diverged	Local network load reduction prior to the second contingency or SPS to drop load after the second contingency
SD-dV-29	VALCNTR 69 kV	TL0681 ASH-FE-VC ck 1 _TL0683 RINCON-LILAC ck 1	C	N-1-1	-11.50%	-33.20%	Diverged	Local network load reduction prior to the second contingency or SPS to drop load after the second contingency
SD-dV-30	WARNERS 69 kV	TL0681 ASH-FE-VC ck 1 _TL0683 RINCON-LILAC ck 1	C	N-1-1	-5.10%	-16.70%	Diverged	Local network load reduction prior to the second contingency or SPS to drop load after the second contingency

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

Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2014 Summer Light Load	2017 Summer Off-Peak	2022 Summer Light Load	
SD-dV-31	BARRETT 69 kV	TL06957 LL-BAR ck 1	B	N-1	3.10%	1.50%	-5.20%	Re-evaluate in future planning cycles

Study Area: San Diego Area - Summer Peak

High/Low Voltage

ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2014	2017	2022	
SD-V-01	ALPINE 69 kV	Base system (n-0)	A	N-0	1.06	1.03	1.02	Voltage schedules to be adjusted appropriately and/or use of voltage control devices to maintain voltages within desired operating range.
SD-V-02	BARRETT 69 kV	Base system (n-0)	A	N-0	1.07	1.03	1.03	
SD-V-03	BLDCRKTP 69 kV	Base system (n-0)	A	N-0	1.05	1.03	1.02	
SD-V-04	BOLDRCRK 69 kV	Base system (n-0)	A	N-0	1.05	1.03	1.02	
SD-V-05	CAMERNTP 69 kV	Base system (n-0)	A	N-0	1.09	1.03	1.02	
SD-V-06	BOULEVRD 69 kV	Base system (n-0)	A	N-0	1.07	1.06	1.07	
SD-V-07	CAMERON 69 kV	Base system (n-0)	A	N-0	1.08	1.03	1.02	
SD-V-08	DESCANSO 69 kV	Base system (n-0)	A	N-0	1.07	1.03	1.02	
SD-V-09	GLENCLIF 69 kV	Base system (n-0)	A	N-0	1.08	1.03	1.02	
SD-V-10	GLNCLFTP 69 kV	Base system (n-0)	A	N-0	1.08	1.03	1.02	
SD-V-11	LOSCOCHS 69 kV	Base system (n-0)	A	N-0	1.05	1.04	1.03	
SD-V-12	LOVELAND 69 kV	Base system (n-0)	A	N-0	1.06	1.03	1.02	
SD-V-13	CRESTWD 69 kV	Base system (n-0)	A	N-0	1.11	1.03	1.03	
SD-V-14	KUMEYAAY 69 kV	Base system (n-0)	A	N-0	1.11	1.03	1.03	
SD-V-15	LILAC 69 kV	Lilac 69kV S Bus	C	Bus	0.89	0.92	0.98	
SD-V-16	AVCADOTP 69 kV	TL06912 PENDLETN-SANLUSRY ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	0.85	0.98	0.95	Dispatch local generation after the first contingency
SD-V-17	AVOCADO 69 kV	TL06912 PENDLETN-SANLUSRY ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	0.84	0.97	0.94	Dispatch local generation after the first contingency
SD-V-18	MNSRATTP 69 kV	TL06912 PENDLETN-SANLUSRY ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	0.85	0.98	0.95	Dispatch local generation after the first contingency
SD-V-19	MNSRATTP 69 kV	TL06912 PENDLETN-SANLUSRY ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	0.85	0.98	0.95	Dispatch local generation after the first contingency
SD-V-20	MONSRATE 69 kV	TL06912 PENDLETN-SANLUSRY ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	0.85	0.98	0.95	Dispatch local generation after the first contingency
SD-V-21	PALA 69 kV	TL06912 PENDLETN-SANLUSRY ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	0.84	0.97	0.97	Dispatch local generation after the first contingency
SD-V-22	PA99MW 69 kV	TL06912 PENDLETN-SANLUSRY ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	0.84	0.97	0.97	Dispatch local generation after the first contingency
SD-V-23	PENDLETN 69 kV	TL06912 PENDLETN-SANLUSRY ck 1 _TL06932 LILAC -PALA ck 1	C	N-1-1	0.83	0.99	0.94	Dispatch local generation after the first contingency

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

High/Low Voltage

ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2014	2017	2022	
SD-V-24	RINCON 69 kV	TL0681 ASH-FE-VC ck 1 _TL0683 RINCON-LILAC ck 1	C	N-1-1	0.90	0.68	Diverged	Load reduction in the local area network prior to the second contingency or SPS to drop load after the second contingency
SD-V-25	SANTYSBL 69 kV	TL0681 ASH-FE-VC ck 1 _TL0683 RINCON-LILAC ck 1	C	N-1-1	0.99	0.88	Diverged	Load reduction in the local area network prior to the second contingency or SPS to drop load after the second contingency
SD-V-26	VALCNTR 69 kV	TL0681 ASH-FE-VC ck 1 _TL0683 RINCON-LILAC ck 1	C	N-1-1	0.89	0.67	Diverged	Load reduction in the local area network prior to the second contingency or SPS to drop load after the second contingency
SD-V-27	WARNERS 69 kV	TL0681 ASH-FE-VC ck 1 _TL0683 RINCON-LILAC ck 1	C	N-1-1	0.99	0.86	Diverged	Load reduction in the local area network prior to the second contingency or SPS to drop load after the second contingency

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

High/Low Voltage

ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2014 Summer Light Load	2017 Summer Off-Peak	2022 Summer Light Load	
SD-V-28	ALPINE 69 kV	Base system (n-0)	A	N-0	1.11	1.05	1.08	Voltage schedules to be adjusted appropriately and/or use of voltage control devices to maintain voltages within desired operating range.
SD-V-29	BOLDRCRK 69 kV	Base system (n-0)	A	N-0	1.09	1.04	1.07	Same as above
SD-V-30	LRKSP_BD 69 kV	Base system (n-0)	A	N-0	1.06	1.03	1.06	Same as above
SD-V-31	BORDER 69 kV	Base system (n-0)	A	N-0	1.06	1.03	1.06	Same as above
SD-V-32	BORREGO 69 kV	Base system (n-0)	A	N-0	1.11	1.02	1.09	Same as above
SD-V-33	CAMERON 69 kV	Base system (n-0)	A	N-0	1.12	1.06	1.06	Same as above
SD-V-34	CHOLLAS 69 kV	Base system (n-0)	A	N-0	1.05	1.02	1.05	Same as above
SD-V-35	CLAIRMNT 69 kV	Base system (n-0)	A	N-0	1.06	1.04	1.07	Same as above
SD-V-36	EC GEN1 69 kV	Base system (n-0)	A	N-0	1.09	1.04	1.08	Same as above
SD-V-37	CREELMAN 69 kV	Base system (n-0)	A	N-0	1.08	1.04	1.07	Same as above
SD-V-38	DEL MAR 69 kV	Base system (n-0)	A	N-0	1.08	1.04	1.08	Same as above
SD-V-39	DESCANSO 69 kV	Base system (n-0)	A	N-0	1.11	1.05	1.08	Same as above
SD-V-40	DOUBLET 69 kV	Base system (n-0)	A	N-0	1.08	1.04	1.08	Same as above
SD-V-41	DUNHILL 69 kV	Base system (n-0)	A	N-0	1.08	1.04	1.08	Same as above
SD-V-42	EASTGATE 69 kV	Base system (n-0)	A	N-0	1.07	1.04	1.07	Same as above
SD-V-43	EL CAJON 69 kV	Base system (n-0)	A	N-0	1.09	1.04	1.08	Same as above
SD-V-44	ELLIOTT 69 kV	Base system (n-0)	A	N-0	1.06	1.05	1.07	Same as above
SD-V-45	ENCNITAS 69 kV	Base system (n-0)	A	N-0	1.07	1.04	1.07	Same as above
SD-V-46	F 69 kV	Base system (n-0)	A	N-0	1.06	1.05	1.08	Same as above
SD-V-47	FENTON 69 kV	Base system (n-0)	A	N-0	1.06	1.03	1.07	Same as above
SD-V-48	GARFIELD 69 kV	Base system (n-0)	A	N-0	1.08	1.04	1.08	Same as above
SD-V-49	GENESEE 69 kV	Base system (n-0)	A	N-0	1.08	1.04	1.07	Same as above
SD-V-50	GLENCLIF 69 kV	Base system (n-0)	A	N-0	1.12	1.06	1.06	Same as above
SD-V-51	GRANITE 69 kV	Base system (n-0)	A	N-0	1.09	1.04	1.09	Same as above
SD-V-52	IMPRLBCH 69 kV	Base system (n-0)	A	N-0	1.06	1.03	1.05	Same as above
SD-V-53	IMPRLVLY 500 kV	Base system (n-0)	A	N-0	1.04	1.05	1.04	Same as above
SD-V-54	JAMACHA 69 kV	Base system (n-0)	A	N-0	1.07	1.03	1.07	Same as above
SD-V-55	KEARNY 69 kV	Base system (n-0)	A	N-0	1.06	1.05	1.07	Same as above

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

High/Low Voltage

ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2014 Summer Light Load	2017 Summer Off-Peak	2022 Summer Light Load	
SD-V-56	KYOCERA 69 kV	Base system (n-0)	A	N-0	1.06	1.05	1.07	Same as above
SD-V-57	LA JOLLA 69 kV	Base system (n-0)	A	N-0	1.06	1.03	1.06	Same as above
SD-V-58	LOSCOCHS 69 kV	Base system (n-0)	A	N-0	1.11	1.06	1.09	Same as above
SD-V-59	LOVELAND 69 kV	Base system (n-0)	A	N-0	1.11	1.05	1.08	Same as above
SD-V-60	MESA RIM 69 kV	Base system (n-0)	A	N-0	1.06	1.03	1.07	Same as above
SD-V-61	MESAHGTS 69 kV	Base system (n-0)	A	N-0	1.06	1.05	1.07	Same as above
SD-V-62	MIGUEL 69 kV	Base system (n-0)	A	N-0	1.05	1.03	1.05	Same as above
SD-V-63	MIRAMAR 69 kV	Base system (n-0)	A	N-0	1.06	1.03	1.07	Same as above
SD-V-64	MIRAMAR1 69 kV	Base system (n-0)	A	N-0	1.06	1.04	1.07	Same as above
SD-V-65	MISSION 69 kV	Base system (n-0)	A	N-0	1.07	1.05	1.08	Same as above
SD-V-66	MONTGMRY 69 kV	Base system (n-0)	A	N-0	1.06	1.04	1.05	Same as above
SD-V-67	MURRAY 69 kV	Base system (n-0)	A	N-0	1.08	1.04	1.08	Same as above
SD-V-68	N.GILA 500 kV	Base system (n-0)	A	N-0	1.05	1.07	1.06	Same as above
SD-V-69	NARROWS 69 kV	Base system (n-0)	A	N-0	1.10	1.03	1.09	Same as above
SD-V-70	NORTHCTY 69 kV	Base system (n-0)	A	N-0	1.07	1.04	1.07	Same as above
SD-V-71	Lkhodges 69 kV	Base system (n-0)	A	N-0	1.05	1.02	1.05	Same as above
SD-V-72	OTAY 69 kV	Base system (n-0)	A	N-0	1.06	1.04	1.05	Same as above
SD-V-73	OTAYLAKE 69 kV	Base system (n-0)	A	N-0	1.06	1.03	1.06	Same as above
SD-V-74	OY GEN 69 kV	Base system (n-0)	A	N-0	1.06	1.04	1.05	Same as above
SD-V-75	PARADISE 69 kV	Base system (n-0)	A	N-0	1.05	1.03	1.05	Same as above
SD-V-76	PENSQTOS 69 kV	Base system (n-0)	A	N-0	1.08	1.04	1.08	Same as above
SD-V-77	R.SNTAFE 69 kV	Base system (n-0)	A	N-0	1.06	1.03	1.06	Same as above
SD-V-78	RINCON 69 kV	Base system (n-0)	A	N-0	1.05	1.01	1.05	Same as above
SD-V-79	ROSE CYN 69 kV	Base system (n-0)	A	N-0	1.06	1.04	1.07	Same as above
SD-V-80	SANTYSBL 69 kV	Base system (n-0)	A	N-0	1.08	1.03	1.07	Same as above
SD-V-81	SANYSDRO 69 kV	Base system (n-0)	A	N-0	1.06	1.03	1.05	Same as above
SD-V-82	SCRIPPS 69 kV	Base system (n-0)	A	N-0	1.05	1.03	1.06	Same as above
SD-V-83	BAY BLVD 69 kV	Base system (n-0)	A	N-0	1.06	1.04	1.05	Same as above
SD-V-84	SPRNGVLY 69 kV	Base system (n-0)	A	N-0	1.06	1.03	1.06	Same as above
SD-V-85	SUNYSIDE 69 kV	Base system (n-0)	A	N-0	1.05	1.03	1.05	Same as above
SD-V-86	SWEETWTR 69 kV	Base system (n-0)	A	N-0	1.05	1.03	1.05	Same as above

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

High/Low Voltage

ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2014 Summer Light Load	2017 Summer Off-Peak	2022 Summer Light Load	
SD-V-87	TOREYPNS 69 kV	Base system (n-0)	A	N-0	1.08	1.04	1.08	Same as above
SD-V-88	UCM 69 kV	Base system (n-0)	A	N-0	1.08	1.04	1.07	Same as above
SD-V-89	WARNERS 69 kV	Base system (n-0)	A	N-0	1.08	1.03	1.07	Same as above
SD-V-90	CRESTWD 69 kV	Base system (n-0)	A	N-0	1.13	1.08	1.05	Same as above
SD-V-91	KUMEYAAY 69 kV	Base system (n-0)	A	N-0	1.13	1.08	1.05	Same as above
SD-V-92	CALPK_BD 69 kV	Base system (n-0)	A	N-0	1.06	1.03	1.06	Same as above
SD-V-93	EC GEN2 69 kV	Base system (n-0)	A	N-0	1.09	1.04	1.08	Same as above
SD-V-94	MIRASNTO 69 kV	Base system (n-0)	A	N-0	1.08	1.04	1.08	Same as above
SD-V-95	SALT CREEK 69 kV	Base system (n-0)	A	N-0	N/A	1.03	1.05	Same as above

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

Post-Transient Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2014	2017	2022	
PSTR-local-SD-T-01	MIGUEL 230.0 - BAY BLVD 230.0 #1	Miguel - Mission 230kV line #1 and #2	C	N-2	<100%	<100%	100.20%	Generation curtailment or Re-rate the line or Reconductor. Re-evaluate in future planning cycles.
PSTR-local-SD-T-02	ESCNDIDO 230.0 - TA230 TA 230.0 #1	SONGS - Capistrano and SONGS - Talega 230kV lines	C	N-2	N/A	<100%	107.00%	Re-rate the line or SPS to shed local netowrk load post-contingency. Re-evaluate in future planning cycles.
PSTR-bulk-SD-T-01	MIGUEL 230 - BAY BLVD 230 #1	Base case	A	N-0	<100%	<100%	104%	Generation curtailment or Re-rate the line or Reconductor. Re-evaluate in future planning cycles.
PSTR-bulk-SD-T-02	MIGUEL 230.0 BAY BLVD 230.0 #1	Miguel - Mission 230kV line #1 and #2	C	N-2	<100%	<100%	109.00%	Generation curtailment or Re-rate the line or Reconductor. Re-evaluate in future planning cycles.
PSTR-bulk-SD-T-03	ESCNDIDO 230.0 TA230 TA 230.0 #1	SONGS - Capistrano and SONGS - Talega 230kV lines	C	N-2	N/A	<100%	104%	Re-rate the line or SPS to shed local netowrk load post-contingency. Re-evaluate in future planning cycles.

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

Post-Transient Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					Select..	Select..	Select..	

No post-transient thermal overloads identified.

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

Post-Transient Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2014 Summer Light Load	2017 Summer Off-Peak	2022 Summer Light Load	
PSTR-local-SD-dV-01	Miguel 500kV	Miguel - ECO 500KV line	B	N-1	5.80%	6.40%	<5%	Operate local SVDs in automatic mode and/or add dynamic reactive support
PSTR-local-SD-dV-02	-	Sunrise Power Link + Miguel - ECO	C	N-1-1	<10%	<10%	Diverged	Dynamic reactive support in SDG&E and/or additional internal generation in San Diego area
PSTR-bulk-SD-dV-01	Miguel 500kV	Miguel - ECO 500KV line	B	N-1	5.80%	<5%	<5%	Operate local SVDs in automatic mode and/or add dynamic reactive support
PSTR-bulk-SD-dV-02	Eastern and central 69kV system	Miguel-ECO 500kV with CFE cross-trip	B	N-1	N/A	N/A	6% to 9%	Operate SVDs and distribution capacitors in automatic mode under peak load conditions to mitigate the deviations and/or add dynamic reactive support

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

Post-Transient Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					Select..	Select..	Select..	

No post-transient voltage deviations identified.

Study Area: **San Diego Area**

Single Contingency Load Drop

ID	Worst Contingency	Category	Category Description	Amount of Load Drop (MW)			Potential Mitigation Solutions
				2014	2017	2022	

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

Study Area: **San Diego Area**

Single Source Substation with more than 100 MW Load

ID	Substation	Load Served (MW)			Potential Mitigation Solutions
		2014	2017	2022	

No single source substation with more than 100 MW Load