



ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)								Potential Mitigation Solutions
					2017 Summer Peak	2020 Summer Peak	2025 Summer Peak	2017 Winter Peak	2020 Winter Peak	2025 Winter Peak	2017 Spring Off-Peak	2020 Summer Light Load	
CC-T-1	CRZY HRS-NTVD SW2 115 kV #1 Line	P2-4:A19:4:_MOSS LANDING 115 kV CB 500	P2	Circuit Breaker	146.57	<100	<100	<100	<100	<100	<100	<100	Nativdad Distribution Sub Interconnection Project reconductoring Crazy horse-Salinas 115 kV Line sections
CC-T-2	CRZY HRS-NTVD SW1 115 kV #1 Line	P2-4:A19:4:_MOSS LANDING 115 kV CB 500	P2	Circuit Breaker	146.57	N/A	N/A	<100	N/A	N/A	81.73	N/A	Nativdad Distribution Sub Interconnection Project reconductoring Crazy horse-Salinas 115 kV Line sections
CC-T-3	PRNDL J1-MOSLND D 115 kV #1 Line	P2-4:A19:2:_Moss Landing 115 kV CB 110	P2	Circuit Breaker	<100	103.65	108.18	<100	<100	<100	<100	<100	Mitigation under review
CC-T-4	PRNDL J2-MOSLND D 115 kV #1 Line	P2-4:A19:3:_MOSS LANDING 115 kV CB 120	P2	Circuit Breaker	<100	<100	104.27	<100	<100	<100	<100	<100	Mitigation under review
CC-T-5	MOSLND D 115/230 kV #2 Bank	P2-4:A19:2:_Moss Landing 115 kV CB 110	P2	Circuit Breaker	<100	101.77	104.05	<100	<100	<100	<100	<100	Moss Landing Bank upgrade still needed
CC-T-6	B.VSTA J-FIRESTNE 60 kV #1 Line	P2-1:A19:45:_SALINAS1-FREXP JT #1 60 kV	P2-1	Open-Line w/ No Fault	142.59	142.18	148.74	<100	<100	<100	<100	<100	Mitigation under review
CC-T-7	FIRESTNE-SPNCE J2 60 kV #1 Line	P2-1:A19:45:_SALINAS1-FREXP JT #1 60 kV	P2-1	Open-Line w/ No Fault	142.31	141.85	148.15	<100	<100	<100	<100	<100	Mitigation under review
CC-T-8	SPNCE J1-SPENCE 60 kV #1 Line	P2-1:A19:52:_SALINAS1-FREXP JT #1 60 kV	P2-1	Open-Line w/ No Fault	190.15	189.35	197.55	<100	<100	<100	<100	<100	Mitigation under review
CC-T-9	SPNCE J2-SPENCE 60 kV #1 Line	P2-1:A19:52:_SALINAS1-FREXP JT #1 60 kV	P2-1	Open-Line w/ No Fault	151.29	150.79	157.50	<100	<100	<100	<100	<100	Mitigation under review
CC-T-10	COBURN J-KING CTY 60 kV #1 Line	P2-1:A19:83:_ORCHRD J-COBURN #1 60 kV	P2-1	Open-Line w/ No Fault	154.08	153.33	155.96	<100	<100	<100	<100	<100	Mitigation under review
CC-T-11	SPNCE J1-SNBRN JT 60 kV #1 Line	P2-1:A19:45:_SALINAS1-FREXP JT #1 60 kV	P2-1	Open-Line w/ No Fault	164.77	164.08	171.19	<100	<100	<100	<100	<100	Mitigation under review
CC-T-12	COBURN 230/60 kV #2 Bank	P1-2:A19:55:_King City-Coburn #1 60 kV and P1-3:A19:11:_Coburn 230/60 kV Transformer #1	P6	N-1-1	<100	<100	<100	112.44	113.52	113.35	100.80	<100	Coburn SPS
CC-T-13	CRZY HRS-NTVD SW2 115 kV #1 Line	P1-2:A19:17:_Moss Landing-Green Valley #1 115 kV and P1-2:A19:19:_Moss Landing-Green Valley #2 115 kV	P6	N-1-1	Diverged	<100	<100	<100	<100	<100	<100	<100	Nativdad Distribution Sub Interconnection Project reconductoring Crazy horse-Salinas 115 kV Line sections
CC-T-14	NTVD SW2-SALINAS 115 kV #1 Line	P1-2:A19:27:_Moss Landing-Salinas #1 115 kV and P1-2:A19:28:_Moss Landing-Salinas #2 115 kV	P6	N-1-1	118.66	<100	<100	<100	<100	<100	<100	<100	Nativdad Distribution Sub Interconnection Project reconductoring Crazy horse-Salinas 115 kV Line sections



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					2017 Summer Peak	2020 Summer Peak	2025 Summer Peak	2017 Winter Peak	2020 Winter Peak	2025 Winter Peak	2017 Spring Off-Peak	2020 Summer Light Load	
CC-T-15	MOSLND D 115/230 kV #2 Bank	P1-3:A19:2:_Moss Landing 230/115 kV Transformer #10 and P1-3:A19:3:_Moss Landing 230/115 kV Transformer #8	P6	N-1-1	104.80	108.07	110.02	<100	100.93	<100	<100	<100	Moss Landing Bank upgrade still needed
CC-T-16	MOSLND D 115230 kV #1 Bank	P1-3:A19:2:_Moss Landing 230/115 kV Transformer #10 and P1-3:A19:3:_Moss Landing 230/115 kV Transformer #8	P6	N-1-1	105.09	107.94	109.85	<100	100.87	<100	<100	<100	Moss Landing Bank upgrade still needed
CC-T-17	GREN VLY 60/115 kV #1 Bank	P1-2:A19:17:_Moss Landing-Green Valley #1 115 kV and P1-2:A19:19:_Moss Landing-Green Valley #2 115 kV	P6	N-1-1	Diverged	<100	<100	Diverged	<100	<100	Diverged	<100	Watsonville 115 kV Voltage Conversion Project
CC-T-18	GRN VLY1-ERTA JCT 60 kV #1 Line	P1-2:A19:17:_Moss Landing-Green Valley #1 115 kV and P1-2:A19:19:_Moss Landing-Green Valley #2 115 kV	P6	N-1-1	Diverged	<100	<100	Diverged	<100	<100	Diverged	<100	Watsonville 115 kV Voltage Conversion Project
CC-T-19	CIC JCT-ERTA JCT 60 kV #1 Line	P1-2:A19:17:_Moss Landing-Green Valley #1 115 kV and P1-2:A19:19:_Moss Landing-Green Valley #2 115 kV	P6	N-1-1	Diverged	<100	<100	Diverged	<100	<100	Diverged	<100	Watsonville 115 kV Voltage Conversion Project
CC-T-20	CIC JCT-AGRILINK 60 kV #1 Line	P1-2:A19:17:_Moss Landing-Green Valley #1 115 kV and P1-2:A19:19:_Moss Landing-Green Valley #2 115 kV	P6	N-1-1	Diverged	<100	<100	Diverged	<100	<100	Diverged	<100	Watsonville 115 kV Voltage Conversion Project
CC-T-21	WTSNVLE-GRANT JT 60 kV #1 Line	P1-2:A19:17:_Moss Landing-Green Valley #1 115 kV and P1-2:A19:19:_Moss Landing-Green Valley #2 115 kV	P6	N-1-1	Diverged	<100	<100	Diverged	<100	<100	Diverged	<100	Watsonville 115 kV Voltage Conversion Project
CC-T-22	BRIGHTANO-LGNSTAP 60 kV #1 Line	P1-2:A19:17:_Moss Landing-Green Valley #1 115 kV and P1-2:A19:19:_Moss Landing-Green Valley #2 115 kV	P6	N-1-1	Diverged	<100	<100	Diverged	<100	<100	Diverged	<100	Watsonville 115 kV Voltage Conversion Project
CC-T-23	LGNSTAP-SALINAS2 60 kV #1 Line	P1-2:A19:17:_Moss Landing-Green Valley #1 115 kV and P1-2:A19:19:_Moss Landing-Green Valley #2 115 kV	P6	N-1-1	Diverged	<100	<100	Diverged	<100	<100	Diverged	<100	Watsonville Voltage Conversion
CC-T-24	SALINAS2-SALINAS1 60 kV #1 Line	P1-2:A19:17:_Moss Landing-Green Valley #1 115 kV and P1-2:A19:19:_Moss Landing-Green Valley #2 115 kV	P6	N-1-1	Diverged	<100	<100	Diverged	<100	<100	<100	<100	Watsonville Voltage Conversion
CC-T-25	GREN VLY 60/115 kV #1 Bank	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	Diverged	N/A	N/A	Diverged	N/A	N/A	Diverged	N/A	Watsonville 115 kV Voltage Conversion Project
CC-T-26	GRN VLY1-ERTA JCT 60 kV #1 Line	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	Diverged	N/A	N/A	Diverged	N/A	N/A	Diverged	N/A	Watsonville 115 kV Voltage Conversion Project
CC-T-27	CIC JCT-ERTA JCT 60 kV #1 Line	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	Diverged	N/A	N/A	Diverged	N/A	N/A	Diverged	N/A	Watsonville 115 kV Voltage Conversion Project
CC-T-28	CIC JCT-AGRILINK 60 kV #1 Line	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	Diverged	N/A	N/A	Diverged	N/A	N/A	Diverged	N/A	Watsonville 115 kV Voltage Conversion Project
CC-T-29	WTSNVLE-AGRILINK 60 kV #1 Line	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	Diverged	N/A	N/A	Diverged	N/A	N/A	Diverged	N/A	Watsonville 115 kV Voltage Conversion Project
CC-T-30	WTSNVLE-GRANT JT 60 kV #1 Line	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	Diverged	N/A	N/A	Diverged	N/A	N/A	Diverged	N/A	Watsonville 115 kV Voltage Conversion Project



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					2017 Summer Peak	2020 Summer Peak	2025 Summer Peak	2017 Winter Peak	2020 Winter Peak	2025 Winter Peak	2017 Spring Off-Peak	2020 Summer Light Load	
CC-T-31	BRIGTANO-GRANT JT 60 kV #1 Line	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	Diverged	N/A	N/A	Diverged	N/A	N/A	Diverged	N/A	Watsonville 115 kV Voltage Conversion Project
CC-T-32	BRIGTANO-LGNSTAP 60 kV #1 Line	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	Diverged	N/A	N/A	Diverged	N/A	N/A	Diverged	N/A	Watsonville 115 kV Voltage Conversion Project
CC-T-33	LGNSTAP-SALINAS2 60 kV #1 Line	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	Diverged	<100	<100	Diverged	<100	<100	Diverged	<100	Watsonville 115 kV Voltage Conversion Project
CC-T-34	SALINAS2-SALINAS1 60 kV #1 Line	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	Diverged	<100	<100	Diverged	<100	<100	Diverged	<100	Watsonville 115 kV Voltage Conversion Project
CC-T-35	GRANT JT-BRIGTANO 115 kV #1 Line	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL		<100	<100	<100	<100	<100	<100	<100	Watsonville 115 kV Voltage Conversion Project
CC-T-36	CRZY_HRS-NTVD SW2 115 kV #1 Line	P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines	P7	DCTL	135.95	<100	<100	<100	<100	<100	<100	<100	Nativdad Distribution Sub Interconnection Project reconductoring Crazy horse-Salinas 115 kV Line sections
CC-T-37	NTVD SW2-SALINAS 115 kV #1 Line	P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines	P7	DCTL	118.66	<100	<100	<100	<100	<100	<100	<100	Nativdad Distribution Sub Interconnection Project reconductoring Crazy horse-Salinas 115 kV Line sections
CC-T-38	CRZY_HRS-NTVD SW1 115 kV #1 Line	P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines	P7	DCTL	135.95	N/A	N/A	<100	N/A	N/A	<100	N/A	Nativdad Distribution Sub Interconnection Project reconductoring Crazy horse-Salinas 115 kV Line sections
CC-T-39	NTVD SW1-SALINAS 115 kV #1 Line	P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines	P7	DCTL	118.66	<100	<100	<100	<100	<100	<100	<100	Nativdad Distribution Sub Interconnection Project reconductoring Crazy horse-Salinas 115 kV Line sections

Study Area: **PG&E Central Coast**

Voltage Deviations



ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %								Potential Mitigation Solutions
					2017 Summer Peak	2020 Summer Peak	2025 Summer Peak	2017 Winter Peak	2020 Winter Peak	2025 Winter Peak	2017 Spring Off-Peak	2020 Summer Light Load	
CC-VD-1	AGRILINK 60 kV	P1-3:A19:4:_Green Valley 115/60 Transformer #1	P1	N-1	17.4	<5.0	<5.0	18.2	<5.0	<5.0	12.4	<5.0	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-VD-2	BRIGTANO 60 kV	P1-3:A19:4:_Green Valley 115/60 Transformer #1	P1	N-1	11.9	<5.0	<5.0	12.4	<5.0	<5.0	8.3	<5.0	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-VD-3	ERTA 60 kV	P1-3:A19:4:_Green Valley 115/60 Transformer #1	P1	N-1	18.4	<5.0	<5.0	19.2	<5.0	<5.0	13.1	<5.0	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-VD-4	GRANT RK 60 kV	P1-2:A19:35:_Green Valley-Watsonville 60 kV	P1	N-1	11.2	<5.0	<5.0	11.7	<5.0	<5.0	8.0	<5.0	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-VD-5	GREN VLY 60 kV	P1-3:A19:4:_Green Valley 115/60 Transformer #1	P1	N-1	19.0	N/A	N/A	19.9	N/A	N/A	13.6	N/A	Action Plan
CC-VD-6	WTSNVLL 60 kV	P1-3:A19:4:_Green Valley 115/60 Transformer #1	P1	N-1	17.3	<5.0	<5.0	18.1	<5.0	<5.0	12.2	<5.0	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-VD-7	GREN VLY 60 kV	P2-4:A19:1:_GREEN VALLEY 115 kV CB 102	P2	Bus/Circuit Breaker	18.9	N/A	N/A	20.1	N/A	N/A	13.6	N/A	Action Plan. Watsonville UVLS/Watsonville 115 kV Voltage Conversion Project
CC-VD-8	ERTA 60 kV	P2-4:A19:1:_GREEN VALLEY 115 kV CB 102	P2	Bus/Circuit Breaker	18.3	N/A	N/A	19.4	N/A	N/A	13.1	N/A	Action Plan. Watsonville UVLS/Watsonville 115 kV Voltage Conversion Project
CC-VD-9	GRANT RK 60 kV	P2-4:A19:1:_GREEN VALLEY 115 kV CB 102	P2	Bus/Circuit Breaker	12.0	<5.0	<5.0	12.9	<5.0	<5.0	8.4	<5.0	Action Plan. Watsonville UVLS/Watsonville 115 kV Voltage Conversion Project
CC-VD-10	AGRILINK 60 kV	P2-4:A19:1:_GREEN VALLEY 115 kV CB 102	P2	Bus/Circuit Breaker	17.3	<5.0	<5.0	18.5	<5.0	<5.0	12.3	<5.0	Action Plan. Watsonville UVLS/Watsonville 115 kV Voltage Conversion Project
CC-VD-11	BRIGTANO 60 kV	P2-4:A19:1:_GREEN VALLEY 115 kV CB 102	P2	Bus/Circuit Breaker	11.8	<5.0	<5.0	12.6	<5.0	<5.0	8.2	<5.0	Action Plan. Watsonville UVLS/Watsonville 115 kV Voltage Conversion Project
CC-VD-12	WTSNVLL 60 kV	P2-4:A19:1:_GREEN VALLEY 115 kV CB 102	P2	Bus/Circuit Breaker	17.1	<5.0	<5.0	18.3	<5.0	<5.0	12.2	<5.0	Action Plan. Watsonville UVLS/Watsonville 115 kV Voltage Conversion Project
CC-VD-13	CAMPORA 60 kV	P2-4:A19:4:_MOSS LANDING 115 kV CB 500	P2	Bus/Circuit Breaker	7.8	8.61	9.46	5.8	5.812	5.811	<5.0	<5.0	Action Plan. Shunt Capacitor
CC-VD-14	CRZY_HRS 115 kV	P2-4:A19:4:_MOSS LANDING 115 kV CB 500	P2	Bus/Circuit Breaker	6.0	6.222	6.872	<5.0	<5.0	<5.0	<5.0	<5.0	Action Plan. Shunt Capacitor
CC-VD-15	CSTRVLL 115 kV	P2-4:A19:2:_Moss Landing 115 kV CB 110	P2	Bus/Circuit Breaker	8.3	9.479	10.532	10.5	10.968	11.609	<5.0	<5.0	Action Plan. Shunt Capacitor
CC-VD-16	DEL MNTE 115 kV	P2-4:A19:2:_Moss Landing 115 kV CB 110	P2	Bus/Circuit Breaker	6.1	7.143	8.021	7.6	8.125	8.587	<5.0	<5.0	Action Plan. Shunt Capacitor
CC-VD-17	DOLAN RD 115 kV	P2-4:A19:4:_MOSS LANDING 115 kV CB 500	P2	Bus/Circuit Breaker	11.2	12.729	13.725	8.4	8.932	8.961	5.7	<5.0	Action Plan. Shunt Capacitor
CC-VD-18	GONZALES 60 kV	P2-4:A19:4:_MOSS LANDING 115 kV CB 500	P2	Bus/Circuit Breaker	7.9	8.712	9.584	5.9	5.85	5.855	<5.0	<5.0	Action Plan. Shunt Capacitor
CC-VD-19	HOLLISTR 115 kV	P2-4:A19:4:_MOSS LANDING 115 kV CB 500	P2	Bus/Circuit Breaker	6.1	6.349	7.03	<5.0	<5.0	<5.0	<5.0	<5.0	Action Plan. Shunt Capacitor
CC-VD-20	HOLST D 115 kV	P2-4:A19:3:_MOSS LANDING 115 kV CB 120	P2	Bus/Circuit Breaker	<5.0	5.574	6.307	<5.0	<5.0	<5.0	<5.0	<5.0	Action Plan. Shunt Capacitor
CC-VD-21	NATIVDAD 115 kV	P2-4:A19:3:_MOSS LANDING 115 kV CB 120	P2	Bus/Circuit Breaker	<5.0	5.595	6.291	<5.0	<5.0	<5.0	<5.0	<5.0	Action Plan. Shunt Capacitor
CC-VD-22	PRUNEDLE 115 kV	P2-4:A19:3:_MOSS LANDING 115 kV CB 120	P2	Bus/Circuit Breaker	5.3	6.248	6.99	<5.0	5.231	5.307	<5.0	<5.0	Action Plan. Shunt Capacitor
CC-VD-23	SALINAS 115 kV	P2-4:A19:4:_MOSS LANDING 115 kV CB 500	P2	Bus/Circuit Breaker	8.8	10.116	11	6.6	6.965	6.971	<5.0	<5.0	Action Plan. Shunt Capacitor
CC-VD-24	SOLEDAD 60 kV	P2-4:A19:4:_MOSS LANDING 115 kV CB 500	P2	Bus/Circuit Breaker	7.7	8.557	9.401	5.8	5.787	5.787	<5.0	<5.0	Action Plan. Shunt Capacitor
CC-VD-25	SOLEDAD 115 kV	P2-4:A19:4:_MOSS LANDING 115 kV CB 500	P2	Bus/Circuit Breaker	7.7	8.547	9.389	5.8	5.783	5.783	<5.0	<5.0	Action Plan. Shunt Capacitor

Study Area: PG&E Central Coast

Voltage Deviations



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					2017 Summer Peak	2020 Summer Peak	2025 Summer Peak	2017 Winter Peak	2020 Winter Peak	2025 Winter Peak	2017 Spring Off-Peak	2020 Summer Light Load	
CC-VD-26	TEXACO 60 kV	P2-2:A19:12:_Oilfields 60 kV Bus	P2	Bus/Circuit Breaker	8.7	8.204	8.83	8.4	7.856	7.875	7.1	6.784	Action Plan. Shunt Capacitor
CC-VD-27	ERTA 60 kV	P2-1:A19:37:_GREN VLY-ERTA JCT #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	18.4	N/A	N/A	19.3	N/A	N/A	13.1	N/A	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-VD-28	AGRILINK 60 kV	P2-1:A19:40:_CIC JCT-AGRILINK #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	16.3	N/A	N/A	17.0	N/A	N/A	11.8	N/A	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-VD-29	GRANT RK 60 kV	P2-1:A19:39:_CIC JCT-ERTA JCT #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	11.3	N/A	N/A	11.8	N/A	N/A	8.1	N/A	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-VD-30	WTSNVLE 60 kV	P2-1:A19:40:_CIC JCT-AGRILINK #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	16.2	N/A	N/A	16.8	N/A	N/A	11.7	N/A	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-VD-31	BRIGTANO 60 kV	P2-1:A19:42:_WTSNVLE-AGRILINK #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	10.9	N/A	N/A	11.4	N/A	N/A	7.8	N/A	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-VD-32	PAUL SWT 115 kV	P2-1:A19:6:_PAUL SWT-M #1 115 kV	P2-1	Var device/Open ended Line w/No Fault	5.5	6.031	7.109	6.7	6.056	6.319	1.4	-1.852	Action Plan. Paul Sweet Statcom
CC-VD-33	CMP EVRS 115 kV	P2-1:A19:6:_PAUL SWT-M #1 115 kV	P2-1	Var device/Open ended Line w/No Fault	5.0	5.408	6.376	6.0	5.434	5.674	1.3	-1.651	Action Plan. Paul Sweet Statcom
CC-VD-34	FIRESTNE 60 kV	P2-1:A19:45:_SALINAS1-FREXP JT #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	11.6	11.73	12.382	7.8	7.688	7.848	6.2	3.191	Action Plan. Install shunt capacitor
CC-VD-35	FRSHXPRS 60 kV	P2-1:A19:45:_SALINAS1-FREXP JT #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	15.0	15.034	15.833	10.1	9.982	10.208	8.1	4.223	Action Plan. Install shunt capacitor

Study Area: **PG&E Central Coast**

Voltage Deviations



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					2017 Summer Peak	2020 Summer Peak	2025 Summer Peak	2017 Winter Peak	2020 Winter Peak	2025 Winter Peak	2017 Spring Off-Peak	2020 Summer Light Load	
CC-VD-36	SPENCE 60 kV	P2-1:A19:45:_SALINAS1-FREXP JT #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	10.0	10.125	10.703	6.6	6.584	6.719	5.3	2.704	Action Plan. Install shunt capacitor
CC-VD-37	BNA VSTA 60 kV	P2-1:A19:45:_SALINAS1-FREXP JT #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	14.8	14.828	15.619	10.0	9.825	10.049	8.0	4.15	Action Plan. Install shunt capacitor
CC-VD-38	CSTRVLE 115 kV	P2-1:A19:22:_MOSLND E-CSTRVLJ1 #1 115 kV	P2-1	Var device/Open ended Line w/No Fault	5.7	6.02	6.502	7.5	7.594	8.087	2.9	1.721	Action Plan. Install shunt capacitor
CC-VD-39	TEXACO 60 kV	P2-1:A19:90:_TEXCO J1-OILFLDS #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	9.1	8.76	9.215	9.6	8.975	9.014	7.7	6.741	Action Plan. Install shunt capacitor
CC-VD-40	BRIGTANO 115 kV	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	<5.0	<5.0	<5.0	<5.0	7.65	6.238	<5.0	<5.0	Monitor voltage deviation
CC-VD-41	CAMPHORA 60 kV	P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines	P7	DCTL	<5.0	5.443	6.021	<5.0	<5.0	<5.0	<5.0	<5.0	Monitor voltage deviation
CC-VD-42	CMP EVRS 115 kV	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	<5.0	<5.0	<5.0	<5.0	9.984	7.504	<5.0	<5.0	Monitor voltage deviation
CC-VD-43	GONZALES 60 kV	P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines	P7	DCTL	<5.0	5.505	6.098	<5.0	<5.0	<5.0	<5.0	<5.0	Monitor voltage deviation
CC-VD-44	GRANT RK 115 kV	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	<5.0	<5.0	<5.0	<5.0	7.756	6.316	<5.0	<5.0	Monitor voltage deviation
CC-VD-45	NATIVDAD 115 kV	P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines	P7	DCTL	N/A	5.253	5.787	N/A	<5.0	<5.0	N/A	<5.0	Monitor voltage deviation
CC-VD-46	PAUL SWT 115 kV	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	<5.0	<5.0	<5.0	<5.0	9.912	7.438	<5.0	<5.0	Monitor voltage deviation
CC-VD-47	ROB ROY 115 kV	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	<5.0	<5.0	<5.0	<5.0	9.885	7.446	<5.0	<5.0	Monitor voltage deviation
CC-VD-48	SALINAS 115 kV	P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines	P7	DCTL	5.7	6.943	7.562	<5.0	<5.0	<5.0	<5.0	<5.0	Monitor voltage deviation
CC-VD-49	SOLEDAD 60 kV	P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines	P7	DCTL	<5.0	5.41	5.985	<5.0	<5.0	<5.0	<5.0	<5.0	Monitor voltage deviation
CC-VD-50	SOLEDAD 115 kV	P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines	P7	DCTL	<5.0	5.404	5.978	<5.0	<5.0	<5.0	<5.0	<5.0	Monitor voltage deviation
CC-VD-51	WTSNVLE 115 kV	P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines	P7	DCTL	N/A	<5.0	<5.0	N/A	9.44	7.405	N/A	<5.0	Monitor voltage deviation

Study Area: **PG&E Central Coast**

High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)								Potential Mitigation Solutions
					2017 Summer Peak	2020 Summer Peak	2025 Summer Peak	2017 Winter Peak	2020 Winter Peak	2025 Winter Peak	2017 Spring Off-Peak	2020 Summer Light Load	
CC-V-1	BIG BASN 60 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.0587	1.07	Mitigation under investigation
CC-V-2	BURNS 60 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.0576	1.07	Mitigation under investigation
CC-V-3	COBURN 230 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.05	Mitigation under investigation
CC-V-4	CRUSHER 60 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.056	1.07	Mitigation under investigation
CC-V-5	CRZY_HRS 115 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.05	Mitigation under investigation
CC-V-6	CSTRVLLE 115 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.06	Mitigation under investigation
CC-V-7	DEL MNTE 115 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.06	Mitigation under investigation
CC-V-8	DOLAN RD 115 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.06	Mitigation under investigation
CC-V-9	ERTA 60 kV	Base Case	P0	N-0	<1.05	<1.05	>0.90	<1.05	>0.90	>0.90	1.0551	>0.90	Mitigation under investigation
CC-V-10	GONZALES 60 kV	Base Case	P0	N-0	<1.05	<1.05	>0.90	<1.05	<1.05	<1.05	<1.05	<1.05	Mitigation under investigation
CC-V-11	GREN VLY 60 kV	Base Case	P0	N-0	<1.05	<1.05	>0.90	<1.05	>0.90	>0.90	1.06	>0.90	Mitigation under investigation
CC-V-12	HOLLISTR 115 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.05	Mitigation under investigation
CC-V-13	HOLST D 115 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.05	Mitigation under investigation
CC-V-14	LONE STR 60 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.0567	1.07	Mitigation under investigation
CC-V-15	MOSLND D 115 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.06	Mitigation under investigation
CC-V-16	MOSLND E 115 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.06	Mitigation under investigation
CC-V-17	NATIVDAD 115 kV	Base Case	P0	N-0	>0.90	<1.05	<1.05	>0.90	<1.05	<1.05	>0.90	1.05	Mitigation under investigation
CC-V-18	PRUNEDLE 115 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.06	Mitigation under investigation
CC-V-19	SALINAS 115 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.05	Mitigation under investigation
CC-V-20	SNBENITO 115 kV	Base Case	P0	N-0	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	<1.05	1.05	Mitigation under investigation
CC-V-21	AGRILINK 60 kV	P1-3:A19:4:_Green Valley 115/60 Transformer #1	P1	N-1	0.85	>0.90	>0.90	0.84	>0.90	>0.90	>0.90	>0.90	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-V-22	BRIGTANO 60 kV	P1-3:A19:4:_Green Valley 115/60 Transformer #1	P1	N-1	0.88	>0.90	>0.90	0.88	>0.90	>0.90	>0.90	>0.90	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-V-23	ERTA 60 kV	P1-3:A19:4:_Green Valley 115/60 Transformer #1	P1	N-1	0.85	>0.90	>0.90	0.84	>0.90	>0.90	>0.90	>0.90	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-V-24	GRANT RK 60 kV	P1-3:A19:4:_Green Valley 115/60 Transformer #1	P1	N-1	0.87	>0.90	>0.90	0.87	>0.90	>0.90	>0.90	>0.90	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-V-25	GREN VLY 60 kV	P1-3:A19:4:_Green Valley 115/60 Transformer #1	P1	N-1	0.85	N/A	N/A	0.84	N/A	N/A	>0.90	N/A	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-V-26	WTSNVLLE 60 kV	P1-3:A19:4:_Green Valley 115/60 Transformer #1	P1	N-1	0.85	>0.90	>0.90	0.84	>0.90	>0.90	>0.90	>0.90	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-V-27	AGRILINK 60 kV	P2-4:A19:1:_GREEN VALLEY 115 kV CB 102	P2	Cbus/Circuit Breaker	0.86	>0.90	>0.90	0.84	>0.90	>0.90	0.92	>0.90	Action Plan. Activate Watsonville UVLS. Watsonville 115 kV Conversion Project
CC-V-28	BRIGTANO 60 kV	P2-4:A19:1:_GREEN VALLEY 115 kV CB 102	P2	Cbus/Circuit Breaker	0.88	>0.90	>0.90	0.88	>0.90	>0.90	0.94	>0.90	Action Plan. Activate Watsonville UVLS. Watsonville 115 kV Conversion Project
CC-V-29	CAMPHORA 60 kV	P2-4:A19:4:_MOSS LANDING 115 kV CB 500	P2	Cbus/Circuit Breaker	0.90	0.88	0.8646	0.94	0.94	0.93	0.98	1.00	Mitigation under review
CC-V-30	DOLAN RD 115 kV	P2-4:A19:4:_MOSS LANDING 115 kV CB 500	P2	Cbus/Circuit Breaker	0.92	0.89	0.8762	0.95	0.94	0.94	0.98	1.01	Mitigation under review
CC-V-31	ERTA 60 kV	P2-4:A19:1:_GREEN VALLEY 115 kV CB 102	P2	Cbus/Circuit Breaker	0.85	N/A	N/A	0.84	N/A	N/A	0.92	N/A	Action Plan. Activate Watsonville UVLS. Watsonville 115 kV Conversion Project
CC-V-32	GONZALES 60 kV	P2-4:A19:4:_MOSS LANDING 115 kV CB 500	P2	Cbus/Circuit Breaker	0.89	0.87	0.85	0.93	0.93	0.92	0.97	1.01	Action Plan. Install Shunt Capacitors
CC-V-33	GRANT RK 60 kV	P2-4:A19:1:_GREEN VALLEY 115 kV CB 102	P2	Cbus/Circuit Breaker	0.87	>0.90	>0.90	0.87	>0.90	>0.90	0.93	>0.90	Action Plan. Activate Watsonville UVLS. Watsonville 115 kV Conversion Project
CC-V-34	GREN VLY 60 kV	P2-4:A19:1:_GREEN VALLEY 115 kV CB 102	P2	Cbus/Circuit Breaker	0.85	N/A	N/A	0.84	N/A	N/A	0.92	N/A	Action Plan. Watsonville 115 kV Conversion Project
CC-V-35	SALINAS 115 kV	P2-4:A19:4:_MOSS LANDING 115 kV CB 500	P2	Cbus/Circuit Breaker	0.92	0.897	0.879	0.95	0.942	0.938	0.98	1.01	Mitigation under review

Study Area: **PG&E Central Coast**

High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)								Potential Mitigation Solutions
					2017 Summer Peak	2020 Summer Peak	2025 Summer Peak	2017 Winter Peak	2020 Winter Peak	2025 Winter Peak	2017 Spring Off-Peak	2020 Summer Light Load	
CC-V-36	SOLEDAD 115 kV	P2-4:A19:4:_MOSS LANDING 115 kV CB 500	P2	Cbus/Circuit Breaker	0.9124	0.8917	0.8716	0.9461	0.9404	0.9355	0.9808	1.01	Mitigation under review
CC-V-37	WTSNVLLE 60 kV	P2-4:A19:1:_GREEN VALLEY 115 kV CB 102	P2	Cbus/Circuit Breaker	0.8552	>0.90	>0.90	0.8415	>0.90	>0.90	0.9248	>0.90	Action Plan. Activate Watsonville UVLS. Watsonville 115 kV Conversion Project
CC-V-38	ERTA 60 kV	P2-1:A19:37:_GREN VLY-ERTA JCT #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	0.853	N/A	N/A	0.8427	N/A	N/A	>0.9	N/A	Action Plan. Watsonville UVLS/Watsonville 115 kV Voltage Conversion Project
CC-V-39	GRANT RK 60 kV	P2-1:A19:39:_CIC JCT-ERTA JCT #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	0.8804	N/A	N/A	0.8768	N/A	N/A	>0.9	N/A	Action Plan. Watsonville UVLS/Watsonville 115 kV Voltage Conversion Project
CC-V-40	AGRILINK 60 kV	P2-1:A19:40:_CIC JCT-AGRILINK #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	0.865	N/A	N/A	0.8562	N/A	N/A	>0.9	N/A	Action Plan. Watsonville UVLS/Watsonville 115 kV Voltage Conversion Project
CC-V-41	WTSNVLLE 60 kV	P2-1:A19:40:_CIC JCT-AGRILINK #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	0.865	N/A	N/A	0.8563	N/A	N/A	>0.9	N/A	Action Plan. Watsonville UVLS/Watsonville 115 kV Voltage Conversion Project
CC-V-42	BRIGTANO 60 kV	P2-1:A19:42:_WTSNVLLE-AGRILINK #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	0.8904	N/A	N/A	0.887	N/A	N/A	>0.9	N/A	Action Plan. Watsonville UVLS/Watsonville 115 kV Voltage Conversion Project
CC-V-43	FIRESTNE 60 kV	P2-1:A19:45:_SALINAS1-FREXP JT #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	0.8709	0.8748	0.8579	N/A	>0.9	>0.9	>0.9	>0.9	Action Plan. Watsonville UVLS/Watsonville 115 kV Voltage Conversion Project
CC-V-44	FRSHXPRS 60 kV	P2-1:A19:45:_SALINAS1-FREXP JT #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	0.8412	0.8451	0.8269	>0.9	>0.9	0.8949	>0.9	>0.9	Action Plan. Watsonville UVLS/Watsonville 115 kV Voltage Conversion Project
CC-V-45	BNA VSTA 60 kV	P2-1:A19:45:_SALINAS1-FREXP JT #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	0.8424	0.8463	0.8281	>0.9	>0.9	0.896	>0.9	>0.9	Action Plan. Watsonville UVLS/Watsonville 115 kV Voltage Conversion Project
CC-V-46	SPENCE 60 kV	P2-1:A19:45:_SALINAS1-FREXP JT #1 60 kV	P2-1	Var device/Open ended Line w/No Fault	0.8867	0.8905	0.8744	>0.9	>0.9	>0.9	>0.9	>0.9	Action Plan. Watsonville UVLS/Watsonville 115 kV Voltage Conversion Project
CC-V-47	GONZALES 60 kV	P1-1:A19:4:_BAF COG2 13.80 Generator ID 1 and P1-3:A19:1:_Moss Landing 500/230 kV Transformer #9	P3	L-1/G-1	>0.90	>0.90	0.8914	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-48	OILFLDS 60 kV	P1-1:A19:2:_SALNR GN 13.80 Generator ID 1 and P1-2:A19:57:_Coburn-Oil Fields #1 60 kV	P3	L-1/G-1	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	0.90	Monitor voltage
CC-V-49	SALN RVR 60 kV	P1-1:A19:2:_SALNR GN 13.80 Generator ID 1 and P1-2:A19:57:_Coburn-Oil Fields #1 60 kV	P3	L-1/G-1	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	0.90	Monitor voltage

Study Area: **PG&E Central Coast**

High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)								Potential Mitigation Solutions
					2017 Summer Peak	2020 Summer Peak	2025 Summer Peak	2017 Winter Peak	2020 Winter Peak	2025 Winter Peak	2017 Spring Off-Peak	2020 Summer Light Load	
CC-V-50	SARG CYN 60 kV	P1-1:A19:2: _SALNR GN 13.80 Generator ID 1 and P1-2:A19:57: _Coburn-Oil Fields #1 60 kV	P3	L-1/G-1	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	0.90	Monitor voltage
CC-V-51	TEXACO 60 kV	P1-1:A19:2: _SALNR GN 13.80 Generator ID 1 and P1-2:A19:57: _Coburn-Oil Fields #1 60 kV	P3	L-1/G-1	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	0.89	Monitor voltage
CC-V-52	MOSLND D 115 kV	P1-3:A19:1: _Moss Landing 500/230 kV Transformer #9 and P1-2:A18:1: _Spring-Moss Landing 230 kV	P6	N-1-1	>0.90	>0.90	0.89	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-53	MOSLND E 115 kV	P1-2:A18:1: _Spring-Moss Landing 230 kV and P1-3:A19:1: _Moss Landing 500/230 kV Transformer #9	P6	N-1-1	>0.90	>0.90	0.90	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-54	MOSSLND1 230 kV	P1-2:A18:1: _Spring-Moss Landing 230 kV and P1-3:A19:1: _Moss Landing 500/230 kV Transformer #9	P6	N-1-1	>0.90	>0.90	0.88	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-55	MOSSLND2 230 kV	P1-2:A18:1: _Spring-Moss Landing 230 kV and P1-3:A19:1: _Moss Landing 500/230 kV Transformer #9	P6	N-1-1	>0.90	>0.90	0.88	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-56	GREN VLY 60 kV	P1-3:A19:1: _Moss Landing 500/230 kV Transformer #9 and P1-3:A19:4: _Green Valley 115/60 Transformer #1	P6	N-1-1	0.844	>0.90	>0.90	0.83	>0.90	>0.90	0.89	>0.90	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-V-57	ERTA 60 kV	P1-2:A19:21: _Paul Sweet Statcom and P1-3:A19:4: _Green Valley 115/60 Transformer #1	P6	N-1-1	0.85	>0.90	>0.90	0.83	>0.90	>0.90	>0.90	>0.90	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-V-58	AGRILINK 60 kV	P1-3:A19:1: _Moss Landing 500/230 kV Transformer #9 and P1-3:A19:4: _Green Valley 115/60 Transformer #1	P6	N-1-1	0.84	>0.90	>0.90	0.83	>0.90	>0.90	0.89	>0.90	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-V-59	WTSNVLE 60 kV	P1-3:A19:1: _Moss Landing 500/230 kV Transformer #9 and P1-3:A19:4: _Green Valley 115/60 Transformer #1	P6	N-1-1	0.84	>0.90	>0.90	0.83	>0.90	>0.90	0.89	>0.90	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-V-60	GRANT RK 60 kV	P1-2:A19:28: _Moss Landing-Salinas #2 115 kV and P1-3:A19:4: _Green Valley 115/60 Transformer #1	P6	N-1-1	0.87	>0.90	>0.90	0.85	>0.90	>0.90	>0.90	>0.90	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-V-61	BRIGTANO 60 kV	P1-2:A19:28: _Moss Landing-Salinas #2 115 kV and P1-3:A19:4: _Green Valley 115/60 Transformer #1	P6	N-1-1	0.87	>0.90	>0.90	0.862	>0.90	>0.90	>0.90	>0.90	Action Plan. Watsonville 115 kV Voltage Conversion Project
CC-V-62	CRZY_HRS 115 kV	P1-2:A18:1: _Spring-Moss Landing 230 kV and P1-3:A19:1: _Moss Landing 500/230 kV Transformer #9	P6	N-1-1	>0.90	>0.90	0.8711	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-63	HOLLISTR 115 kV	P1-3:A19:1: _Moss Landing 500/230 kV Transformer #9 and P1-2:A18:9: _Metcalf-Moss Landing #1 230 kV	P6	N-1-1	>0.90	0.89	0.86	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-64	HOLST D 115 kV	P1-3:A19:1: _Moss Landing 500/230 kV Transformer #9 and P1-2:A18:9: _Metcalf-Moss Landing #1 230 kV	P6	N-1-1	>0.90	0.89	0.86	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-65	NATIVDAD 115 kV	P1-2:A18:9: _Metcalf-Moss Landing #1 230 kV and P1-3:A19:1: _Moss Landing 500/230 kV Transformer #9	P6	N-1-1	>0.90	0.8995	0.8741	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage

Study Area: **PG&E Central Coast**

High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)								Potential Mitigation Solutions
					2017 Summer Peak	2020 Summer Peak	2025 Summer Peak	2017 Winter Peak	2020 Winter Peak	2025 Winter Peak	2017 Spring Off-Peak	2020 Summer Light Load	
CC-V-66	SALINAS 115 kV	P1-2:A18:9:_Metcalf-Moss Landing #1 230 kV and P1-3:A19:1:_Moss Landing 500/230 kV Transformer #9	P6	N-1-1	>0.90	0.8972	0.8717	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-67	SALINAS2 60 kV	P1-2:A19:38:_Salinas 60 kV Bus Sectionalizing Breaker and P1-3:A19:5:_Salinas 115/60 kV Transformer #2	P6	N-1-1	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	0.88	>0.90	Monitor voltage
CC-V-68	SOLEDAD 115 kV	P1-3:A19:1:_Moss Landing 500/230 kV Transformer #9 and P1-2:A18:9:_Metcalf-Moss Landing #1 230 kV	P6	N-1-1	>0.90	0.87	0.84	>0.90	0.89	0.90	>0.90	>0.90	Monitor voltage
CC-V-69	GONZALES 60 kV	P1-3:A19:1:_Moss Landing 500/230 kV Transformer #9 and P1-2:A18:9:_Metcalf-Moss Landing #1 230 kV	P6	N-1-1	>0.90	0.86	0.83	>0.90	0.88	0.89	>0.90	>0.90	Monitor voltage
CC-V-70	CAMPORA 60 kV	P1-3:A19:1:_Moss Landing 500/230 kV Transformer #9 and P1-2:A18:9:_Metcalf-Moss Landing #1 230 kV	P6	N-1-1	>0.90	0.87	0.85	>0.90	0.89	0.89	>0.90	>0.90	Monitor voltage
CC-V-71	CSTRVLE 115 kV	P1-2:A18:1:_Spring-Moss Landing 230 kV and P1-3:A19:1:_Moss Landing 500/230 kV Transformer #9	P6	N-1-1	>0.90	>0.90	0.89	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-72	CMP EVRS 115 kV	P1-3:A19:1:_Moss Landing 500/230 kV Transformer #9 and P1-2:A18:1:_Spring-Moss Landing 230 kV	P6	N-1-1	>0.90	>0.90	0.90	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-73	PAUL SWT 115 kV	P1-2:A19:21:_Paul Sweet Statcom and P1-3:A19:1:_Moss Landing 500/230 kV Transformer #9	P6	N-1-1	>0.90	>0.90	0.90	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-74	ROB ROY 115 kV	P1-2:A18:1:_Spring-Moss Landing 230 kV and P1-3:A19:1:_Moss Landing 500/230 kV Transformer #9	P6	N-1-1	>0.90	>0.90	0.89	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-75	PRUNEDLE 115 kV	P1-2:A18:1:_Spring-Moss Landing 230 kV and P1-3:A19:1:_Moss Landing 500/230 kV Transformer #9	P6	N-1-1	>0.90	>0.90	0.88	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-76	SNBENITO 115 kV	P1-2:A18:9:_Metcalf-Moss Landing #1 230 kV and P1-3:A19:1:_Moss Landing 500/230 kV Transformer #9	P6	N-1-1	>0.90	0.8964	0.87	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-77	RSVTN RD 60 kV	P1-2:A19:38:_Salinas 60 kV Bus Sectionalizing Breaker and P1-3:A19:5:_Salinas 115/60 kV Transformer #2	P6	N-1-1	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	0.87	>0.90	Monitor voltage
CC-V-78	GABILAN 60 kV	P1-2:A19:38:_Salinas 60 kV Bus Sectionalizing Breaker and P1-3:A19:5:_Salinas 115/60 kV Transformer #2	P6	N-1-1	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	0.87	>0.90	Monitor voltage
CC-V-79	BORONDA 60 kV	P1-2:A19:38:_Salinas 60 kV Bus Sectionalizing Breaker and P1-3:A19:5:_Salinas 115/60 kV Transformer #2	P6	N-1-1	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	0.8791	>0.90	Monitor voltage

Study Area: **PG&E Central Coast**

High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)								Potential Mitigation Solutions
					2017 Summer Peak	2020 Summer Peak	2025 Summer Peak	2017 Winter Peak	2020 Winter Peak	2025 Winter Peak	2017 Spring Off-Peak	2020 Summer Light Load	
CC-V-80	DEL MNTE 115 kV	P1-2:A18:9:_Metcalf-Moss Landing #1 230 kV and P1-3:A19:1:_Moss Landing 500/230 kV Transformer #9	P6	N-1-1	>0.90	>0.90	0.88	>0.90	0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-81	DOLAN RD 115 kV	P1-2:A18:1:_Spring-Moss Landing 230 kV and P1-3:A19:1:_Moss Landing 500/230 kV Transformer #9	P6	N-1-1	>0.90	>0.90	0.90	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-82	LAURELES 60 kV	P1-3:A19:1:_Moss Landing 500/230 kV Transformer #9 and P1-2:A18:1:_Spring-Moss Landing 230 kV	P6	N-1-1	>0.90	>0.90	0.89	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-83	LAURELES 60 kV	P1-3:A19:5:_Salinas 115/60 kV Transformer #2 and P1-2:A19:38:_Salinas 60 kV Bus Sectionalizing Breaker	P6	N-1-1	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	0.86	>0.90	Monitor voltage
CC-V-84	OILFLDS 60 kV	P1-2:A19:57:_Coburn-Oil Fields #1 60 kV and P1-1:A19:2:_SALNR GN 13.80 Generator ID 1	P6	N-1-1	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	0.90	Monitor voltage
CC-V-85	OTTER 60 kV	P1-2:A18:1:_Spring-Moss Landing 230 kV and P1-3:A19:1:_Moss Landing 500/230 kV Transformer #9	P6	N-1-1	>0.90	>0.90	0.88	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-86	OTTER 60 kV	P1-2:A19:38:_Salinas 60 kV Bus Sectionalizing Breaker and P1-3:A19:5:_Salinas 115/60 kV Transformer #2	P6	N-1-1	>0.90	>0.90	>0.90	>0.90	>0.90	>0.90	0.86	>0.90	Monitor voltage
CC-V-87	CAMPHORA 60 kV	P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines	P7	DCTL	>0.90	>0.90	0.90	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage
CC-V-88	GONZALES 60 kV	P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines	P7	DCTL	>0.90	>0.90	0.89	>0.90	>0.90	>0.90	>0.90	>0.90	Monitor voltage



ID	Contingency	Category	Category Description	Transient Stability Performance								Potential Mitigation Solutions
				2017 Summer Peak	2020 Summer Peak	2025 Summer Peak	2017 Winter Peak	2020 Winter Peak	2025 Winter Peak	2017 Spring Off-Peak	2020 Summer Light Load	
CC-SP-TS-1	Moss Landing-Coburn 230 kV	P1-2	Delayed Clearing (Line)	Load Bus Voltage Dip> 30%; Load Bus Voltage Dip 20% for 22 Cycles; Frequency Dip below 59.0 Hz for 6 Cycles	Load Bus Voltage Dip> 30%	Load Bus Voltage Dip> 30%						Reassess with actual fault clearing times and SLG fault impedances where applicable.
CC-SP-TS-2	Moss Landing 115 kV Bus Section 1D	P2-2	Normal Clearing (Bus)	Load Bus Voltage Dip> 30%	Load Bus Voltage Dip> 30%	Load Bus Voltage Dip> 30%						Reassess with actual fault clearing times and SLG fault impedances where applicable.
CC-SP-TS-3	Moss Landing 115 kV CB 110	P2-4	Stuck breaker (Non bus-tie)	Load Bus Voltage Dip> 30%	Load Bus Voltage Dip> 30%	Load Bus Voltage Dip> 30%						Reassess with actual fault clearing times and SLG fault impedances where applicable.
CC-SP-TS-4	DUKMOSS1 18.00 Generator ID 1 and Mos	P3-2	Normal clearing (N-1/N-1)	Load Bus Voltage Dip> 30%; Load Bus Voltage Dip 20% for 22 Cycles	Load Bus Voltage Dip> 30%; Load Bus Voltage Dip 20% for 22 Cycles	Load Bus Voltage Dip> 30%; Load Bus Voltage Dip 20% for 22 Cycles						Reassess with actual fault clearing times and SLG fault impedances where applicable.

Study Area: PG&E Central Coast



Single Contingency Load Drop

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

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

Study Area: **PG&E Central Coast**



Single Source Substation with more than 100 MW Load

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

No single source substation with more than 100 MW Load