

Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)								Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2022 Summer Peak	2025 Summer Peak	2030 Summer Peak	2022 Winter Peak	2025 Winter Peak	2030 Winter Peak	2022 Spring Off-Peak	2025 Spring Off-Peak	2025 SP High CEC Forecast	2025 SpOP Hi Renew & Min Gas Gen	2022 SP Heavy Renewable & Min Gas Gen	2030 Retirement of QF Generations	2030 Summer Peak w/o Facility Rerates	
Atascadero-Cayucos 70 kV Line	MORRO BAY 230kV Bus (failure of non-redundent relay)	P5-5	Non Redundant Relay	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	33.61	Diverge	78.46	18.86	NA	Diverge	Add redundant relay
	MORRO BAY 230kV Bus (failure of non-redundent relay)	P5-5	Non Redundant Relay	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	33.61	Diverge	78.27	18.87	NA	Diverge	Add redundant relay
Atascadero-San Luis Obispo 70 kV Line	MORRO BAY 230kV Bus (failure of non-redundent relay)	P5-5	Non Redundant Relay	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	26.41	Diverge	70.86	10.2	NA	Diverge	Add redundant relay
Callendar Sw Sta-Mesa 115 kV Line	MORROBAY 230kV - Section 1E & 2E	P2-4	Internal Breaker Fault(Bus Tie Fault)	149.23	148.88	Diverge	99.86	104.75	Diverge	79.43	34.52	150.94	65.9	7.69	NA	Diverge	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MORRO BAY-MESA 230kV [5290] & MORRO BAY-DIABLO 230kV [5260]	P6	N-1-1	NA	126.57	151.15	NA	<100	119.15	NA	<100	129.09	NA	<100	NA	151.13	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MESA PGE 230/115kV TB 2 & MESA PGE 230/115kV TB 3	P6	N-1-1	NA	<100	115.96	NA	<100	<100	NA	<100	100.31	NA	<100	NA	114.88	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MESA PGE 230/115kV TB 3 & MESA PGE 230/115kV TB 2	P6	N-1-1	NA	<100	115.96	NA	<100	<100	NA	<100	100.31	NA	<100	NA	114.88	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	Morro Bay-Mesa and Diablo-Mesa 230 kV Lines	P7-1	DCTL	NA	128.48	0	NA	97.04	107.8	NA	31.94	131.05	NA	2.77	NA	0	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	Morro Bay-Mesa and Morro Bay-Diablo 230 kV Lines	P7-1	DCTL	NA	137.5	0	NA	97.38	119.18	NA	34.82	139.69	NA	8.73	NA	0	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
Crazy Horse-Natividad #1 115 kV Line	MOSS LANDING-SALINAS #2 115kV [2890] & SALINAS-MOSSLNSW-DOLAN RD 115kV [0]	P6	N-1-1	NA	136.4	146.48	NA	<100	<100	NA	<100	138.37	NA	<100	NA	146.47	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
	SALINAS-MOSSLNSW-DOLAN RD 115kV [0] & MOSS LANDING-SALINAS #2 115kV [2890]	P6	N-1-1	NA	136.4	146.48	NA	<100	<100	NA	<100	138.37	NA	<100	NA	146.47	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
	HORSE CANYON-SALINAS-SOLEDAD #2 115kV [2910] & MOSS LANDING-SALINAS #2 115kV [2890]	P6	N-1-1	NA	114.63	121.2	NA	<100	<100	NA	<100	116.13	NA	<100	NA	121.2	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
	Moss Landing - Salinas #1 and #2 115 kV Lines	P7-1	DCTL	NA	136.68	146.6	NA	81.7	91.89	NA	39.65	138.65	NA	34.27	NA	146.84	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan



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				2022 Summer Peak	2025 Summer Peak	2030 Summer Peak	2022 Winter Peak	2025 Winter Peak	2030 Winter Peak	2022 Spring Off-Peak	2025 Spring Off-Peak	2025 SP High CEC Forecast	2025 SpOP Hi Renew & Min Gas Gen	2022 SP Heavy Renewable & Min Gas Gen	2030 Retirement of QF Generations	2030 Summer Peak w/o Facility Rerates	
Crazy Horse-Natividad #1 115 kV Line (Natividad Sw 1-Salinas)	ANYON #2 115kV [2983] & MOSS LANDING-CRAZY HORSE CANYON #1 115kV [2930] MOAS	P6	N-1-1	NA	<100	103.16	NA	<100	<100	NA	<100	<100	NA	<100	NA	103.16	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
	MOSS LANDING-SALINAS #2 115kV [2890] & SALINAS-MOSSLNSW-DOLAN RD 115kV [0]	P6	N-1-1	NA	117.99	127.33	NA	<100	<100	NA	<100	119.68	NA	<100	NA	127.32	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
	SALINAS-MOSSLNSW-DOLAN RD 115kV [0] & MOSS LANDING-SALINAS #2 115kV [2890]	P6	N-1-1	NA	117.99	127.33	NA	<100	<100	NA	<100	119.68	NA	<100	NA	127.32	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
	Moss Landing - Crazy Horse #1 and #2 115 kV Lines	P7-1	DCTL	NA	93.77	103.12	NA	59.4	66.82	NA	3.97	95.18	NA	7.11	NA	103.16	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
	Moss Landing - Salinas #1 and #2 115 kV Lines	P7-1	DCTL	NA	118.3	127.47	NA	72.94	81.47	NA	40.33	119.99	NA	35.96	NA	127.73	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
Crazy Horse-Soledad 115 kV Line (Crazy Horse-Natividad Sw 2)	MOSS LANDING-SALINAS #2 115kV [2890] & SALINAS-MOSSLNSW-DOLAN RD 115kV [0]	P6	N-1-1	NA	136.4	146.48	NA	<100	<100	NA	<100	138.37	NA	<100	NA	146.47	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
	SALINAS-MOSSLNSW-DOLAN RD 115kV [0] & MOSS LANDING-SALINAS #2 115kV [2890]	P6	N-1-1	NA	136.4	146.48	NA	<100	<100	NA	<100	138.37	NA	<100	NA	146.47	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
	HORSE CANYON-SALINAS-SOLEDAD #1 115kV [2900] & MOSS LANDING-SALINAS #2 115kV [2890]	P6	N-1-1	NA	114.63	121.2	NA	<100	<100	NA	<100	116.13	NA	<100	NA	121.2	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
	Moss Landing - Salinas #1 and #2 115 kV Lines	P7-1	DCTL	NA	136.68	146.6	NA	81.7	91.89	NA	39.65	138.65	NA	34.27	NA	146.84	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
Crazy Horse-Soledad 115 kV Line (Natividad Sw 2-Salinas)	MOSS LANDING-SALINAS #2 115kV [2890] & SALINAS-MOSSLNSW-DOLAN RD 115kV [0]	P6	N-1-1	NA	117.99	127.33	NA	<100	<100	NA	<100	119.68	NA	<100	NA	127.32	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
	SALINAS-MOSSLNSW-DOLAN RD 115kV [0] & MOSS LANDING-SALINAS #2 115kV [2890]	P6	N-1-1	NA	117.99	127.33	NA	<100	<100	NA	<100	119.68	NA	<100	NA	127.32	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
	ANYON #1 115kV [2930] MOAS OPENED on PRNDL J1_PRUNEDLE & MOSS LANDING-CRAZY HORSE CANYON #1 115kV [2983]	P6	N-1-1	NA	<100	103.16	NA	<100	<100	NA	<100	<100	NA	<100	NA	103.16	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
	Moss Landing - Crazy Horse #1 and #2 115 kV Lines	P7-1	DCTL	NA	93.77	103.12	NA	59.4	66.82	NA	3.97	95.18	NA	7.11	NA	103.16	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
	Moss Landing - Salinas #1 and #2 115 kV Lines	P7-1	DCTL	NA	118.3	127.47	NA	72.94	81.47	NA	40.33	119.99	NA	35.96	NA	127.73	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
Morro Bay 230/115 Transformer No. 6	MESA_PGE 115kV - Section 2D & 1D	P2-4	Internal Breaker Fault(Bus Tie Fault)	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	84.11	34.82	Diverge	71.93	14.12	NA	Diverge	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MORROBAY 230kV - Section 1E & 2E	P2-4	Internal Breaker Fault(Bus Tie Fault)	129.4	127.94	Diverge	83.34	81	Diverge	80.54	28.95	129.7	68.17	12.9	NA	Diverge	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MORRO BAY-MESA 230kV [5290] & MORRO BAY-DIABLO 230kV [5260]	P6	N-1-1	NA	130.39	145.5	NA	<100	102.12	NA	<100	132.42	NA	<100	NA		Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MESA PGE 230/115kV TB 2 & MESA PGE 230/115kV TB 3	P6	N-1-1	NA	117.47	126.73	NA	<100	<100	NA	<100	119.3	NA	<100	NA		Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MESA PGE 230/115kV TB 3 & MESA PGE 230/115kV TB 2	P6	N-1-1	NA	117.47	126.73	NA	<100	<100	NA	<100	119.3	NA	<100	NA		Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	Morro Bay-Mesa and Diablo-Mesa 230 kV Lines	P7-1	DCTL	NA	135.16	55.33	NA	89.93	98.83	NA	35.32	137.42	NA	14.31	NA	1.16	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan



Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)								Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2022 Summer Peak	2025 Summer Peak	2030 Summer Peak	2022 Winter Peak	2025 Winter Peak	2030 Winter Peak	2022 Spring Off-Peak	2025 Spring Off-Peak	2025 SP High CEC Forecast	2025 SpOP Hi Renew & Min Gas Gen	2022 SP Heavy Renewable & Min Gas Gen	2030 Retirement of QF Generations	2030 Summer Peak w/o Facility Rerates	
	Morro Bay-Mesa and Morro Bay-Diablo 230 kV Lines	P7-1	DCTL	NA	137.59	55.02	NA	91.13	102.28	NA	37.42	139.48	NA	17.97	NA	1.16	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan

Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)								Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2022 Summer Peak	2025 Summer Peak	2030 Summer Peak	2022 Winter Peak	2025 Winter Peak	2030 Winter Peak	2022 Spring Off-Peak	2025 Spring Off-Peak	2025 SP High CEC Forecast	2025 SpOP Hi Renew & Min Gas Gen	2022 SP Heavy Renewable & Min Gas Gen	2030 Retirement of QF Generations	2030 Summer Peak w/o Facility Rerates	
San Luis Obispo-Callendar Sw Sta 115 kV Line	MORROBAY 230kV - Section 1E & 2E	P2-4	Internal Breaker Fault(Bus Tie Fault)	139.63	144.82	Diverge	101.92	105.57	Diverge	88.16	26.36	147.13	59.71	8.32	NA	Diverge	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MORRO BAY-MESA 230kV [5290] & MORRO BAY-DIABLO 230kV [5260]	P6	N-1-1	NA	126.69	146.9	NA	100.23	116.72	NA	<100	128.96	NA	<100	NA	146.88	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MESA PGE 230/115kV TB 2 & MESA PGE 230/115kV TB 3	P6	N-1-1	NA	108.7	121.85	NA	<100	<100	NA	<100	110.75	NA	<100	NA	120.9	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MESA PGE 230/115kV TB 3 & MESA PGE 230/115kV TB 2	P6	N-1-1	NA	108.7	121.85	NA	<100	<100	NA	<100	110.75	NA	<100	NA	120.9	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	Morro Bay-Mesa and Diablo-Mesa 230 kV Lines	P7-1	DCTL	NA	131.63	44.72	NA	98.28	110.22	NA	24.31	134.32	NA	6.2	NA	44.72	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	Morro Bay-Mesa and Morro Bay-Diablo 230 kV Lines	P7-1	DCTL	NA	135.3	44.97	NA	100.27	116.99	NA	26.6	137.6	NA	9.01	NA	44.97	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
San Luis Obispo-Mesa 115 kV Line (Oceano-Callender Sw. Sta)	MORROBAY 230kV - Section 1E & 2E	P2-4	Internal Breaker Fault(Bus Tie Fault)	150.07	158.17	Diverge	102.03	107.07	Diverge	85.26	34.09	160.33	67.81	4.32	NA	Diverge	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MORRO BAY-MESA 230kV [5290] & MORRO BAY-DIABLO 230kV [5260]	P6	N-1-1	NA	135.38	156.04	NA	<100	122.9	NA	<100	137.96	NA	<100	NA	156.02	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MESA PGE 230/115kV TB 2 & MESA PGE 230/115kV TB 3	P6	N-1-1	NA	107.32	121.01	NA	<100	<100	NA	<100	109.31	NA	<100	NA	119.92	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MESA PGE 230/115kV TB 3 & MESA PGE 230/115kV TB 2	P6	N-1-1	NA	107.32	121.01	NA	<100	<100	NA	<100	109.31	NA	<100	NA	119.92	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	Morro Bay-Mesa and Diablo-Mesa 230 kV Lines	P7-1	DCTL	NA	137.56	7.26	NA	97.9	112.07	NA	31.96	140.24	NA	1.76	NA	7.26	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	Morro Bay-Mesa and Morro Bay-Diablo 230 kV Lines	P7-1	DCTL	NA	146.37	7.3	NA	100.1	123.14	NA	34.34	148.64	NA	5.22	NA	7.3	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
San Luis Obispo-Santa Maria 115 kV Line	MESA_PGE 115kV - Section 2D & 1D	P2-4	Internal Breaker Fault(Bus Tie Fault)	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	148.89	64.25	Diverge	117.88	6.31	NA	Diverge	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MORROBAY 230kV - Section 1E & 2E	P2-4	Internal Breaker Fault(Bus Tie Fault)	191.99	196.89	Diverge	146.87	152.75	Diverge	116.37	40.93	199.94	86.89	9.89	NA	Diverge	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MORRO BAY 230kV Bus (failure of non-redundent relay)	P5-5	Non Redundant Relay	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	68.62	Diverge	183.87	5.1	NA	Diverge	Add redundant relay
	MORRO BAY-MESA 230kV [5290] & MORRO BAY-DIABLO 230kV [5260]	P6	N-1-1	NA	171.39	200.03	NA	144.47	169.83	NA	<100	174.54	NA	<100	NA	200.01	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MESA PGE 230/115kV TB 2 & MESA PGE 230/115kV TB 3	P6	N-1-1	NA	145.37	164.3	NA	128.16	142.95	NA	<100	148.09	NA	<100	NA	162.99	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MESA PGE 230/115kV TB 3 & MESA PGE 230/115kV TB 2	P6	N-1-1	NA	145.37	164.3	NA	128.16	142.95	NA	<100	148.09	NA	<100	NA	162.99	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	Morro Bay-Mesa and Diablo-Mesa 230 kV Lines	P7-1	DCTL	NA	177.76	0	NA	142.32	159.39	NA	38.28	181.35	NA	4.94	NA	0	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan



Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)								Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2022 Summer Peak	2025 Summer Peak	2030 Summer Peak	2022 Winter Peak	2025 Winter Peak	2030 Winter Peak	2022 Spring Off-Peak	2025 Spring Off-Peak	2025 SP High CEC Forecast	2025 SpOP Hi Renew & Min Gas Gen	2022 SP Heavy Renewable & Min Gas Gen	2030 Retirement of QF Generations	2030 Summer Peak w/o Facility Rerates	
	Morro Bay-Mesa and Morro Bay-Diablo 230 kV Lines	P7-1	DCTL	NA	183.56	0	NA	144.62	170.15	NA	41.25	186.63	NA	11	NA	0	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan



Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)								Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2022 Summer Peak	2025 Summer Peak	2030 Summer Peak	2022 Winter Peak	2025 Winter Peak	2030 Winter Peak	2022 Spring Off-Peak	2025 Spring Off-Peak	2025 SP High CEC Forecast	2025 SpOP Hi Renew & Min Gas Gen	2022 SP Heavy Renewable & Min Gas Gen	2030 Retirement of QF Generations	2030 Summer Peak w/o Facility Rerates	
Santa Maria-Sisquoc 115 kV Line	MESA_PGE 115kV - Section 2D & 1D	P2-4	Internal Breaker Fault(Bus Tie Fault)	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	75.69	35.96	Diverge	54.62	10.7	NA	Diverge	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
Sisquoc-Santa Ynez 115 kV	MESA_PGE 115kV - Section 2D & 1D	P2-4	Internal Breaker Fault(Bus Tie Fault)	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	70.86	15.89	Diverge	40.77	14.48	NA	Diverge	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
Sisquoc-Santa Ynez Sw Sta 115 kV Line (Santa Ynez Sw Sta-Zaca)	MESA_PGE 115kV - Section 2D & 1D	P2-4	Internal Breaker Fault(Bus Tie Fault)	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	64.31	11.7	Diverge	32.89	18.59	NA	Diverge	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	Mesa-Divide #1 and #2 115 kV Lines	P7-1	DCTL	NA	46.58	49.94	NA	45.39	46.65	NA	11.58	47.37	NA	18.48	NA	107.64	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
Sisquoc-Santa Ynez Sw Sta 115 kV Line (Sisquoc-Palmer)	MESA_PGE 115kV - Section 2D & 1D	P2-4	Internal Breaker Fault(Bus Tie Fault)	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	74.44	17.41	Diverge	44.87	13.02	NA	Diverge	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	Mesa-Divide #1 and #2 115 kV Lines	P7-1	DCTL	NA	59.71	63.13	NA	54.45	55.73	NA	17.31	60.59	NA	12.88	NA	117.22	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
Temblor-San Luis Obispo 115 kV Line (Carrizo-San Luis Obispo)	MORROBAY 230kV - Section 1E & 2E	P2-4	Internal Breaker Fault(Bus Tie Fault)	103.82	109.73	Diverge	85.04	92.21	Diverge	104.95	31.43	111.38	43.24	12.35	NA	Diverge	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
	MORRO BAY 230kV Bus (failure of non-redundent relay)	P5-5	Non Redundant Relay	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	60.75	Diverge	138.93	20.82	NA	Diverge	Add redundant relay
Templeton 230/70 kV Transformer	MORRO BAY 230kV Bus (failure of non-redundent relay)	P5-5	Non Redundant Relay	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	10.91	Diverge	67.06	0	NA	Diverge	Add redundant relay
Templeton-Atascadero 70 kV Line	MORRO BAY 230kV Bus (failure of non-redundent relay)	P5-5	Non Redundant Relay	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	36.15	Diverge	90.97	8.97	NA	Diverge	Add redundant relay
	MORRO BAY 230kV Bus (failure of non-redundent relay)	P5-5	Non Redundant Relay	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	36.12	Diverge	90.95	8.97	NA	Diverge	Add redundant relay

Study Area: PG&E Central Coast  
PG&E Los Padres

Low Voltages



Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)								Voltage PU (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2022 Summer Peak	2025 Summer Peak	2030 Summer Peak	2022 Winter Peak	2025 Winter Peak	2030 Winter Peak	2022 Spring Off-Peak	2025 Spring Off-Peak	2025 SP High CEC Forecast	2025 SpOP Hi Renew & Min Gas Gen	2022 SP Heavy Renewable & Min Gas Gen	2030 Retirement of QF Generations	2030 Summer Peak w/o Facility Rerates	
9 ST JCT 60 kV	CRAZY HORSE CANYON-SALINAS-SOLEDAD #1 115kV [2900]	P1-2	N-1	NA	0.90	0.92	NA	> 0.9	0.95	NA	1.00	0.90	NA	1.01	NA	0.92	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
GONZALES 60 kV		P1-2	N-1	NA	0.90	0.92	NA	> 0.9	0.95	NA	1.00	0.90	NA	1.01	NA	0.92	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
9 ST JCT 60 kV	CRAZY HORSE CANYON-SALINAS-SOLEDAD #2 115kV [2910]	P1-2	N-1	NA	0.90	0.92	NA	> 0.9	0.95	NA	1.00	0.90	NA	1.01	NA	0.92	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
GONZALES 60 kV		P1-2	N-1	NA	0.90	0.92	NA	> 0.9	0.95	NA	1.00	0.90	NA	1.01	NA	0.92	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
SAN MIGL 70 kV	SAN MIGL-UNIONPGAE #1 70kV [0]	P1-2	N-1	NA	0.90	0.87	NA	> 0.9	0.90	NA	1.07	0.90	NA	1.08	NA	0.87	Continue to monitor
9 ST JCT 60 kV	CRAZY HORSE CANYON-SALINAS-SOLEDAD #1 115kV [2900] (NTVD SW1-SOLEDAD)	P2-1	Line Section w/o Fault	0.95	0.90	0.92	NA	0.99	0.95	0.97	1.00	0.90	0.99	1.01	NA	0.92	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
GONZALES 60 kV		P2-1	Line Section w/o Fault	0.95	0.90	0.92	NA	0.99	0.95	0.97	1.00	0.90	0.98	1.01	NA	0.92	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
9 ST JCT 60 kV	CRAZY HORSE CANYON-SALINAS-SOLEDAD #2 115kV [2910] (NTVD SW2-SOLEDAD)	P2-1	Line Section w/o Fault	0.95	0.90	0.92	NA	0.99	0.95	0.97	1.00	0.90	0.99	1.01	NA	0.92	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
GONZALES 60 kV		P2-1	Line Section w/o Fault	0.95	0.90	0.92	NA	0.99	0.95	0.97	1.00	0.90	0.98	1.01	NA	0.92	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
9 ST JCT 60 kV	CRZY_HRS 115kV - Middle Breaker Bay 3	P2-3	Non-Bus Tie Breaker	0.94	0.89	0.91	NA	0.99	0.94	0.97	1.00	0.89	0.98	1.01	NA	0.91	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
GONZALES 60 kV		P2-3	Non-Bus Tie Breaker	0.94	0.89	0.91	NA	0.99	0.94	0.96	1.00	0.89	0.98	1.01	NA	0.91	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
CMPHR J1 60 kV		P2-3	Non-Bus Tie Breaker	0.95	0.89	0.91	NA	0.99	0.94	0.97	1.00	0.89	0.99	1.01	NA	0.91	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
9 ST JCT 60 kV	CRZY_HRS 115kV - Middle Breaker Bay 4	P2-3	Non-Bus Tie Breaker	0.95	0.90	0.92	NA	0.99	0.95	0.97	1.00	0.90	0.98	1.01	NA	0.92	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
GONZALES 60 kV		P2-3	Non-Bus Tie Breaker	0.95	0.90	0.92	NA	0.99	0.95	0.97	1.00	0.90	0.98	1.01	NA	0.92	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
9 ST JCT 60 kV	SALINAS 115kV - Middle Breaker Bay 3	P2-3	Non-Bus Tie Breaker	0.95	0.90	0.92	NA	0.99	0.95	0.97	1.01	0.90	0.99	1.01	NA	0.92	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
GONZALES 60 kV		P2-3	Non-Bus Tie Breaker	0.95	0.90	0.92	NA	0.99	0.95	0.97	1.01	0.90	0.98	1.01	NA	0.92	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
9 ST JCT 60 kV		P2-3	Non-Bus Tie Breaker	0.95	0.90	0.92	NA	0.99	0.95	0.97	1.00	0.90	0.99	1.01	NA	0.92	Sensitivity Olmy
GONZALES 60 kV		P2-3	Non-Bus Tie Breaker	0.95	0.90	0.92	NA	0.99	0.95	0.97	1.00	0.90	0.98	1.01	NA	0.92	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
DIABLOCN 230 kV	MORROBAY 230kV - Section 1E & 2E	P2-4	Bus-Tie Breaker	0.97	0.96	0.46	NA	1.01	0.55	1.02	1.21	0.96	1.01	1.22	NA	0.46	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
MESA PGE 230 kV		P2-4	Bus-Tie Breaker	0.94	0.93	0.45	NA	1.01	0.54	1.01	1.21	0.93	1.01	1.22	NA	0.45	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
SAN MIGL 70 kV	BAF COG2 13.80kV Gen Unit 1 & SANMIGL-UNIONPGAE#170kV[0]	P3	G-1/N-1	NA	> 0.9	0.87	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Continue to monitor
9 ST JCT 60 kV	DUKMOSS1 18.00kV & DUKMOSS2 18.00kV & DUKMOSS3 18.00kV Gen Units & CRAZYHORSECANYON-SALINAS-SOLEDAD#1115kV[2900]	P3	G-1/N-1	NA	0.90	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	0.89	NA	> 0.9	NA	> 0.9	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
GONZALES 60 kV		P3	G-1/N-1	NA	0.90	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	0.89	NA	> 0.9	NA	> 0.9	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
CMPHR J1 60 kV		P3	G-1/N-1	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	0.90	NA	> 0.9	NA	> 0.9	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan



Study Area: PG&E Central Coast  
PG&E Los Padres

Low Voltages



Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)								Voltage PU (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2022 Summer Peak	2025 Summer Peak	2030 Summer Peak	2022 Winter Peak	2025 Winter Peak	2030 Winter Peak	2022 Spring Off-Peak	2025 Spring Off-Peak	2025 SP High CEC Forecast	2025 SpOP Hi Renew & Min Gas Gen	2022 SP Heavy Renewable & Min Gas Gen	2030 Retirement of QF Generations	2030 Summer Peak w/o Facility Rerates	
9 ST JCT 60 kV	DUKMOSS1 18.00kV & DUKMOSS2 18.00kV & DUKMOSS3 18.00kV Gen Units & CRAZYHORSECANYON-SALINAS-SOLEDAD#2115kV[2910]	P3	G-1/N-1	NA	0.90	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	0.89	NA	> 0.9	NA	> 0.9	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
GONZALES 60 kV		P3	G-1/N-1	NA	0.90	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	0.89	NA	> 0.9	NA	> 0.9	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
CMPHR J1 60 kV		P3	G-1/N-1	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	0.90	NA	> 0.9	NA	> 0.9	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
SAN MIGL 70 kV	DUKMOSS1 18.00kV & DUKMOSS2 18.00kV & DUKMOSS3 18.00kV Gen Units & SANMIGL-UNIONPGAE#170kV[0]	P3	G-1/N-1	NA	> 0.9	0.87	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Continue to monitor
SAN MIGL 70 kV	DUKMOSS4 18.00kV & DUKMOSS5 18.00kV & DUKMOSS6 18.00kV Gen Units & SANMIGL-UNIONPGAE#170kV[0]	P3	G-1/N-1	NA	> 0.9	0.87	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Continue to monitor
TEXCO J2 60 kV	SALNR GN 13.80kV Gen Unit 1 & COBURN-OILFIELDS#160kV[6410]	P3	G-1/N-1	NA	> 0.9	0.87	NA	> 0.9	0.88	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Continue to monitor
OILFLDS 60 kV		P3	G-1/N-1	NA	> 0.9	0.87	NA	> 0.9	0.88	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Continue to monitor
CHVSANARDO 60 kV		P3	G-1/N-1	NA	> 0.9	0.86	NA	> 0.9	0.87	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.86	Continue to monitor
SARG CYN 60 kV		P3	G-1/N-1	NA	> 0.9	0.87	NA	> 0.9	0.88	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Continue to monitor
SALN RVR 60 kV		P3	G-1/N-1	NA	> 0.9	0.87	NA	> 0.9	0.88	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Continue to monitor
AERA_ENG 60 kV		P3	G-1/N-1	NA	> 0.9	0.87	NA	> 0.9	0.88	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Continue to monitor
AERA_MTR 60 kV	SALNR GN 13.80kV Gen Unit 1 & COBURN-OILFIELDS#160kV[6410]	P3	G-1/N-1	NA	> 0.9	0.87	NA	> 0.9	0.88	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Continue to monitor
AERA_TP1 60 kV		P3	G-1/N-1	NA	> 0.9	0.87	NA	> 0.9	0.88	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Continue to monitor
AERA_TP2 60 kV		P3	G-1/N-1	NA	> 0.9	0.87	NA	> 0.9	0.88	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Continue to monitor
AERA_TP3 60 kV		P3	G-1/N-1	NA	> 0.9	0.87	NA	> 0.9	0.88	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Continue to monitor
TEXCO J1 60 kV	SALNR GN 13.80kV Gen Unit 1 & COBURN-OILFIELDS#260kV[6420]	P3	G-1/N-1	NA	> 0.9	0.90	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.90	Continue to monitor
OILFLDS 60 kV		P3	G-1/N-1	NA	> 0.9	0.90	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.90	Continue to monitor
CHVSANARDO 60 kV		P3	G-1/N-1	NA	> 0.9	0.89	NA	> 0.9	0.90	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.89	Continue to monitor
SARG CYN 60 kV		P3	G-1/N-1	NA	> 0.9	0.90	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.90	Continue to monitor
SALN RVR 60 kV		P3	G-1/N-1	NA	> 0.9	0.89	NA	> 0.9	0.90	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.89	Continue to monitor
AERA_ENG 60 kV		P3	G-1/N-1	NA	> 0.9	0.90	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.90	Continue to monitor
AERA_MTR 60 kV		P3	G-1/N-1	NA	> 0.9	0.90	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.90	Continue to monitor
AERA_TP1 60 kV		P3	G-1/N-1	NA	> 0.9	0.90	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.90	Continue to monitor
AERA_TP2 60 kV		P3	G-1/N-1	NA	> 0.9	0.90	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.90	Continue to monitor
AERA_TP3 60 kV		P3	G-1/N-1	NA	> 0.9	0.90	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.90	Continue to monitor
SAN MIGL 70 kV	TEMPLETN 230.00kV Gen Unit VW & SANMIGL-UNIONPGAE#170kV[0]	P3	G-1/N-1	NA	> 0.9	> 0.9	NA	> 0.9	0.90	NA	> 0.9	> 0.9	NA	> 0.9	NA	> 0.9	Continue to monitor



Study Area: PG&E Central Coast  
PG&E Los Padres

Low Voltages



Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)								Voltage PU (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2022 Summer Peak	2025 Summer Peak	2030 Summer Peak	2022 Winter Peak	2025 Winter Peak	2030 Winter Peak	2022 Spring Off-Peak	2025 Spring Off-Peak	2025 SP High CEC Forecast	2025 SpOP Hi Renew & Min Gas Gen	2022 SP Heavy Renewable & Min Gas Gen	2030 Retirement of QF Generations	2030 Summer Peak w/o Facility Rerates	
OCEANO 115 kV	CALLENDAR SW STA-MESA 115kV [1210] & MORROBAY230/115kVTB6	P6	N-1-1	NA	> 0.9	0.87	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
UNIONOIL 115 kV		P6	N-1-1	NA	> 0.9	0.87	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
CALLENDERSS 115 kV		P6	N-1-1	NA	> 0.9	0.87	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
SAN MIGL 70 kV	DUKE ML1-MOSSLSNW #1 230kV [0] & SANMIGL-UNIONPGAE#170kV[0]	P6	N-1-1	NA	> 0.9	0.87	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Continue to monitor
SAN MIGL 70 kV		P6	N-1-1	NA	> 0.9	0.87	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Continue to monitor
CMPHR J1 60 kV	GREENVALLEY 115/60kV TB 1 & CRAZYHORSECANYON-SALINAS-SOLEDAD#1115kV[2900]	P6	N-1-1	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	0.90	NA	> 0.9	NA	> 0.9	Adjust Transformer Tap Settings
CMPHR J1 60 kV		P6	N-1-1	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	0.90	NA	> 0.9	NA	> 0.9	Adjust Transformer Tap Settings
MESA PGE 230 kV	MORRO BAY-DIABLO 230kV [5260] & MORROBAY-MESA230kV[5290]	P6	N-1-1	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.88	Sensitivity Olnty
MESA PGE 230 kV	MORRO BAY-MESA 230kV [5290] & MORROBAY-DIABLO230kV[5260]	P6	N-1-1	NA	> 0.9	0.88	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.88	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
SAN MIGL 70 kV	MORRO BAY-TEMPLETON 230kV [5933] & SANMIGL-UNIONPGAE#170kV[0]	P6	N-1-1	NA	> 0.9	0.87	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
OCEANO 115 kV	MORROBAY 230/115kV TB 6 & CALLENDARSWSTA-MESA115kV[1210]	P6	N-1-1	NA	> 0.9	0.87	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
UNIONOIL 115 kV		P6	N-1-1	NA	> 0.9	0.87	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
CALLENDERSS 115 kV		P6	N-1-1	NA	> 0.9	0.87	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.87	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
OCEANO 115 kV	MORROBAY 230/115kV TB 6 & OCEANO-CALLENDARSWSTA115kV[2394]	P6	N-1-1	NA	> 0.9	0.88	NA	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.88	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
OCEANO 115 kV	OCEANO-CALLENDAR SW STA 115kV [2394] & MORROBAY230/115kVTB6	P6	N-1-1	NA	> 0.9	0.88	> 0.9	> 0.9	> 0.9	NA	> 0.9	> 0.9	NA	> 0.9	NA	0.88	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
9 ST JCT 60 kV	SOLEDAD 115/115kV TB 1 COPY2 & CRAZYHORSECANYON-SALINAS-SOLEDAD#1115kV[2900]	P6	N-1-1	NA	0.88	> 0.9	> 0.9	> 0.9	> 0.9	NA	> 0.9	0.88	NA	> 0.9	NA	> 0.9	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
GONZALES 60 kV		P6	N-1-1	NA	0.88	> 0.9	> 0.9	> 0.9	> 0.9	NA	> 0.9	0.88	NA	> 0.9	NA	> 0.9	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
CMPHR J1 60 kV		P6	N-1-1	NA	0.89	> 0.9	> 0.9	> 0.9	> 0.9	NA	> 0.9	0.89	NA	> 0.9	NA	> 0.9	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan

Study Area: PG&E Central Coast  
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Low Voltages



Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)								Voltage PU (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2022 Summer Peak	2025 Summer Peak	2030 Summer Peak	2022 Winter Peak	2025 Winter Peak	2030 Winter Peak	2022 Spring Off-Peak	2025 Spring Off-Peak	2025 SP High CEC Forecast	2025 SpOP Hi Renew & Min Gas Gen	2022 SP Heavy Renewable & Min Gas Gen	2030 Retirement of QF Generations	2030 Summer Peak w/o Facility Rerates	
9 ST JCT 60 kV	SOLEDAD 115/115kV TB 1 COPY2 & CRAZYHORSECANYON-SALINAS-SOLEDAD#2115kV[2910]	P6	N-1-1	NA	0.88	> 0.9	> 0.9	> 0.9	> 0.9	NA	> 0.9	0.88	NA	> 0.9	NA	> 0.9	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
GONZALES 60 kV		P6	N-1-1	NA	0.88	> 0.9	> 0.9	> 0.9	> 0.9	NA	> 0.9	0.88	NA	> 0.9	NA	> 0.9	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
CMPHR J1 60 kV		P6	N-1-1	NA	0.89	> 0.9	> 0.9	> 0.9	> 0.9	NA	> 0.9	0.89	NA	> 0.9	NA	> 0.9	Project: RAS Identified in 2018-2019 TPP In-service date: TBD Short term: Action plan
MESA PGE 230 kV	Morro Bay-Mesa and Diablo-Mesa 230 kV Lines	P7-1	DCTL	NA	0.92	NA	> 0.9	> 0.9	0.87	NA	1.08	0.91	NA	1.20	NA	NA	Project: North of Mesa Upgrades (On Hold) In-service date: TBD Short term: Action plan
9 ST JCT 60 kV	Moss Landing - Crazy Horse #1 and #2 115 kV Lines	P7-1	DCTL	NA	0.90	0.91	> 0.9	> 0.9	0.94	NA	1.01	0.90	NA	1.01	NA	0.91	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
GONZALES 60 kV		P7-1	DCTL	NA	0.90	0.91	> 0.9	> 0.9	0.94	NA	1.01	0.90	NA	1.01	NA	0.91	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
9 ST JCT 60 kV	Moss Landing - Salinas #1 and #2 115 kV Lines	P7-1	DCTL	NA	0.89	0.90	> 0.9	> 0.9	0.93	NA	1.00	0.89	NA	1.00	NA	0.90	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
GONZALES 60 kV		P7-1	DCTL	NA	0.89	0.90	> 0.9	> 0.9	0.93	NA	1.00	0.89	NA	1.00	NA	0.90	Project: RAS Identified in 2018-2019 TPP In-service date: TBD
CMPHR J1 60 kV		P7-1	DCTL	NA	0.89	0.90	> 0.9	> 0.9	0.93	NA	1.00	0.89	NA	1.01	NA	0.90	Project: RAS Identified in 2018-2019 TPP In-service date: TBD

Study Area: PG&E Central Coast  
Voltage Deviation PG&E Los Padres



Substation	Contingency (All and Worst P6)	Category	Category Description	Post Cont. Voltage Deviation % (Baseline Scenarios)								Post Cont. Voltage Deviation % (Sensitivity Scenarios)						Project & Potential Mitigation Solutions
				2022 Summer Peak	2025 Summer Peak	2030 Summer Peak	2022 Winter Peak	2025 Winter Peak	2030 Winter Peak	2022 Spring Off-Peak	2025 Spring Off-Peak	2025 SP High CEC Forecast	2025 SpOP Hi Renew & Min Gas Gen	2022 SP Heavy Renewable & Min Gas Gen	2030 Retirement of QF Generations	2030 Summer Peak w/o Facility Rerates		
WTSNVLL 60 kV	GREEN VALLEY-WATSONVILLE 60kV [6970]	P1-2	N-1	NA	10	8	NA	>-8,<8	7.2	NA	9	10	9	NA	NA	7.8	Adjust Transformer Tap Settings	
SAN MIGL 70 kV	SAN MIGL-UNIONPGAE #1 70kV [0]	P1-2	N-1	NA	9	11	NA	>-8,<8	9	NA	-4.3	9	-4.8	NA	NA	11	Continue to Monitor	
GREENVALLEY 60 kV	GREENVALLEY 115/60kV TB 1	P1-3	N-1	NA	13	10	NA	>-8,<8	9	NA	10	12	10	NA	NA	10	Adjust Transformer Tap Settings	
ERTA 60 kV	GREENVALLEY 115/60kV TB 1	P1-3	N-1	NA	12	10	NA	>-8,<8	9	NA	10	12	10	NA	NA	10	Adjust Transformer Tap Settings	
CIC JCT 60 kV	GREENVALLEY 115/60kV TB 1	P1-3	N-1	NA	12	9	NA	>-8,<8	8	NA	9	11	9	NA	NA	9	Adjust Transformer Tap Settings	
WTSNVLL 60 kV	GREENVALLEY 115/60kV TB 1	P1-3	N-1	NA	11	9	NA	>-8,<8	8	NA	9	11	9	NA	NA	9	Adjust Transformer Tap Settings	
ERTA JCT 60 kV	GREENVALLEY 115/60kV TB 1	P1-3	N-1	NA	12	10	NA	>-8,<8	9	NA	10	12	10	NA	NA	10	Adjust Transformer Tap Settings	
AGRILINK 60 kV	GREENVALLEY 115/60kV TB 1	P1-3	N-1	NA	11	9	NA	>-8,<8	8	NA	9	11	9	NA	NA	9	Adjust Transformer Tap Settings	
SAN MIGL 70 kV	BAF COG2 13.80kV Gen Unit 1 & SANMIGL-UNIONPGAE#170kV[0]	P3	G-1/N-1	NA	>-8,<8	12	NA	>-8,<8	>-8,<8	NA	>-8,<8	>-8,<8	>-8,<8	NA	NA	12	Continue to Monitor	
SAN MIGL 70 kV	DUKMOSS1 18.00kV & DUKMOSS2 18.00kV & DUKMOSS3 18.00kV Gen Units & SANMIGL-UNIONPGAE#170kV[0]	P3	G-1/N-1	NA	>-8,<8	12	NA	>-8,<8	>-8,<8	NA	>-8,<8	>-8,<8	>-8,<8	NA	NA	12	Continue to Monitor	
SAN MIGL 70 kV	DUKMOSS4 18.00kV & DUKMOSS5 18.00kV & DUKMOSS6 18.00kV Gen Units & SANMIGL-UNIONPGAE#170kV[0]	P3	G-1/N-1	NA	>-8,<8	12	NA	>-8,<8	>-8,<8	NA	>-8,<8	>-8,<8	>-8,<8	NA	NA	12	Continue to Monitor	
TEXCO J2 60 kV	SALNR GN 13.80kV Gen Unit 1 & COBURN-OILFIELDS#160kV[6410]	P3	G-1/N-1	NA	>-8,<8	9	NA	>-8,<8	9	NA	>-8,<8	>-8,<8	>-8,<8	NA	NA	9	Continue to Monitor	
OILFLDS 60 kV	SALNR GN 13.80kV Gen Unit 1 & COBURN-OILFIELDS#160kV[6410]	P3	G-1/N-1	NA	>-8,<8	9	NA	>-8,<8	9	NA	>-8,<8	>-8,<8	>-8,<8	NA	NA	9	Continue to Monitor	
CHVSANARDO 60 kV	SALNR GN 13.80kV Gen Unit 1 & COBURN-OILFIELDS#160kV[6410]	P3	G-1/N-1	NA	>-8,<8	9	NA	>-8,<8	9	NA	>-8,<8	>-8,<8	>-8,<8	NA	NA	9	Continue to Monitor	
SARG CYN 60 kV	SALNR GN 13.80kV Gen Unit 1 & COBURN-OILFIELDS#160kV[6410]	P3	G-1/N-1	NA	>-8,<8	9	NA	>-8,<8	9	NA	>-8,<8	>-8,<8	>-8,<8	NA	NA	9	Continue to Monitor	
SALN RVR 60 kV	SALNR GN 13.80kV Gen Unit 1 & COBURN-OILFIELDS#160kV[6410]	P3	G-1/N-1	NA	>-8,<8	9	NA	>-8,<8	9	NA	>-8,<8	>-8,<8	>-8,<8	NA	NA	9	Continue to Monitor	
AERA_ENG 60 kV	SALNR GN 13.80kV Gen Unit 1 & COBURN-OILFIELDS#160kV[6410]	P3	G-1/N-1	NA	>-8,<8	9	NA	>-8,<8	9	NA	>-8,<8	>-8,<8	>-8,<8	NA	NA	9	Continue to Monitor	
AERA_MTR 60 kV	SALNR GN 13.80kV Gen Unit 1 & COBURN-OILFIELDS#160kV[6410]	P3	G-1/N-1	NA	>-8,<8	9	NA	>-8,<8	9	NA	>-8,<8	>-8,<8	>-8,<8	NA	NA	9	Continue to Monitor	
AERA_TP1 60 kV	SALNR GN 13.80kV Gen Unit 1 & COBURN-OILFIELDS#160kV[6410]	P3	G-1/N-1	NA	>-8,<8	9	NA	>-8,<8	9	NA	>-8,<8	>-8,<8	>-8,<8	NA	NA	9	Continue to Monitor	
AERA_TP2 60 kV	SALNR GN 13.80kV Gen Unit 1 & COBURN-OILFIELDS#160kV[6410]	P3	G-1/N-1	NA	>-8,<8	9	NA	>-8,<8	9	NA	>-8,<8	>-8,<8	>-8,<8	NA	NA	9	Continue to Monitor	
AERA_TP3 60 kV	SALNR GN 13.80kV Gen Unit 1 & COBURN-OILFIELDS#160kV[6410]	P3	G-1/N-1	NA	>-8,<8	9	NA	>-8,<8	9	NA	>-8,<8	>-8,<8	>-8,<8	NA	NA	9	Continue to Monitor	
SAN MIGL 70 kV	TEMPLETN 230.00kV Gen Unit VW & SANMIGL-UNIONPGAE#170kV[0]	P3	G-1/N-1	NA	>-8,<8	>-8,<8	NA	>-8,<8	10	NA	>-8,<8	>-8,<8	>-8,<8	NA	NA	>-8,<8	Continue to Monitor	

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Transient Stability



Contingency	Category	Category Description	Transient Stability Performance					Potential Mitigation Solutions
			Baseline Scenarios			Sensitivity Scenarios		
			Select..	Select..	Select..	Select..	Select..	

In accordance with TPL-001-4- Requirement R2.6, this area relies on the past studies from the 2019-20 Transmission Planning Process for transient stability studies:  
<http://www.caiso.com/Documents/AppendixC-BoardApprovedt2019-2020TransmissionPlan.pdf>

Single Contingency Load Drop

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

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

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Single Source Substation with more than 100 MW Load

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

No single source substation with more than 100 MW