

Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)										Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions	
				2026 Summer Peak	2029 Summer Peak	2034 Summer Peak	2026 Winter Peak	2029 Winter Peak	2034 Winter Peak	2026 Spring Off-Peak	2029 Spring Off-Peak	2034 Spring Off-Peak	2039 Greater Bay area Summer Peak	2026 SP Heavy Renewable & Min Gas Gen	2026 OP Sensitivity	2029 SP High CEC Forecast	2034 South Bay HI-load	2039 Greater Bay area Summer Peak		
Birds Landing-CC Sub 230kV Line	GATEWAY1 18.00KV & GATEWAY2 18.00KV & GATEWAY3 18.00KV GEN UNITS and BIRDS LANDING SW STA-CONTRA COSTA PP 230KV [5830]	P3	G-1/N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	102	< 100	NA	Sensitivity only
Contra Costa-Lonetree 230kV Line	C.COSTAPPE - 2E 230KV & BVISTAWNDC1-DELTAPMP-C.COSTAPPE LINE	P2	Breaker	43	< 100	53	46	46	49	116	4	Diverge	3	0	< 100	51	Diverge	Diverge	Project: Lone Tree – Cayetano – Newark Corridor Series Compensation	
Contra Costa-Las Positas 230kV Line	MOSSLAND-LOSANOS 500KV and TESLA-METCALF 500KV	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	107	< 100	< 100	< 100	< 100	107	Continue to monitor	
Pittsburg-San Ramon 230kV Line	PITSBG D 230KV SECTION 1D	P2	Bus	33	< 100	< 100	49	< 100	< 100	5	< 100	< 100	< 100	101	47	< 100	< 100	< 100	Sensitivity only	
Pittsburg-TBC 230kV section	DEC STG1 18.00KV & DEC CTG1 18.00KV & DEC CTG2 18.00KV & DEC CTG3 18.00KV GEN UNITS	P1	N-1	93	93	100	92	92	94	93	92	Diverge	94	93	93	99	Diverge	Diverge	Continue to monitor	
North Dublin-Cayetano 230kV Cable	TESLA-METCALF 500KV	P1	N-1	81	79	88	50	41	77	44	25	Diverge	57	57	81	103	Diverge	Diverge	Sensitivity only	
	NEWARK D 230KV SECTION 1D	P2	Bus	86	106	108	55	70	91	48	43	134	64	54	109	121	132	Invalid results. Inaccurate contingency definition.		
	C.COSTAPPE 230KV SECTION 1E	P2	Bus	55	76	73	72	72	80	167	8	Diverge	11	15	67	79	Diverge	Diverge	Project: Lone Tree – Cayetano – Newark Corridor Series Compensation	
	NEWARK E 230KV - SECTION 1E & 2E	P2	Breaker	81	83	102	52	52	82	47	28	121	52	53	83	99	94	Continue to monitor		
	DEC STG1 18.00KV & DEC CTG1 18.00KV & DEC CTG2 18.00KV & DEC CTG3 18.00KV GEN UNITS and CONTRA COSTA-LAS POSITAS 230KV [4510]	P3	G-1/N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	105	NA	Sensitivity only	
	TESLA-NEWARK #2 230KV [5354] and CONTRA COSTA-LAS POSITAS 230KV [4510]	P6	N-1-1	< 100	< 100	107	< 100	< 100	< 100	< 100	< 100	< 100	100	< 100	< 100	< 100	< 100	NA	Continue to monitor	
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	DCTL	102	83	93	53	50	83	49	27	122	59	53	82	93	105	Project: Lone Tree – Cayetano – Newark Corridor Series Compensation		
Contra Costa-Moraga Nos. 1 & 2 230 KV lines	P7	DCTL	7	93	101	63	53	98	57	29	Diverge	63	15	91	94	Diverge	Continue to monitor			
North Dublin-Vineyard 230 kV Line	NEWARK D 230KV SECTION 1D	P2	Bus	94	118	86	61	77	75	56	51	105	72	64	122	100	103	Invalid results. Inaccurate contingency definition.		
	C.COSTAPPE 230KV SECTION 1E	P2	Bus	58	82	56	82	82	65	195	14	Diverge	12	22	72	62	Diverge	Project: North Dublin -Vineyard 230 kV Reconductoring		
	C.COSTAPPE 230KV SECTION 2E	P2	Bus	58	82	56	82	82	66	195	15	Diverge	12	22	10	62	Diverge	Project: North Dublin -Vineyard 230 kV Reconductoring		
	C.COSTAPPE - 1E 230KV & ROSSMOOR-MORAGA-C.COSTAPPE LINE	P2	Breaker	58	82	56	82	82	65	195	14	Diverge	12	22	72	62	Diverge	Project: North Dublin -Vineyard 230 kV Reconductoring		
	C.COSTAPPE - 2E 230KV & BVISTAWNDC1-DELTAPMP-C.COSTAPPE LINE	P2	Breaker	58	82	56	82	82	66	195	15	Diverge	12	22	10	62	Diverge	Project: North Dublin -Vineyard 230 kV Reconductoring		
	NEWARK D SECTION 1D & NEWARK E SECTION 1E 230KV	P2	Breaker	88	91	71	61	57	72	57	40	Diverge	66	68	101	79	Diverge	Sensitivity only		
	C.COSTAPPE 230KV - SECTION 1E & 2E	P2	Breaker	58	82	56	82	82	65	195	14	Diverge	12	22	72	62	Diverge	Project: North Dublin -Vineyard 230 kV Reconductoring		
	ROSSMOOR-MORAGA-C.COSTAPPE 230KV [0] and CONTRA COSTA-LAS POSITAS 230KV [4510]	P6	N-1-1	106	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	< 100	NA	Project: North Dublin -Vineyard 230 kV Reconductoring	
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	DCTL	114	91	73	61	55	68	57	34	95	66	62	90	74	80	Project: North Dublin -Vineyard 230 kV Reconductoring		
	Contra Costa-Moraga Nos. 1 & 2 230 KV lines	P7	DCTL	22	102	81	72	59	81	66	36	Diverge	71	22	100	75	Diverge	Project: North Dublin -Vineyard 230 kV Reconductoring		
Sobrante 230/115 kV Transformer #3	Base Case	P0	Base Case	NA	NA	101	NA	NA	103	NA	NA	73	NA	NA	NA	103	75	Continue to monitor		
	GRANT 115KV SECTION MD	P2	Bus	NA	NA	98	NA	NA	100	NA	NA	< 100	NA	NA	NA	96	< 100	Continue to monitor		
	MORAGA 230KV - SECTION 2D & 2E	P2	Breaker	NA	NA	99	NA	NA	101	NA	NA	100	NA	NA	NA	99	100	Continue to monitor		
	MORAGA 230KV - SECTION 2D & 1D	P2	Breaker	NA	NA	103	NA	NA	103	NA	NA	103	NA	NA	NA	104	100	Continue to monitor		
Moraga 230/115kV Transformer #1	Grant-Eastshore Nos. 1 & 2 115 KV lines	P7	DCTL	NA	NA	102	NA	NA	104	NA	NA	Diverge	NA	NA	NA	51	Diverge	Continue to monitor		
	MORAGAD SECTION 2D & MORAGA E SECTION 2E 115KV	P2	Breaker	107	91	109	74	78	113	72	45	141	108	70	109	93	141	Project: Moraga 230 kV Bus Upgrade		
Moraga 230/115kV Transformer #3	MORAGA 230/115KV TB 2 and MORAGA 230/115KV TB 3	P6	N-1-1	113	108	124	< 100	< 100	128	< 100	< 100	164	113	< 100	125	112	NA	Interim: Local generation and OCEI project. Long-term: Potential long-term North Oakland area transmission solution.		
	MORAGA 230KV SECTION 2D	P2	Bus	104	102	115	73	79	122	69	46	149	97	70	117	103	143	Interim: Local generation and OCEI project. Long-term: Potential long-term North Oakland area transmission solution.		
	MORAGA 230KV - SECTION 2D & 2E	P2	Breaker	NA	100	113	NA	75	114	NA	44	134	NA	NA	115	107	128	Project: Moraga 230 kV Bus Upgrade		
Moraga 230/115kV Transformer #3	MORAGA 230/115KV TB 1 and MORAGA 230/115KV TB 2	P6	N-1-1	113	107	124	< 100	< 100	128	< 100	< 100	163	113	< 100	125	112	NA	Interim: Local generation and OCEI project. Long-term: Potential long-term North Oakland area transmission solution.		
	TESLA-NEWARK #2 230KV [5354]	P1	N-1	77	73	85	32	30	57	33	21	Diverge	43	53	79	106	Diverge	Sensitivity only		
	NEWARK E 230KV SECTION 2E	P2	Bus	106	85	100	42	29	63	43	20	Diverge	66	72	91	119	Diverge	Project: Moraga-Castro Valley 230 kV Line Capacity Increase		
	NEWARK E - 2E 230KV & NEWARK E-TASSAJAR-RESEARCH LINE	P2	Breaker	106	86	101	42	29	63	43	20	98	67	73	92	119	96	Project: Moraga-Castro Valley 230 kV Line Capacity Increase		
Moraga 230/115kV Transformer #3	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	111	72	87	37	26	56	38	14	Diverge	45	61	78	121	Diverge	Project: Moraga-Castro Valley 230 kV Line Capacity Increase		







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				2026 Summer Peak	2029 Summer Peak	2034 Summer Peak	2026 Winter Peak	2029 Winter Peak	2034 Winter Peak	2026 Spring Off-Peak	2029 Spring Off-Peak	2039 Greater Bay area Summer Peak	2026 SP Heavy Renewable & Min Gas Gen	2026 OP Sensitivity	2029 SP High CEC Forecast	2034 South Bay HI-load	2039 Greater Bay area Summer Peak		
Monta Vista-Hicks 230 kV Line	METCALF-MONTA VISTA #3 230KV [5091] and MONTA VISTA-COYOTE SW STA 230KV [5090]	P6	N-1-1	< 100	< 100	112	< 100	< 100	103	< 100	< 100	140	< 100	< 100	< 100	115	NA	Continue to monitor	
	Metcalf-Monta Vista No. 3 & Monta Vista-Coyote Sw. Sta. 230 KV Line	P7	DCTL	73	NA	NA	59	NA	NA	57	NA	126	70	44	NA	104	127	Continue to monitor	
Saratoga-Vasona 230 kV Line	MONTAVIS 230KV - Section 1E & 2E	P2	Breaker	68	73	93	49	64	77	52	42	134	60	41	73	100	127	Continue to monitor	
	METCALF 230KV - Section 2D & 2E	P2	Breaker	91	64	104	58	52	103	61	42	130	81	41	64	94	136	Continue to monitor	
	MONTA VISTA-COYOTE SW STA 230KV [5090] and HICKS-METCALF 230KV [4910]	P6	N-1-1	< 100	< 100	115	< 100	< 100	< 100	< 100	< 100	145	< 100	< 100	< 100	118	NA	Continue to monitor	
	Metcalf-Monta Vista No. 3 & Monta Vista-Coyote Sw. Sta. 230 KV Line	P7	DCTL	72	77	98	51	67	80	54	43	133	64	42	77	106	134	Continue to monitor	
Contra Costa - BDLSTWA 230 kV Line	GATEWAY1 18.00KV & GATEWAY2 18.00KV & GATEWAY3 18.00KV GEN UNITS and BIRDS LANDING SW STA-CONTRA COSTA SUB 230KV [6161]	P3	G-1/N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	104	< 100	NA	Sensitivity only	
	GATEWAY1 18.00KV & GATEWAY2 18.00KV & GATEWAY3 18.00KV GEN UNITS and BIRDS LANDING SW STA-CONTRA COSTA SUB 230KV [6161]	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	104	< 100	NA	Sensitivity only	
Contra Costa - Wind Master 230 kV line	C.COSTAPPE 230KV SECTION 2E	P2	Bus	94	83	70	62	27	86	45	35	104	65	89	104	88	85	Continue to monitor	
	C.COSTAPPE - 2E 230KV & BVISTAWNDC1-DELTAPMP-C.COSTAPPE LINE	P2	Breaker	95	83	70	62	27	86	45	35	104	65	89	104	88	85	Continue to monitor	
	CONTRA COSTA-LAS POSITAS 230KV [4510] and CONTRA COSTA-MORAGA #2 230KV [5453]	P6	N-1-1	104	< 100	< 100	< 100	< 100	< 100	< 100	< 100	113	< 100	< 100	< 100	< 100	NA	Project: Collinsville 500 kv new Station	
Contra Costa-Windmaster 230 kV Line	C.COSTAPPE 230KV SECTION 1E	P2	Bus	124	100	62	86	18	94	58	43	99	55	144	133	107	75	Project: Contra Costa PP 230 kV Line Terminals Reconfiguration Project	
Lawrence - Phillips 115 kV line	C.COSTAPPF 230KV SECTION 2F	P2	Bus	44	40	5	62	15	33	50	7	Diverge	33	106	59	34	Diverge	Sensitivity only	
Contra Costa-Windmaster 230 kV Line	C.COSTAPPE - 1E 230KV & ROSSMOOR-MORAGA-C.COSTAPPE LINE	P2	Breaker	124	101	62	86	18	94	58	43	99	55	144	133	107	75	Project: Contra Costa PP 230 kV Line Terminals Reconfiguration Project	
Lawrence - Phillips 115 kV line	C.COSTAPPF - 2F 230KV & CONTRA COSTA-MORAGA #2 LINE	P2	Breaker	44	40	5	62	15	33	50	7	Diverge	33	107	59	34	Diverge	Sensitivity only	
	GATEWAY1 18.00KV & GATEWAY2 18.00KV & GATEWAY3 18.00KV GEN UNITS and BIRDS LANDING SW STA-CONTRA COSTA SUB 230KV [6161]	P3	G-1/N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	104	< 100	NA	Sensitivity only	
	Contra Costa-Las Positas 230 KV and North Dublin-Vineyard 230 KV lines	P7	DCTL	61	33	25	66	23	53	56	17	Diverge	8	104	46	61	Diverge	Sensitivity only	
	Contra Costa-Moraga Nos. 1 & 2 230 KV lines	P7	DCTL	129	53	23	68	25	59	58	17	Diverge	6	158	61	59	Diverge	Project: Lone Tree - Cayetano - Newark Corridor Series Compensation	
	Contra Costa - Las Positas 230 KV and Contra Costa-Lonetree 230 KV lines	P7	DCTL	64	22	29	66	24	52	56	15	Diverge	8	107	35	58	Diverge	Sensitivity only	
	Contra Costa - Las Positas 230 KV and Lonetree - Cayetano 230 KV lines	P7	DCTL	61	31	26	66	23	50	54	15	Diverge	9	106	47	54	Diverge	Sensitivity only	
	TABLE MT- TESLA 500KV and VACA-DIX- TESLA 500KV	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	130	< 100	< 100	< 100	Sensitivity only
Contra Costa - Rossmoor 230 kV line	CONTRA COSTA-LAS POSITAS 230KV [4510] and ROSSMOOR-MORAGA-C.COSTAPPE 230KV [0]	P6	N-1-1	101	< 100	< 100	< 100	< 100	< 100	< 100	< 100	108	< 100	< 100	< 100	< 100	NA	Project: Lone Tree - Cayetano - Newark Corridor Series Compensation	
Contra Costa - Brentwood 230 kV line	TABLE MT- TESLA 500KV and VACA-DIX- TESLA 500KV	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	105	< 100	< 100	< 100	Sensitivity only	
Los Esteros-Silicon Switching Station 230 kV Line	NEWARKHVDC-NEWARK D #1 230KV [0]	P1	N-1	NA	121	113	NA	101	102	NA	103	117	NA	NA	116	127	119	Interim: Operating solution (PST and HVDC setpoints adjustment). Long-term: Potential San Jose area long-term transmission upgrade.	
	FMC-SAN JOSE B 115KV [2021]	P1	N-1	NA	96	92	NA	78	79	NA	76	Diverge	NA	NA	92	105	Diverge	Sensitivity only	
	KIFER-FMC 115KV [2020]	P1	N-1	NA	93	89	NA	75	76	NA	74	Diverge	NA	NA	88	101	Diverge	Sensitivity only	
	LOS ESTEROS-NORTECH 115KV [4032]	P1	N-1	NA	98	99	NA	75	83	NA	62	< 100	NA	NA	94	113	< 100	Sensitivity only	
	NORTECH-NORTHERN RECEIVING STATION 115KV [1551]	P1	N-1	NA	93	95	NA	73	80	NA	60	101	NA	NA	89	106	NA	Continue to monitor	
	NRSHVDC-NRS 230KV [0] No Fault	P2	Line Section w/o Fault	NA	119	111	NA	99	100	NA	101	116	NA	NA	113	127	118	Interim: Operating solution (PST and HVDC setpoints adjustment). Long-term: Potential San Jose area long-term transmission upgrade.	
	NEWARK D 230KV SECTION 1D	P2	Bus	88	101	100	72	82	84	86	77	Diverge	87	85	96	110	Diverge	Invalid results. Inaccurate contingency definition.	
	NEWARK D - 2D 230KV & NEWARKHVDC-NEWARK D #1 LINE	P2	Breaker	NA	125	120	NA	104	107	NA	102	118	NA	NA	119	131	117	Interim: Operating solution (PST and HVDC setpoints adjustment). Long-term: Potential San Jose area long-term transmission upgrade.	
	LS ESTRS 115KV - Middle Breaker Bay 1	P2	Breaker	NA	98	99	NA	75	83	NA	62	< 100	NA	NA	94	113	< 100	Sensitivity only	
	NEWARK F 115KV - SECTION 2F & 1F	P2	Breaker	92	89	90	72	66	71	87	62	Diverge	91	88	85	111	Diverge	Sensitivity only	
Newark-Northern Nos. 1 & 2 115 KV lines	NEWARK D 230KV - SECTION 2D & 1D	P2	Breaker	NA	100	97	NA	79	82	NA	75	Diverge	NA	NA	96	108	Diverge	Interim: Operating solution (PST and HVDC setpoints adjustment). Long-term: Potential San Jose area long-term transmission upgrade.	
	MTCALF E1-25 25.00KV Gen Unit En and NEWARKHVDC-NEWARK D #1 230KV [0]	P3	G-1/N-1	< 100	< 100	115	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	122	Diverge	Potential San Jose area long-term transmission upgrade	
	NEWARKHVDC-NEWARK D #1 230KV [0] and FMC-SAN JOSE B 115KV [2021]	P6	N-1-1	< 100	126	120	< 100	107	109	< 100	107	110	< 100	< 100	120	131	NA	Interim: Operating solution (PST and HVDC setpoints adjustment). Long-term: Potential San Jose area long-term transmission upgrade.	
	Newark-Northern Nos. 1 & 2 115 KV lines	P7	DCTL	91	87	88	72	64	69	85	60	< 100	89	88	83	110	< 100	Sensitivity only	



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	SOBRANTE 115KV - SECTION 1D & 1E	P2	Breaker	68	NA	90	62	NA	109	44	NA	124	24	44	NA	83	129	Continue to monitor	
	RICHMOND1-25 25.00KV GEN UNIT V5 and SOBRANTE-R #1 115KV [3770]	P3	G-1/N-1	<100	<100	<100	<100	<100	106	<100	<100	NA	<100	<100	<100	<100	NA	Continue to monitor	
Claremont K - Oakland D #1 115kV Cable	K-D #2 115KV [9967] and C-X #2 115KV [9962]	P6	N-1-1	<100	<100	105	<100	<100	105	<100	<100	129	<100	<100	<100	105	NA	Potential North Oakland area long-term transmission upgrade	
Claremont K - Oakland D #2 115kV Cable	K-D #1 115KV [9966] and C-X #2 115KV [9962]	P6	N-1-1	<100	<100	103	<100	<100	102	<100	<100	127	<100	<100	<100	104	NA	Potential North Oakland area long-term transmission upgrade	
Oakland D - Oakland L 115kV Cable	OAK C115 115KV SECTION ME	P2	Bus	88	92	110	73	87	107	65	62	139	75	65	93	104	158	Potential North Oakland area long-term transmission upgrade	
	MORAGA.D 115KV SECTION 2D	P2	Bus	91	106	119	84	106	110	70	83	105	70	67	90	129	94	Interim: Local generation and OCEI project. Long-term: Potential long-term North Oakland area transmission solution.	
	MORAGA.E 115KV SECTION 2E	P2	Bus	101	106	123	84	96	116	74	75	154	90	71	100	107	101	Interim: Local generation and OCEI project. Long-term: Potential long-term North Oakland area transmission solution.	
	OAK C115 - ME 115KV & OAKLAND C-MARITIME LINE	P2	Breaker	88	92	110	73	87	107	65	62	139	75	65	93	104	158	Potential North Oakland area long-term transmission upgrade	
	MORAGA.D 115KV - SECTION 1D & 2D	P2	Breaker	91	106	119	84	106	110	70	83	105	70	67	90	129	95	Interim: Local generation and OCEI project. Long-term: Potential long-term North Oakland area transmission solution.	
	C-X #2 115KV [9962] and C-X #3 115KV [9925]	P6	N-1-1	126	132	148	<100	123	145	<100	<100	172	113	<100	133	143	NA	Interim: Local generation and OCEI project. Long-term: Potential long-term North Oakland area transmission solution.	
Oakland C - Oakland L #1 115kV Cable	CLARMNT 115KV - SECTION 2D & 1D	P2	Breaker	104	108	127	74	95	123	56	52	162	83	56	110	119	169	Interim: Local generation and OCEI project. Long-term: Potential long-term North Oakland area transmission solution.	
	K-D #1 115KV [9966] and K-D #2 115KV [9967]	P6	N-1-1	103	108	118	<100	<100	121	<100	<100	150	<100	<100	109	111	NA	Interim: Local generation and OCEI project. Long-term: Potential long-term North Oakland area transmission solution.	
Oakland C - Oakland X #2 115kV Cable	CLARMNT 115KV - SECTION 2D & 1D	P2	Breaker	118	123	144	93	111	135	80	77	177	101	80	125	136	138	Interim: Local generation and OCEI project. Long-term: Potential long-term North Oakland area transmission solution.	
	SOBRANTE 230KV - SECTION 2D & 1D	P2	Breaker	75	77	100	61	68	87	56	48	Diverge	68	56	88	90	Diverge	Potential North Oakland area long-term transmission upgrade	
	DEC STG1 18.00KV & DEC CTG1 18.00KV & DEC CTG2 18.00KV & DEC CTG3 18.00KV GEN UNITS and C-X #3 115KV [9925]	P3	G-1/N-1	<100	<100	101	<100	<100	<100	<100	<100	Diverge	<100	<100	101	<100	Diverge	Potential North Oakland area long-term transmission upgrade	
	C-X #3 115KV [9925] and D-L #1 115KV [9963]	P6	N-1-1	126	132	148	<100	123	145	<100	<100	178	113	<100	133	143	NA	Interim: Local generation and OCEI project. Long-term: Potential long-term North Oakland area transmission solution.	
Oakland J - Grant 115kV Line	Grant-Eastshore Nos. 1 & 2 115 KV lines	P7	DCTL	53	110	102	29	62	107	31	43	84	43	31	110	0	74	Interim: Moraga - Oakland J - San Leandro RAS. Long-term: Potential South Oakland long-term transmission upgrade.	
San Leandro-Oakland J 115kV Line	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and MORAGA-OAKLAND J 115KV [2760]	P3	G-1/N-1	118	<100	<100	<100	<100	112	<100	<100	NA	<100	<100	<100	<100	NA	Potential South Oakland area long-term transmission upgrade	
	E. SHORE 230/115KV TB 2 and E. SHORE 230/115KV TB 1	P6	N-1-1	111	117	126	<100	<100	108	<100	<100	153	<100	<100	119	<100	NA	Interim: Moraga - Oakland J - San Leandro RAS. Long-term: Potential South Oakland long-term transmission upgrade.	
Oakland J - Grant 115kV Line	OAKLAND J-GRANT 115KV [3140] (EDESJCT2-GRANT)	P2	Line Section w/o Fault	63	65	96	37	42	106	44	40	116	52	44	66	70	NA	Potential South Oakland area long-term transmission upgrade	
	GRANT 115KV SECTION MD	P2	Bus	63	65	95	37	42	106	44	40	117	52	44	66	70	NA	Potential South Oakland area long-term transmission upgrade	
	MORAGA.E 115KV - SECTION 1E & 2E	P2	Breaker	110	117	133	65	80	134	67	54	Diverge	87	67	119	123	Diverge	Interim: Moraga - Oakland J - San Leandro RAS. Long-term: Potential South Oakland long-term transmission upgrade.	
Christie-Franklin #2 60kV Line	Base Case	P0	Base Case	55	60	99	34	46	102	32	9	163	22	32	61	92	166	Continue to monitor	
	TABLE MT-TESLA 500KV and METCALF-MOSSLAND 500KV	P6	N-1-1	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	<100	120	Continue to monitor	
Pittsburg 230/115 kV Transformer #12	LMECCT2 18.00KV & LMECCT1 18.00KV & LMECST1 18.00KV GEN UNITS and PITSBG D 230/115KV TB 13	P3	G-1/N-1	109	<100	<100	<100	<100	<100	<100	<100	NA	<100	<100	<100	<100	NA	Project: Pittsburg 230/115 kV Transformer Capacity Increase	
Pittsburg 230/115 kV Transformer #13	LMECCT2 18.00KV & LMECCT1 18.00KV & LMECST1 18.00KV GEN UNITS and PITSBG D 230/115KV TB 12	P3	G-1/N-1	127	<100	<100	<100	<100	<100	<100	<100	NA	<100	<100	<100	<100	NA	Project: Pittsburg 230/115 kV Transformer Capacity Increase	
	MORAGA-LAKEWOOD 115KV [3741] and PITSBG D 230/115KV TB 12	P6	N-1-1	<100	<100	<100	<100	<100	<100	<100	<100	NA	101	<100	<100	<100	NA	Sensitivity only	
Pittsburg-Clayton # 4 115 kV Line	PITTSBURG-CLAYTON #3 115KV [3290] and PITTSBURG-CLAYTON #1 115KV [3280]	P6	N-1-1	<100	<100	<100	<100	<100	<100	<100	<100	Diverge	<100	<100	<100	<100	Diverge	Continue to monitor. Results updated after RAS review.	
Pittsburg - Los Medanos 115 kV Line	PITTSBURG-LOS MEDANOS #2 115KV [3305]	P1	N-1	100	100	100	100	100	100	60	24	Diverge	30	100	100	127	Diverge	Continue to monitor	
	MEC CTG1 18.00KV & MEC CTG2 18.00KV & MEC STG1 18.00KV Gen Units and PITTSBURG-LOS MEDANOS #2 115KV [3305]	P3	G-1/N-1	<100	<100	<100	<100	<100	<100	<100	<100	NA	<100	<100	<100	<100	127	NA	Sensitivity only
	PITTSBURG-LOS MEDANOS #1 115KV [3304]	P1	N-1	100	100	100	100	100	100	60	24	Diverge	30	100	100	127	Diverge	Continue to monitor	





Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)									Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2026 Summer Peak	2029 Summer Peak	2034 Summer Peak	2026 Winter Peak	2029 Winter Peak	2034 Winter Peak	2026 Spring Off-Peak	2029 Spring Off-Peak	2039 Greater Bay area Summer Peak	2026 SP Heavy Renewable & Min Gas Gen	2026 OP Sensitivity	2029 SP High CEC Forecast	2034 South Bay HI-load	2039 Greater Bay area Summer Peak	
Sobrante-Grizzly-Claremont #1 115kV Line (Hillside-Grizzly JCT)	SOBRANTE-GRIZZLY-CLAREMONT #2 115KV [3750] (GRIZLY2-SOBRANTE)	P2	Line Section w/o Fault	79	92	108	52	72	87	58	81	97	57	56	82	108	NA	Potential North Oakland area long-term transmission upgrade
	SOBRANTE 115KV SECTION 2E	P2	Bus	66	76	103	43	60	82	48	71	< 100	48	46	65	102	< 100	Potential North Oakland area long-term transmission upgrade
	CLARMNT - 2D 115KV & SOBRANTE-GRIZZLY-CLAREMONT #2 LINE	P2	Breaker	84	94	114	57	72	92	65	81	104	65	63	93	107	91	Potential North Oakland area long-term transmission upgrade
	HILLSIDE - 2D 115KV & SOBRANTE-GRIZZLY-CLAREMONT #2 LINE	P2	Breaker	77	88	105	53	68	83	60	79	< 100	60	58	85	100	< 100	Potential North Oakland area long-term transmission upgrade
	SOBRANTE 115KV - SECTION 2E & 2D	P2	Breaker	65	76	102	42	59	82	48	71	< 100	51	46	64	102	< 100	Potential North Oakland area long-term transmission upgrade
	MORAGA 230KV - SECTION 2D & 1D	P2	Breaker	108	82	99	61	57	84	73	61	106	92	74	83	97	111	Project: Moraga 230 kV Bus Upgrade
	GATEWAY1 18.00KV & GATEWAY2 18.00KV & GATEWAY3 18.00KV GEN UNITS and SOBRANTE-GRIZZLY-CLAREMONT #2 115KV [3750]	P3	G-1/N-1	< 100	< 100	101	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	104	Diverge	Potential North Oakland area long-term transmission upgrade
Sobrante-Grizzly-Claremont #2 115kV Line (Hillside-Grizzly JCT)	MORAGA 230KV - SECTION 2D & 1D	P2	Breaker	104	71	83	54	48	74	62	46	100	84	62	63	90	102	Project: Moraga 230 kV Bus Upgrade
	SOBRANTE-GRIZZLY-CLAREMONT #1 115KV [3740]	P1	N-1	79	91	109	53	71	86	60	81	< 100	59	57	86	106	< 100	Potential North Oakland area long-term transmission upgrade
	SOBRANTE-GRIZZLY-CLAREMONT #1 115KV [3740] (GRIZLY1-SOBRANTE)	P2	Line Section w/o Fault	82	95	112	54	75	90	60	83	101	58	57	84	113	NA	Potential North Oakland area long-term transmission upgrade
	HILLSIDE - 1D 115KV & SOBRANTE-GRIZZLY-CLAREMONT #1 LINE	P2	Breaker	80	91	110	53	71	86	59	80	NA	59	57	87	106	NA	Potential North Oakland area long-term transmission upgrade
	SOBRANTE - 1D 115KV & SOBRANTE-G #1 LINE	P2	Breaker	68	79	107	45	62	87	51	75	97	49	49	66	110	NA	Potential North Oakland area long-term transmission upgrade
	SOBRANTE - 1D 115KV & SOBRANTE-SAN PBLO-STD. OIL LINE	P2	Breaker	70	82	110	47	64	89	52	76	101	51	50	68	112	NA	Potential North Oakland area long-term transmission upgrade
	SOBRANTE 115KV - SECTION 1D & 2D	P2	Breaker	79	91	126	52	71	101	58	75	114	57	55	91	121	99	Potential North Oakland area long-term transmission upgrade
Martinez-Sobrante 115kV Line	GATEWAY1 18.00KV & GATEWAY2 18.00KV & GATEWAY3 18.00KV GEN UNITS and SOBRANTE-GRIZZLY-CLAREMONT #1 115KV [3740]	P3	G-1/N-1	< 100	100	105	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	111	Diverge	Interim: Local generation. Long-term: Potential long term North Oakland area transmission solution.
	SOBRANTE-MORAGA 115KV [3742] and SOBRANTE-GRIZZLY-CLAREMONT #1 115KV [3740]	P6	N-1-1	< 100	102	105	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	120	NA	Interim: Local generation. Long-term: Potential long term North Oakland area transmission solution.
	PITSBG E 230KV SECTION 1E	P2	Bus	29	NA	NA	19	NA	NA	28	NA	NA	135	16	NA	NA	NA	Sensitivity only
	PITSBG D 230KV SECTION 1D	P2	Bus	12	NA	NA	36	NA	NA	20	NA	NA	170	47	NA	NA	NA	Sensitivity only
	PITSBG E - 1E 230KV & PITTSBURG-TESLA #1 LINE	P2	Breaker	29	NA	NA	19	NA	NA	28	NA	NA	135	16	NA	NA	NA	Sensitivity only
	PITSBG D 230KV - SECTION 2D & 1D	P2	Breaker	66	NA	NA	9	NA	NA	41	NA	NA	153	7	NA	NA	NA	Sensitivity only
	PITSBG E 230KV - SECTION 1E & 2E	P2	Breaker	26	NA	NA	19	NA	NA	28	NA	NA	130	15	NA	NA	NA	Sensitivity only
Martinez-Oleum 115kV Line	PITSBG D 230/115KV TB 12 and PITSBG D 230/115KV TB 13	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	143	< 100	< 100	< 100	NA	Sensitivity only
	PITSBG D 230KV SECTION 1D	P2	Bus	26	NA	NA	59	NA	NA	12	NA	NA	123	63	NA	NA	NA	Sensitivity only
	PITSBG D 230KV - SECTION 2D & 1D	P2	Breaker	22	NA	NA	34	NA	NA	5	NA	NA	108	30	NA	NA	NA	Sensitivity only
Moraga-Claremont #1 115kV Line	PITSBG D 230/115KV TB 12 and PITSBG D 230/115KV TB 13	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	103	< 100	< 100	< 100	NA	Sensitivity only
	MORAGA.C 115KV SECTION 2C	P2	Bus	99	87	124	81	77	123	69	44	158	82	73	94	102	143	Potential North Oakland area long-term transmission upgrade
	PITTSBURG-F 230KV - SECTION 2F & 1F	P2	Breaker	NA	56	104	NA	51	82	NA	12	Diverge	NA	NA	71	73	Diverge	Potential North Oakland area long-term transmission upgrade
	SOBRANTE 230KV - SECTION 2D & 1D	P2	Breaker	90	92	128	70	77	113	64	45	146	75	63	112	112	140	Potential North Oakland area long-term transmission upgrade
	C-X#3 115KV [9925] and C-X #2 115KV [9962]	P6	N-1-1	< 100	< 100	107	< 100	< 100	103	< 100	< 100	Diverge	< 100	< 100	110	< 100	Diverge	Potential North Oakland area long-term transmission upgrade
	Pittsburg-Tidewater 230 KV and Pittsburg-Tesoro SW STA 230 KV lines	P7	DCTL	50	56	103	41	51	81	28	12	Diverge	19	30	70	73	Diverge	Potential North Oakland area long-term transmission upgrade
Moraga-Claremont #2 115kV Line	Pittsburg-Tidewater 230 KV and Tesoro SW STA-Sobrante 230 KV lines	P7	DCTL	47	55	101	39	50	80	27	13	Diverge	18	28	69	71	Diverge	Potential North Oakland area long-term transmission upgrade
	SOBRANTE 230KV SECTION 1D	P2	Bus	89	91	127	69	77	113	63	43	147	71	62	112	111	141	Potential North Oakland area long-term transmission upgrade
	MORAGA.E 115KV SECTION 2E	P2	Bus	85	83	101	63	66	100	59	39	Diverge	78	59	97	82	Diverge	Potential North Oakland area long-term transmission upgrade
	SOBRANTE - 1D 230KV & IGNACIO-SOBRANTE LINE	P2	Breaker	89	91	127	69	77	113	63	43	147	72	62	112	112	141	Potential North Oakland area long-term transmission upgrade
Cabrate Moraga 115kV Line	SOBRANTE 230KV - SECTION 2D & 1D	P2	Breaker	91	92	128	70	77	113	64	45	147	75	63	113	112	140	Potential North Oakland area long-term transmission upgrade
	SOBRANTE 230KV SECTION 1D	P2	Bus	92	86	144	67	63	117	71	32	156	78	69	124	118	165	Project: Moraga-Sobrante 115 kV line reconductoring project (on-hold)
	SOBRANTE - 1D 230KV & IGNACIO-SOBRANTE LINE	P2	Breaker	93	86	144	67	63	117	71	NA	156	78	69	124	119	165	Project: Moraga-Sobrante 115 kV line reconductoring project (on-hold)

Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)										Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2026 Summer Peak	2029 Summer Peak	2034 Summer Peak	2026 Winter Peak	2029 Winter Peak	2034 Winter Peak	2026 Spring Off-Peak	2029 Spring Off-Peak	2039 Greater Bay area Summer Peak	2026 SP Heavy Renewable & Min Gas Gen	2026 OP Sensitivity	2029 SP High CEC Forecast	2034 South Bay HI-load	2039 Greater Bay area Summer Peak		
Sobrante-Moraga 115kV Line	SOBRANTE 230KV - SECTION 2D & 1D	P2	Breaker	96	88	146	68	63	118	74	NA	156	86	72	126	120	164	Project: Moraga-Sobrante 115 kV line reconductoring project (on-hold)	
	SOBRANTE 230/115KV TB 2 and SOBRANTE 230/115KV TB 1	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	121	< 100	NA	Sensitivity only	
	MORAGA 230KV - SECTION 2D & 1D	P2	Breaker	125	NA	74	65	NA	61	71	NA	Diverge	103	72	NA	91	Diverge	Project: Collinsville 500 kV new Station	
Moraga 230/115kV Transformer #2	MORAGA 230/115KV TB 1 and MORAGA 230/115KV TB 3	P6	N-1-1	113	108	124	< 100	< 100	128	< 100	< 100	164	113	< 100	125	112	NA	Interim: Local generation and OCEI project. Long-term: Potential long-term North Oakland area transmission solution.	
Moraga-Station X 115 kV #1 Line	MORAGA.E 115KV SECTION 2E	P2	Bus	151	56	66	92	45	64	101	29	81	133	99	59	54	71	Project: Moraga-Oakland X line rebuild	
	CLARMNT 115KV - SECTION 2D & 1D	P2	Breaker	113	42	51	72	37	50	74	23	< 100	90	74	43	48	< 100	Project: Moraga-Oakland X line rebuild	
	K-D #1 115KV [9966] and K-D #2 115KV [9967]	P6	N-1-1	114	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	< 100	NA	Project: Moraga-Oakland X line rebuild	
Moraga-Station X 115 kV #3 Line	MORAGA.D 115KV SECTION 1D	P2	Bus	170	60	72	97	45	72	114	29	94	161	112	68	65	87	Project: Moraga-Oakland X line rebuild	
	MORAGA.E 115KV SECTION 2E	P2	Bus	225	84	92	106	58	82	128	42	108	200	118	85	61	103	Project: Moraga-Oakland X line rebuild	
	CLARMNT 115KV - SECTION 2D & 1D	P2	Breaker	112	42	51	71	36	49	73	23	< 100	89	73	42	48	< 100	Project: Moraga-Oakland X line rebuild	
Moraga - Station X 115 kV Line	K-D #1 115KV [9966] and K-D #2 115KV [9967]	P6	N-1-1	113	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	< 100	NA	Project: Moraga-Oakland X line rebuild	
	CLARMNT 115KV - SECTION 2D & 1D	P2	Breaker	112	42	51	71	36	49	73	23	< 100	89	73	42	48	< 100	Project: Moraga-Oakland X line rebuild	
	K-D #1 115KV [9966] and K-D #2 115KV [9967]	P6	N-1-1	113	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	< 100	NA	Project: Moraga-Oakland X line rebuild	
Moraga-Oakland J 115kV Line	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS	P1	N-1	87	89	153	56	65	90	47	41	Diverge	63	58	92	0	Diverge	Potential South Oakland area long-term transmission upgrade	
	PITTSBURG-EASTSHORE 230KV [5462]	P1	N-1	76	79	140	41	53	78	47	46	Diverge	69	41	82	0	Diverge	Potential South Oakland area long-term transmission upgrade	
	MORAGA-SAN LEANDRO #1 115KV [2770]	P1	N-1	73	101	113	41	50	101	45	44	Diverge	69	41	105	0	NA	Potential South Oakland area long-term transmission upgrade	
	MORAGA-SAN LEANDRO #2 115KV [2780]	P1	N-1	73	101	113	41	51	101	45	44	Diverge	69	41	105	0	NA	Potential South Oakland area long-term transmission upgrade	
	MORAGA-SAN LEANDRO #3 115KV [2790]	P1	N-1	74	101	113	41	51	101	46	45	Diverge	70	42	105	0	NA	Potential South Oakland area long-term transmission upgrade	
	OAKLAND J-GRANT 115KV [3140] [EDESJCT2-GRANT]	P2	Line Section w/o Fault	73	77	274	53	64	302	47	41	358	59	47	79	87	331	Potential South Oakland area long-term transmission upgrade	
	GRANT 115KV SECTION MD	P2	Bus	73	77	272	53	64	302	47	41	265	59	47	79	87	238	Potential South Oakland area long-term transmission upgrade	
	NEWARK D 230KV - SECTION 2D & 1D	P2	Breaker	NA	83	153	NA	55	86	NA	46	Diverge	NA	NA	87	0	Diverge	Potential South Oakland area long-term transmission upgrade	
	PITTSBURG-E 230KV - SECTION 1D & 1E	P2	Breaker	NA	86	152	NA	57	82	NA	48	Diverge	NA	NA	88	0	Diverge	Potential South Oakland area long-term transmission upgrade	
	PITTSBURG-D SECTION 1D & PITTSBURG-E SECTION 1E 230KV	P2	Breaker	NA	92	166	NA	61	86	NA	49	Diverge	NA	NA	149	0	Diverge	Potential South Oakland area long-term transmission upgrade	
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and DUMBARTON-NEWARK 115KV [1460]	P3	G-1/N-1	< 100	< 100	162	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	< 100	Diverge	Potential South Oakland area long-term transmission upgrade	
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and SAN LEANDRO-OAKLAND J #1 115KV [3520]	P6	N-1-1	106	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	< 100	Diverge	Potential South Oakland area long-term transmission upgrade	
	E. SHORE 230/115KV TB 1 and E. SHORE 230/115KV TB 2	P6	N-1-1	< 100	208	264	< 100	< 100	205	< 100	< 100	Diverge	< 100	< 100	213	< 100	Diverge	Potential South Oakland area long-term transmission upgrade	
Grant-Eastshore Nos. 1 & 2 115 KV lines	P7	DCTL	92	402	386	64	274	420	55	59	330	73	55	401	0	309	Potential South Oakland area long-term transmission upgrade		
Pittsburg-San Mateo 230 KV and Pittsburg-East Shore 230 KV lines	P7	DCTL	85	88	160	46	59	86	51	48	Diverge	73	45	91	0	Diverge	Potential South Oakland area long-term transmission upgrade		
Moraga-San Leandro Nos. 1 & 2 115 KV lines	P7	DCTL	86	101	114	49	66	101	53	51	NA	80	48	105	0	NA	Potential South Oakland area long-term transmission upgrade		
Moraga-San Leandro #1 115kV Line	SN LNDRO 115KV SECTION ME	P2	Bus	142	88	55	83	67	62	82	72	104	126	77	47	49	62	Interim: Moraga - Oakland J - San Leandro RAS. Long-term: Potential South Oakland long-term transmission upgrade.	
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and MORAGA-SAN LEANDRO #3 115KV [2790]	P3	G-1/N-1	115	120	< 100	< 100	< 100	111	< 100	< 100	NA	< 100	< 100	122	< 100	NA	Potential South Oakland area long-term transmission upgrade	
	MORAGA-SAN LEANDRO #3 115KV [2790] and MORAGA-SAN LEANDRO #2 115KV [2780]	P6	N-1-1	145	120	129	< 100	< 100	107	< 100	< 100	212	128	< 100	122	< 100	NA	Potential South Oakland area long-term transmission upgrade	
	Moraga-Oakland J 115 KV and Moraga-San Leandro No. 3 115 KV lines	P7	DCTL	116	60	69	67	45	56	68	61	Diverge	104	63	61	60	Diverge	Interim: Moraga - Oakland J - San Leandro RAS. Long-term: Potential South Oakland long-term transmission upgrade.	
MORAGA.E 115KV SECTION 1E	MORAGA.E 115KV SECTION 1E	P2	Bus	137	88	55	80	67	62	80	68	105	123	75	47	49	61	Interim: Moraga - Oakland J - San Leandro RAS. Long-term: Potential South Oakland long-term transmission upgrade.	
	MORAGA.D SECTION 1D & MORAGA.E SECTION 1E 115KV	P2	Breaker	143	88	55	84	67	62	83	73	104	127	77	47	49	62	Interim: Moraga - Oakland J - San Leandro RAS. Long-term: Potential South Oakland long-term transmission upgrade.	



Table with columns: Overloaded Facility, Contingency (All and Worst P6), Category, Category Description, Loading % (Baseline Scenarios) (2026 Summer Peak, 2029 Summer Peak, 2034 Summer Peak, 2026 Winter Peak, 2029 Winter Peak, 2034 Winter Peak, 2026 Spring Off-Peak, 2029 Spring Off-Peak, 2039 Greater Bay area Summer Peak), Loading % (Sensitivity Scenarios) (2026 SP Heavy Renewable & Min Gas Gen, 2026 OP Sensitivity, 2029 SP High CEC Forecast, 2034 South Bay HI-load, 2039 Greater Bay area Summer Peak), and Project & Potential Mitigation Solutions.





Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)									Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2026 Summer Peak	2029 Summer Peak	2034 Summer Peak	2026 Winter Peak	2029 Winter Peak	2034 Winter Peak	2026 Spring Off-Peak	2029 Spring Off-Peak	2039 Greater Bay area Summer Peak	2026 SP Heavy Renewable & Min Gas Gen	2026 OP Sensitivity	2029 SP High CEC Forecast	2034 South Bay HI-load	2039 Greater Bay area Summer Peak	
Eastshore 230/115kV Transformer #1	E. SHORE 230KV - MIDDLE BREAKER BAY 3	P2	Breaker	67	76	113	55	64	76	26	11	135	31	46	78	111	132	Potential South Oakland area long-term transmission upgrade
	EASTSHORE-SAN MATEO 230KV [4650] and E. SHORE 230/115KV TB 2	P6	N-1-1	110	114	122	< 100	104	110	< 100	< 100	133	< 100	< 100	115	124	Diverge	Potential South Oakland area long-term transmission upgrade
Eastshore 230/115kV Transformer #2	E. SHORE 230/115KV TB 1	P1	N-1	67	75	113	54	64	76	26	12	134	30	47	77	111	132	Potential South Oakland area long-term transmission upgrade
	EASTSHRE 115KV SECTION MD	P2	Bus	65	73	114	53	61	71	25	10	133	28	46	74	106	130	Potential South Oakland area long-term transmission upgrade
	E. SHORE 230KV - MIDDLE BREAKER BAY 2	P2	Breaker	67	75	113	54	64	76	26	12	134	30	47	77	111	132	Potential South Oakland area long-term transmission upgrade
	EASTSHORE-SAN MATEO 230KV [4650] and E. SHORE 230/115KV TB 1	P6	N-1-1	109	114	121	< 100	104	109	< 100	< 100	133	< 100	< 100	114	123	Diverge	Potential South Oakland area long-term transmission upgrade
East Shore - Stack SS 115 kV line	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS	P1	N-1	NA	39	72	NA	34	54	NA	27	Diverge	NA	NA	40	101	Diverge	Sensitivity only
	SAN LEANDRO-OAKLND J #1 115KV [3520]	P1	N-1	NA	88	102	NA	57	107	NA	38	Diverge	NA	NA	89	98	Diverge	Potential South Oakland area long-term transmission upgrade
	GRANT-EASTSHORE #1 115KV [1700]	P1	N-1	NA	74	105	NA	70	97	NA	31	152	NA	NA	74	92	144	Potential South Oakland area long-term transmission upgrade
	MORAGA-OAKLAND J 115KV [2760]	P1	N-1	NA	88	102	NA	55	107	NA	33	Diverge	NA	NA	89	98	Diverge	Potential South Oakland area long-term transmission upgrade
	SAN LEANDRO-OAKLND J #1 115KV [3520] (STATIN J-EDESJCT1)	P2	Line Section w/o Fault	NA	88	102	NA	57	107	NA	38	Diverge	NA	NA	89	98	Diverge	Potential South Oakland area long-term transmission upgrade
	SN LNDRO 115KV SECTION MD	P2	Bus	NA	88	102	NA	57	107	NA	38	Diverge	NA	NA	89	98	Diverge	Potential South Oakland area long-term transmission upgrade
	EASTSHRE 115KV SECTION ME	P2	Bus	NA	72	103	NA	66	91	NA	25	148	NA	NA	73	95	140	Potential South Oakland area long-term transmission upgrade
	NEWARK D SECTION 1D & NEWARK E SECTION 1E 230KV	P2	Breaker	NA	43	102	NA	41	57	NA	22	Diverge	NA	NA	43	98	Diverge	Potential South Oakland area long-term transmission upgrade
	MORAGA.E 115KV - SECTION 1E & 2E	P2	Breaker	NA	119	138	NA	100	136	NA	63	Diverge	NA	NA	121	129	Diverge	Potential South Oakland area long-term transmission upgrade
	MORAGA.D SECTION 1D & MORAGA.E SECTION 1E 115KV	P2	Breaker	NA	88	101	NA	57	107	NA	32	Diverge	NA	NA	89	98	Diverge	Potential South Oakland area long-term transmission upgrade
	MORAGA.D SECTION 2D & MORAGA.E SECTION 2E 115KV	P2	Breaker	NA	88	101	NA	63	107	NA	37	Diverge	NA	NA	89	98	Diverge	Potential South Oakland area long-term transmission upgrade
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and GRANT-EASTSHORE #1 115KV [1700]	P3	G-1/N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	173	NA	Sensitivity only
	SAN LEANDRO-OAKLND J #1 115KV [3520] and GRANT-EASTSHORE #1 115KV [1700]	P6	N-1-1	< 100	162	180	< 100	< 100	177	< 100	< 100	134	< 100	< 100	164	173	NA	Potential South Oakland area long-term transmission upgrade
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	DCTL	NA	45	102	NA	42	59	NA	23	Diverge	NA	NA	46	98	Diverge	Potential South Oakland area long-term transmission upgrade
	Moraga-Oakland J 115 KV and Moraga-San Leandro No. 3 115 KV lines	P7	DCTL	NA	88	101	NA	77	107	NA	36	Diverge	NA	NA	89	98	Diverge	Potential South Oakland area long-term transmission upgrade
	Moraga-Oakland J 115 KV and San Leandro-Oakland J #1 115 KV lines	P7	DCTL	NA	88	102	NA	77	107	NA	57	Diverge	NA	NA	89	98	Diverge	Potential South Oakland area long-term transmission upgrade
Newark 115/60kV Transformer #1	PITTSBURG-SAN RAMON 230KV [5490] and SAN RAMON-MORAGA 230KV [5660]	P6	N-1-1	< 100	< 100	124	< 100	< 100	< 100	< 100	< 100	166	< 100	< 100	< 100	102	NA	Continue to monitor
Newark-Northern Receiving Station #1 115kV Line	NEWARK E-F BUS TIE 230KV [4640]	P1	N-1	97	28	64	32	31	13	32	49	< 100	64	60	30	120	< 100	Sensitivity only
	NEWARKHVDC-NEWARK D #1 230KV [0]	P1	N-1	NA	36	74	NA	30	43	NA	33	98	NA	NA	38	145	115	Sensitivity only
	SANJOSEHVDC-SANJOSEB #1 115KV [0]	P1	N-1	NA	9	50	NA	28	12	NA	43	Diverge	NA	NA	12	112	Diverge	Sensitivity only
	LOS ESTEROS-NORTECH 115KV [4032]	P1	N-1	< 100	6	50	< 100	35	31	< 100	68	< 100	< 100	24	114	< 100	Sensitivity only	
	SSS 230/230KV TB 1	P1	N-1	82	33	67	42	27	34	47	39	< 100	66	60	33	126	< 100	Sensitivity only
	DVRaGT1 13.80KV & DVRbGt2 13.80KV & DVRaST3 13.80KV Gen Units	P1	N-1	62	6	43	30	30	10	31	47	Diverge	46	43	9	102	Diverge	Sensitivity only
	SSS-NRSrrier SVP 230 kV path	P1	N-1	82	33	67	42	27	34	47	39	< 100	66	60	33	126	< 100	Sensitivity only
	Loss of PST 230 kV Path	P1	N-1	82	33	67	42	27	34	47	39	< 100	66	60	33	126	< 100	Sensitivity only
	NRSHVDC-NRS 230KV [0] No Fault	P2	Line Section w/o Fault	NA	34	71	NA	26	41	NA	33	Diverge	NA	NA	36	142	Diverge	Sensitivity only
	LS ESTRS 230KV - Middle Breaker Bay 8	P2	Breaker	82	33	67	42	27	34	47	39	< 100	66	60	33	126	< 100	Sensitivity only
	NEWARK D SECTION 1D & NEWARK E SECTION 1E 230KV	P2	Breaker	102	21	50	35	34	22	33	53	Diverge	65	61	21	105	Diverge	Potential San Jose area long-term transmission upgrade
	NEWARK E SECTION 1E & NEWARK F SECTION 1F 115KV	P2	Breaker	72	32	48	35	44	37	34	67	< 100	49	51	30	124	< 100	Sensitivity only
	NEWARK F 115KV - SECTION 2F & 1F	P2	Breaker	83	32	52	32	52	36	34	82	Diverge	59	50	29	154	Diverge	Sensitivity only
	Internal breaker fault at Duane Duane-SRS 115 kV and KRS-Duane 115 kV and DVR	P2	Breaker	55	6	43	26	30	10	27	47	Diverge	41	36	9	103	Diverge	Sensitivity only

Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)										Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2026 Summer Peak	2029 Summer Peak	2034 Summer Peak	2026 Winter Peak	2029 Winter Peak	2034 Winter Peak	2026 Spring Off-Peak	2029 Spring Off-Peak	2039 Greater Bay area Summer Peak	2026 SP Heavy Renewable & Min Gas Gen	2026 OP Sensitivity	2029 SP High CEC Forecast	2034 South Bay HI-load	2039 Greater Bay area Summer Peak		
LECEFGT1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units and NEWARK E-F BUS TIE 230KV [4640]	P3	G-1/N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	140	NA	Sensitivity only
	P7	DCTL	59	12	56	31	26	31	32	43	Diverge	47	39	15	122	Diverge	Sensitivity only		
	P7	DCTL	51	21	48	28	28	14	28	47	Diverge	42	28	9	109	Diverge	Sensitivity only		
	P7	DCTL	63	3	51	32	33	12	32	57	Diverge	51	40	6	122	Diverge	Sensitivity only		
	P7	DCTL	137	52	106	49	21	43	53	39	102	102	75	54	175	117	Potential San Jose area long-term transmission upgrade		
Newark-Ames 115 kV Line No. 1	P6	N-1-1	< 100	< 100	103	< 100	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	< 100	Diverge	Continue to monitor	
	P7	DCTL	83	89	Diverge	56	76	87	53	52	88	82	50	87	80	78	Continue to monitor		
Newark-Ames 115 kV Line No. 3	P6	N-1-1	< 100	< 100	112	< 100	< 100	107	< 100	< 100	101	< 100	< 100	< 100	< 100	NA	Continue to monitor		
	P7	DCTL	90	96	Diverge	61	83	95	57	57	95	89	55	94	87	85	Continue to monitor		
Newark-Ames 115 kV Line No. 2	P6	N-1-1	< 100	< 100	115	< 100	< 100	110	< 100	< 100	103	< 100	< 100	< 100	< 100	NA	Continue to monitor		
	P7	DCTL	92	99	Diverge	62	84	97	59	58	98	91	56	96	89	87	Continue to monitor		
Newark 230/115kV Transformer #11	P1	N-1	84	68	87	51	45	67	42	17	Diverge	65	53	71	102	Diverge	Sensitivity only		
Newark-Lawrence 115 kV Line	P7	DCTL	81	82	81	43	53	68	46	42	109	75	46	83	111	111	Continue to monitor		
	P1	N-1	76	77	81	48	70	91	43	49	104	69	42	78	138	112	Continue to monitor		
Newark-Applied Materials 115 kV Line	P2	Breaker	77	77	82	48	70	91	43	49	103	69	42	78	139	103	Continue to monitor		
	P3	G-1/N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	120	NA	Sensitivity only		
	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	120	NA	Sensitivity only		
P7	DCTL	77	77	81	48	70	91	43	49	Diverge	69	42	78	138	Diverge	Sensitivity only			
Newark-Dixon Landing 115 kV Line	P1	N-1	115	< 100	< 100	52	< 100	< 100	56	< 100	168	71	56	< 100	< 100	169	Project: Metcalf – Piercy & Swift – Metcalf and Newark – Dixon Landing 115 kV Upgrade. Potential rescope as part of the San Jose long-term transmission solution.		
	P2	Bus	< 100	81	109	< 100	50	63	< 100	15	169	< 100	< 100	83	171	170	Potential San Jose area long-term transmission upgrade		
	P2	Breaker	< 100	81	109	< 100	50	63	< 100	15	170	< 100	< 100	83	173	170	Potential San Jose area long-term transmission upgrade		
	P3	G-1/N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	132	NA	Sensitivity only		
	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	147	< 100	< 100	< 100	141	NA	Continue to monitor		
	P7	DCTL	115	81	110	52	50	63	56	15	170	71	56	83	179	169	Project: Metcalf – Piercy & Swift – Metcalf and Newark – Dixon Landing 115 kV Upgrade. Potential rescope as part of the San Jose long-term transmission solution.		
Newark-Kifer 115 kV Line(Newark-Zinker J2)	P1	N-1	NA	23	54	NA	17	28	NA	22	85	NA	NA	28	108	101	Sensitivity only		
	P2	Line Section w/o Fault	NA	22	52	NA	14	27	NA	21	84	NA	NA	26	106	100	Sensitivity only		
	P2	Breaker	NA	22	58	NA	16	27	NA	20	Diverge	NA	NA	27	113	Diverge	Sensitivity only		
	P2	Breaker	227	NA	NA	137	NA	NA	160	NA	NA	209	173	NA	NA	NA	Project: NRS rebuild		
	P3	G-1/N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	103	NA	Sensitivity only		
	P6	N-1-1	113	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	< 100	Diverge	Potential San Jose area long-term transmission upgrade		
	P7	DCTL	61	19	36	25	36	19	30	67	< 100	51	37	15	106	< 100	Sensitivity only		
	P7	DCTL	51	18	52	29	12	25	35	25	Diverge	51	34	22	103	Diverge	Sensitivity only		
Newark-Trimble 115 kV Line	P7	DCTL	61	19	36	25	36	19	30	67	< 100	51	37	15	106	< 100	Sensitivity only		
	P7	DCTL	100	38	82	39	11	31	47	27	94	83	54	43	131	107	Potential San Jose area long-term transmission upgrade		
	P1	N-1	NA	25	51	NA	23	50	NA	25	< 100	NA	NA	25	310	< 100	Sensitivity only		
	P2	Bus	0	25	51	0	23	50	0	25	< 100	0	0	25	307	< 100	Sensitivity only		
	P2	Breaker	NA	25	51	NA	23	50	NA	25	< 100	NA	NA	25	310	< 100	Sensitivity only		
P3	G-1/N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	211	NA	Sensitivity only		
P6	N-1-1	112	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	< 100	Diverge	Potential San Jose area long-term transmission upgrade		









Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)									Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2026 Summer Peak	2029 Summer Peak	2034 Summer Peak	2026 Winter Peak	2029 Winter Peak	2034 Winter Peak	2026 Spring Off-Peak	2029 Spring Off-Peak	2034 Spring Off-Peak	2026 SP Heavy Renewable & Min Gas Gen	2026 OP Sensitivity	2029 SP High CEC Forecast	2034 South Bay HI-load	2039 Greater Bay area Summer Peak	
	Swift - Metcalf & Piercy - Metcalf 115 KV Lines	P7	DCTL	71	36	63	47	40	40	50	49	Diverge	74	30	36	115	Diverge	Sensitivity only
	Los Esteros - Trimble & Los Esteros - Montague 115 KV	P7	DCTL	69	31	53	46	17	34	48	18	Diverge	72	32	31	120	Diverge	Sensitivity only
San Jose Sta 'A'-'B' 115 KV Line	MTCALF-EL PATIO #1 115KV [2500] and MTCALF-EL PATIO #2 115KV [2510]	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	132	Diverge	Potential San Jose area long-term transmission upgrade
	Metcalf - El Patio No. 1 & 2 115 KV Lines	P7	DCTL	NA	71	87	NA	40	57	NA	18	122	NA	NA	72	143	123	Potential San Jose area long-term transmission upgrade
	Newark - Los Esteros & Los Esteros - Metcalf 230 KV Lines	P7	DCTL	NA	40	85	NA	22	41	NA	53	121	NA	NA	39	104	128	Potential San Jose area long-term transmission upgrade
	NRS 400 115 kv bus tie breaker to NRS 300 115 kv bus	P2	Breaker	102	NA	NA	63	NA	NA	78	NA	NA	107	61	NA	NA	NA	Project: NRS rebuild
	EL PATIO-SAN JOSE A 115KV [1520] and SANJOSEHVDC-SANJOSEB #1 115KV [0]	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	136	NA	Sensitivity only
San Jose 'B'-Stone-Evergreen 115 KV Line	Metcalf - El Patio No. 1 & 2 115 KV Lines	P7	DCTL	NA	23	57	NA	29	31	NA	53	101	NA	NA	23	107	107	Potential San Jose area long-term transmission upgrade
	Metcalf - Evergreen #1 and #2 115 KV Lines	P7	DCTL	NA	81	97	NA	44	59	NA	10	153	NA	NA	82	104	155	Potential San Jose area long-term transmission upgrade
	SANJOSEHVDC-SANJOSEB #1 115KV [0]	P1	N-1	NA	58	77	NA	42	54	NA	20	Diverge	NA	NA	59	106	Diverge	Sensitivity only
Metcalf-El Patio No. 1 115 KV Line	MTCALF D 115KV Section 2D	P2	Bus	NA	54	64	NA	36	49	NA	29	113	NA	NA	55	104	128	Potential San Jose area long-term transmission upgrade
	MTCALF D - 2D 115KV & MTCALF-EL PATIO #2 line	P2	Breaker	NA	54	64	NA	36	49	NA	29	113	NA	NA	55	104	128	Potential San Jose area long-term transmission upgrade
	MTCALF D Section 2D & MTCALF E Section 2E 115KV	P2	Breaker	NA	61	76	NA	40	55	NA	30	129	NA	NA	61	123	135	Potential San Jose area long-term transmission upgrade
	LECEFGT1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units and MTCALF-EL PATIO #2 115KV [2510]	P3	G-1/N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	102	NA	Sensitivity only
	MTCALF-EL PATIO #2 115KV [2510] and SANJOSEHVDC-SANJOSEB #1 115KV [0]	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	128	NA	Sensitivity only
	Metcalf - Evergreen #1 and #2 115 KV Lines	P7	DCTL	73	49	70	38	32	43	44	26	Diverge	66	32	49	102	Diverge	Sensitivity only
	Newark - Los Esteros & Los Esteros - Metcalf 230 KV Lines	P7	DCTL	78	51	73	38	32	44	45	20	Diverge	71	34	51	102	Diverge	Sensitivity only
Metcalf-El Patio No. 2 115 KV Line	SANJOSEHVDC-SANJOSEB #1 115KV [0]	P1	N-1	NA	58	77	NA	43	54	NA	20	Diverge	NA	NA	59	106	Diverge	Sensitivity only
	MTCALF D 115KV Section 1D	P2	Bus	NA	60	74	NA	41	55	NA	28	129	NA	NA	60	111	136	Potential San Jose area long-term transmission upgrade
	MTCALF D - 1D 115KV & MTCALF-EL PATIO #1 line	P2	Breaker	NA	60	74	NA	41	55	NA	28	129	NA	NA	60	111	136	Potential San Jose area long-term transmission upgrade
	MTCALF D - 1D 115KV & ST TERESA-MTCALF D line	P2	Breaker	NA	61	75	NA	42	56	NA	27	130	NA	NA	61	112	138	Potential San Jose area long-term transmission upgrade
	MTCALF D - 1D 115KV & MTCALF-EDENVALE #2 line	P2	Breaker	NA	60	74	NA	41	55	NA	28	129	NA	NA	60	111	136	Potential San Jose area long-term transmission upgrade
	MTCALF D Section 1D & MTCALF E Section 1E 115KV	P2	Breaker	NA	66	86	NA	45	61	NA	29	140	NA	NA	67	128	146	Potential San Jose area long-term transmission upgrade
	Metcalf - Evergreen #1 and #2 115 KV Lines	P7	DCTL	73	49	70	39	32	43	44	26	Diverge	66	32	49	102	Diverge	Sensitivity only
Swift-Metcalf 115 KV Line	Newark - Los Esteros & Los Esteros - Metcalf 230 KV Lines	P7	DCTL	78	51	73	39	33	44	45	20	Diverge	71	34	51	102	Diverge	Sensitivity only
	PIERCY-MTCALF 115KV [4318]	P1	N-1	NA	64	84	NA	53	63	NA	23	Diverge	NA	NA	64	104	Diverge	Sensitivity only
	MTCALF E 115KV Section 2E	P2	Bus	NA	66	93	NA	54	63	NA	21	Diverge	NA	NA	66	112	Diverge	Sensitivity only
	NEWARK F - 1F 115KV & NEWARK-MILPITAS #1 LINE	P2	Breaker	67	65	85	44	50	60	44	23	128	55	32	65	112	132	Continue to monitor
	NEWARK F 115KV - SECTION 2F & 1F	P2	Breaker	101	103	139	55	71	86	54	39	176	66	54	104	227	177	Project: Metcalf - Piercy & Swift - Metcalf and Newark - Dixon Landing 115 KV Upgrade. Potential rescope as part of the San Jose long-term transmission solution.
Swift-Metcalf 115 KV Line	MTCALF D Section 2D & MTCALF E Section 2E 115KV	P2	Breaker	NA	66	94	NA	54	64	NA	21	Diverge	NA	NA	67	114	Diverge	Sensitivity only
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and PIERCY-MTCALF 115KV [4318]	P3	G-1/N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	103	NA	Sensitivity only
	PIERCY-MTCALF 115KV [4318] and LOS ESTEROS-MTCALF 230KV [5353]	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	108	Diverge	Sensitivity only
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	DCTL	79	66	89	45	54	66	46	26	Diverge	66	30	66	104	Diverge	Sensitivity only
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	DCTL	76	68	90	46	56	67	48	25	130	66	29	69	107	151	Potential San Jose area long-term transmission upgrade
NEWARK-DIXON LANDING 115KV [2990]	Trimble - San Jose B & FMC - San Jose B 115 KV Lines	P7	DCTL	61	65	85	43	55	66	45	28	Diverge	59	25	65	103	Diverge	Sensitivity only
	NEWARK-F 115KV SECTION 2F	P2	Bus	NA	95	127	NA	58	73	NA	19	196	NA	NA	97	134	197	Potential San Jose area long-term transmission upgrade
	NEWARK F - 2F 115KV & NEWARK-NUMMI LINE	P2	Breaker	NA	95	127	NA	58	73	NA	19	196	NA	NA	97	135	197	Potential San Jose area long-term transmission upgrade
	NEWARK F - 2F 115KV & NEWARK-F-LOCKHD 2-APP MAT LINE	P2	Breaker	NA	95	127	NA	58	73	NA	19	197	NA	NA	97	134	198	Potential San Jose area long-term transmission upgrade

Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)									Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions	
				2026 Summer Peak	2029 Summer Peak	2034 Summer Peak	2026 Winter Peak	2029 Winter Peak	2034 Winter Peak	2026 Spring Off-Peak	2029 Spring Off-Peak	2039 Greater Bay area Summer Peak	2026 SP Heavy Renewable & Min Gas Gen	2026 OP Sensitivity	2029 SP High CEC Forecast	2034 South Bay HI-load	2039 Greater Bay area Summer Peak		
Mckee-Piery 115 kV Line	NEWARK F - 2F 115KV & NEWARK F-COMPONENT_SW LINE	P2	Breaker	NA	95	127	NA	58	73	NA	19	196	NA	NA	97	135	197	Potential San Jose area long-term transmission upgrade	
	NEWARK F 115KV - SECTION 2F & 1F	P2	Breaker	NA	95	129	NA	58	73	NA	19	Diverge	NA	NA	97	146	Diverge	Potential San Jose area long-term transmission upgrade	
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and NEWARK-DIXON LANDING 115KV [2990]	P3	G-1/N-1	< 100	< 100	111	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	113	Diverge	Potential San Jose area long-term transmission upgrade	
	NEWARK-DIXON LANDING 115KV [2990] and RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS	P6	N-1-1	< 100	< 100	111	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	114	Diverge	Potential San Jose area long-term transmission upgrade	
	Newark-Dixon Landing 115 KV and Newark-Milpitas No. 1 115 KV lines	P7	DCTL	NA	95	127	NA	58	73	NA	19	NA	NA	NA	97	134	217	Potential San Jose area long-term transmission upgrade	
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	DCTL	NA	77	103	NA	63	77	NA	28	Diverge	NA	NA	78	105	Diverge	Potential San Jose area long-term transmission upgrade	
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	DCTL	NA	81	104	NA	65	78	NA	27	Diverge	NA	NA	81	109	Diverge	Potential San Jose area long-term transmission upgrade	
	Trimble - San Jose B & FMC - San Jose B 115 KV Lines	P7	DCTL	NA	76	98	NA	64	77	NA	31	Diverge	NA	NA	76	104	Diverge	Sensitivity only	
	Newark - Dixon Landing & Newark - Milpitas #1 115 KV Lines	P7	DCTL	NA	95	127	NA	58	73	NA	19	NA	NA	NA	97	134	217	Potential San Jose area long-term transmission upgrade	
Metcalf-Evergreen No. 1 115 kV Line	MTCALF E 115KV Section 2E	P2	Bus	NA	NA	NA	NA	NA	NA	NA	NA	123	NA	NA	NA	108	127	Potential San Jose area long-term transmission upgrade	
	MTCALF D Section 2D & MTCALF E Section 2E 115KV	P2	Breaker	NA	NA	NA	NA	NA	NA	NA	NA	136	NA	NA	NA	120	141	Potential San Jose area long-term transmission upgrade	
	EL PATIO-SAN JOSE A 115KV [1520] and EVRGRN 1-MTCALF E #2 115KV [0]	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	126	< 100	< 100	< 100	111	NA	Potential San Jose area long-term transmission upgrade	
Metcalf-Evergreen No. 2 115 kV Line	MTCALF D Section 1D & MTCALF E Section 1E 115KV	P2	Breaker	NA	58	78	NA	37	49	NA	25	119	NA	NA	59	102	124	Potential San Jose area long-term transmission upgrade	
	EL PATIO-SAN JOSE A 115KV [1520] and METCALF-EVERGREEN #1 115KV [2520]	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	127	< 100	< 100	< 100	112	NA	Potential San Jose area long-term transmission upgrade	
Metcalf 230/115 kV Trans No. 1	MTCALF 230/115KV TB 2 and METCALF 230/115KV TB 4	P6	N-1-1	113	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	104	Diverge	Potential San Jose area long-term transmission upgrade	
Metcalf 230/115 kV Trans No. 4	MTCALF 230/115KV TB 2 and METCALF 230/115KV TB 1	P6	N-1-1	113	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	104	Diverge	Potential San Jose area long-term transmission upgrade	
Metcalf-Morgan Hill 115 kV Line	GROYPKR1 13.80KV Gen Unit 1 and GREENVALLEY-MRGN HIL #1 115KV [0]	P3	G-1/N-1	< 100	< 100	110	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	< 100	NA	Project: Morgan Hill area reinforcement. Under review	
	AWSGILROYSS-LLAGAS #1 115KV [0] and GREENVALLEY-MRGN HIL #1 115KV [0]	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	119	< 100	< 100	< 100	144	NA	Project: Morgan Hill area reinforcement. Under review	
Metcalf-El Patio No. 2 115 kV Line	Base Case	P0	Base Case	89	58	80	36	31	51	54	36	147	82	40	58	118	153	Potential San Jose area long-term transmission upgrade	
	NEWARKHVDC-NEWARK D #1 230KV [0]	P1	N-1	NA	56	78	NA	32	50	NA	29	Diverge	NA	NA	56	119	Diverge	Sensitivity only	
	MTCALF-EL PATIO #1 115KV [2500]	P1	N-1	105	67	94	46	37	59	64	68	160	97	47	40	141	171	Project: South Bay Area Limiting Elements Upgrade. Long-term: Potential San Jose area transmission upgrade	
	MTCALF-EVERGREEN #1 115KV [2520]	P1	N-1	NA	56	79	NA	31	50	NA	34	135	NA	NA	57	117	144	Potential San Jose area long-term transmission upgrade	
	EVRGRN 1-MTCALF E #2 115KV [0]	P1	N-1	NA	56	79	NA	31	50	NA	34	135	NA	NA	57	117	144	Potential San Jose area long-term transmission upgrade	
	DVRaGT1 13.80KV & DVRbGT2 13.80KV & DVRaST3 13.80KV Gen Units	P1	N-1	82	54	74	37	27	48	51	2	Diverge	76	38	54	110	Diverge	Sensitivity only	
	TESLA-LOS BANOS 500KV	P1	N-1	78	51	70	34	26	47	47	3	Diverge	72	35	51	104	Diverge	Sensitivity only	
	SSS-NRSriser SVP 230 kV path	P1	N-1	83	56	76	37	32	49	52	1	< 100	77	39	56	112	< 100	Sensitivity only	
	Loss of PST 230 kV Path	P1	N-1	83	56	76	37	32	49	52	1	< 100	77	39	56	112	< 100	Sensitivity only	
	Internal breaker fault at Duane Duane-SRS 115 kV and KRS-Duane 115 kV and DVR	P2	Breaker	85	54	74	39	27	48	54	2	Diverge	78	41	54	109	Diverge	Sensitivity only	
	NRS 400 115 kV bus tie breaker to NRS 300 115 kV bus	P2	Breaker	113	NA	NA	52	NA	NA	72	NA	NA	103	61	NA	NA	NA	NA	Project: NRS rebuild
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and SANJOSEHVDC-SANJOSE #1 115KV [0]	P3	G-1/N-1	< 100	< 100	111	< 100	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	146	Diverge	Potential San Jose area long-term transmission upgrade
Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	DCTL	98	65	94	40	36	58	56	0	Diverge	87	38	66	131	Diverge	Sensitivity only		
Swift - Metcalf & Piery - Metcalf 115 KV Lines	P7	DCTL	88	62	87	39	35	56	54	2	Diverge	81	39	63	130	Diverge	Sensitivity only		
Los Esteros - Trimble & Los Esteros - Montague 115 KV	P7	DCTL	87	58	79	39	31	51	53	31	Diverge	79	41	59	137	Diverge	Sensitivity only		
PGAE lines but internal to SVP - NRS-SRS#2 115 kV and NRS-SRS#1 115 kV	P7	DCTL	87	52	72	39	29	44	55	31	< 100	80	42	52	107	< 100	Sensitivity only		
Metcalf-Llagas 115 kV Line	GROYPKR1 13.80KV Gen Unit 1 and MRGN HIL-AWSGILROYSS #1 115KV [0]	P3	G-1/N-1	< 100	< 100	113	< 100	< 100	< 100	< 100	< 100	NA	< 100	< 100	< 100	< 100	NA	Project: Morgan Hill area reinforcement. Under review	
	LLAGAS-GILROY F-GILROYENG-GILROYPK 115KV [0] and MRGN HIL-AWSGILROYSS #1 115KV [0]	P6	N-1-1	< 100	< 100	136	< 100	< 100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	115	Diverge	Project: Morgan Hill area reinforcement. Under review	
	MTCALF 230KV Section 2D	P2	Bus	104	79	97	48	65	69	52	32	115	83	41	80	103	120	Potential San Jose area long-term transmission upgrade	

Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)										Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2026 Summer Peak	2029 Summer Peak	2034 Summer Peak	2026 Winter Peak	2029 Winter Peak	2034 Winter Peak	2026 Spring Off-Peak	2029 Spring Off-Peak	2039 Greater Bay area Summer Peak	2026 SP Heavy Renewable & Min Gas Gen	2026 OP Sensitivity	2029 SP High CEC Forecast	2034 South Bay HI-load	2039 Greater Bay area Summer Peak		
Metcalf 230/115 kV Trans No. 2	METCALF 230KV - Section 1D & 2D	P2	Breaker	106	82	99	50	68	72	54	32	125	85	42	83	106	127	Potential San Jose area long-term transmission upgrade	
	METCALF 230KV - Section 2D & 2E	P2	Breaker	106	75	96	49	61	70	53	32	112	84	43	76	99	116	Potential San Jose area long-term transmission upgrade	
	MTCALF E1-25 25.00KV Gen Unit En and METCALF 230/115KV TB 4	P3	G-1/N-1	<100	<100	<100	<100	<100	<100	<100	<100	<100	NA	<100	<100	<100	104	NA	Sensitivity only
	METCALF 230/115KV TB 1 and METCALF 230/115KV TB 4	P6	N-1-1	127	<100	111	<100	<100	<100	<100	<100	Diverge	<100	<100	<100	117	Diverge	Potential San Jose area long-term transmission upgrade	
Metcalf 230/115 kV Trans No. 3	METCALF 230KV Section 2D	P2	Bus	101	77	94	47	63	67	51	31	112	80	40	78	100	116	Potential San Jose area long-term transmission upgrade	
	METCALF 230KV - Section 1D & 2D	P2	Breaker	103	80	96	48	66	70	52	31	121	82	41	81	103	123	Potential San Jose area long-term transmission upgrade	
	METCALF 230KV - Section 2D & 2E	P2	Breaker	103	73	93	48	59	68	52	31	109	82	41	74	96	113	Potential San Jose area long-term transmission upgrade	
	MTCALF E1-25 25.00KV Gen Unit En and METCALF 230/115KV TB 4	P3	G-1/N-1	<100	<100	<100	<100	<100	<100	<100	<100	<100	NA	<100	<100	<100	100	NA	Sensitivity only
	METCALF 230/115KV TB 4 and METCALF 230/115KV TB 2	P6	N-1-1	124	<100	109	<100	<100	<100	<100	<100	Diverge	<100	<100	<100	115	Diverge	Potential San Jose area long-term transmission upgrade	
Morgan Hill - AWS Gilroy 115 kV Line	GROYPKR1 13.80KV Gen Unit 1 and MTCALF D-LLAGAS 115KV [0]	P3	G-1/N-1	<100	<100	120	<100	<100	<100	<100	<100	NA	<100	<100	<100	<100	NA	Project: Morgan Hill area reinforcement. Under review	
	LLAGAS-GILROY F-GILROYENG-GILROYPK 115KV [0] and MTCALF D-LLAGAS 115KV [0]	P6	N-1-1	<100	102	143	<100	<100	<100	<100	<100	108	<100	<100	103	122	105	Project: Morgan Hill area reinforcement. Under review	
	Metcalf - Morgan Hill & Metcalf - Llagas 115 KV Lines	P7	DCTL	0	28	158	0	13	63	0	42	NA	0	0	27	16	NA	Project: Morgan Hill area reinforcement. Under review	
Piercy-Metcalf 115 kV Line	Base Case	P0	Base Case	68	60	77	40	47	56	44	16	139	57	29	60	113	141	Potential San Jose area long-term transmission upgrade	
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS	P1	N-1	72	63	82	44	49	59	44	16	Diverge	57	32	64	121	Diverge	Sensitivity only	
	TESLA-NEWARK #2 230KV [5354]	P1	N-1	74	64	83	42	49	60	49	16	Diverge	61	29	64	121	Diverge	Sensitivity only	
	NEWARK-DIXON LANDING 115KV [2990]	P1	N-1	106	81	109	49	49	62	50	13	168	65	50	82	150	169	Project: Metcalf - Piercy & Swift - Metcalf and Newark - Dixon Landing 115 kV Upgrade. Potential rescope as part of the San Jose long-term transmission solution.	
	COMPONENT_SW-TRIMBLE #1 115KV [0]	P1	N-1	NA	60	77	NA	47	56	NA	16	<100	NA	NA	60	121	<100	Sensitivity only	
	SWIFT-METCALF 115KV [3900]	P1	N-1	NA	66	86	NA	52	62	NA	18	Diverge	NA	NA	66	123	Diverge	Sensitivity only	
	DVRaGT1 13.80KV & DVRbGT2 13.80KV & DVRaST3 13.80KV Gen Units	P1	N-1	68	60	77	40	47	56	44	16	Diverge	57	29	60	115	Diverge	Sensitivity only	
	TRACY-LOS BANOS 500KV	P1	N-1	68	60	77	40	48	58	44	18	Diverge	57	29	60	113	Diverge	Sensitivity only	
	TESLA-METCALF 500KV	P1	N-1	52	48	63	38	47	49	42	12	Diverge	40	17	47	101	Diverge	Sensitivity only	
	TESLA-LOS BANOS 500KV	P1	N-1	68	60	77	40	48	59	49	18	Diverge	57	29	60	113	Diverge	Sensitivity only	
	SSS-NRSrser SVP 230 kV path	P1	N-1	68	60	77	40	47	56	44	16	<100	57	29	60	115	<100	Sensitivity only	
	Loss of PST 230 kV Path	P1	N-1	68	60	77	40	47	56	44	16	<100	57	29	60	115	<100	Sensitivity only	
	NEWARK F 115KV SECTION 2F	P2	Bus	106	81	109	49	49	62	50	13	169	65	50	82	151	169	Project: Metcalf - Piercy & Swift - Metcalf and Newark - Dixon Landing 115 kV Upgrade. Potential rescope as part of the San Jose long-term transmission solution.	
	NEWARK F - 2F 115KV & NEWARK-NUMMI LINE	P2	Breaker	106	81	109	49	49	62	50	13	169	65	50	82	151	169	Project: Metcalf - Piercy & Swift - Metcalf and Newark - Dixon Landing 115 kV Upgrade. Potential rescope as part of the San Jose long-term transmission solution.	
	NEWARK F - 2F 115KV & NEWARK F-LOCKHD 2-APP MAT LINE	P2	Breaker	106	81	109	49	49	62	50	13	169	65	50	82	150	170	Project: Metcalf - Piercy & Swift - Metcalf and Newark - Dixon Landing 115 kV Upgrade. Potential rescope as part of the San Jose long-term transmission solution.	
NEWARK F - 2F 115KV & NEWARK-TRIMBLE LINE	P2	Breaker	106	NA	NA	49	NA	NA	50	NA	186	65	50	NA	NA	183	Project: Metcalf - Piercy & Swift - Metcalf and Newark - Dixon Landing 115 kV Upgrade. Potential rescope as part of the San Jose long-term transmission solution.		
NEWARK F - 2F 115KV & NEWARK F-COMPONENT_SW LINE	P2	Breaker	NA	81	109	NA	49	62	NA	13	169	NA	NA	82	151	169	Potential San Jose area long-term transmission upgrade		
NEWARK F 115KV - SECTION 2F & 1F	P2	Breaker	107	81	111	49	49	62	50	13	Diverge	65	50	83	162	Diverge	Project: Metcalf - Piercy & Swift - Metcalf and Newark - Dixon Landing 115 kV Upgrade. Potential rescope as part of the San Jose long-term transmission solution.		
Internal breaker fault at Duane Duane-SRS 115 kV and KRS-Duane 115 kV and DVR	P2	Breaker	68	60	77	40	47	56	44	16	Diverge	57	29	60	115	Diverge	Sensitivity only		
RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and NEWARK-DIXON LANDING 115KV [2990]	P3	G-1/N-1	<100	<100	<100	<100	<100	<100	<100	<100	<100	NA	<100	<100	<100	132	NA	Sensitivity only	









2024-2025 ISO Reliability Assessment - Study Results

Study Area: **PG&E Greater Bay Area**

Thermal Overloads

Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)									Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2026 Summer Peak	2029 Summer Peak	2034 Summer Peak	2026 Winter Peak	2029 Winter Peak	2034 Winter Peak	2026 Spring Off-Peak	2029 Spring Off-Peak	2039 Greater Bay area Summer Peak	2026 SP Heavy Renewable & Min Gas Gen	2026 OP Sensitivity	2029 SP High CEC Forecast	2034 South Bay HI-load	2039 Greater Bay area Summer Peak	
KRS - Laurelwood 60 kV line	PIERCY-METCALF 115KV [4318]	P1	N-1	NA	56	80	NA	48	68	NA	35	Diverge	NA	NA	56	101	Diverge	Sensitivity only
	DVRaGT1 13.80kV & DVRbGt2 13.80kV & DVRaST3 13.80kV Gen Units	P1	N-1	40	56	80	34	48	68	35	35	Diverge	40	35	56	101	Diverge	Sensitivity only
	Kifer BESS Gen Unit	P1	N-1	42	56	80	34	48	68	35	35	Diverge	40	35	56	101	Diverge	Sensitivity only
	Internal breaker fault at Duane Duane-SRS 115 kV and KRS-Duane 115 kV and DVR	P2	Breaker	36	56	80	30	48	68	31	35	Diverge	37	30	56	102	Diverge	Sensitivity only
	Trimble - San Jose B & Kifer - FMC 115 KV Lines	P7	DCTL	40	56	80	34	48	68	35	35	Diverge	40	35	56	102	Diverge	Sensitivity only
Multiple facility overloads. Highest loadings reported for each scenario.	APPLIED MATERIALS 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	67	67	63	99	35	40	53	47	44	47	67	68	110	99	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	BAIR 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	73	79	108	120	33	48	68	30	15	28	60	80	76	118	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	C. COSTA SUB 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	105	111	173	233	38	45	62	62	20	62	67	113	173	229	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	C.COSTAPP 230KV BUS 1&2(FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	111	Diverge	49	66	101	52	58	61	98	99	Diverge	Diverge	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	CLAREMONT (OAKLAND K) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	118	123	144	177	93	111	135	80	77	80	101	125	136	169	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	CONTRA COSTA PP 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	Diverge	80	106	Diverge	49	66	87	50	39	59	97	96	Diverge	Diverge	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	EAST PORTAL 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	77	89	107	99	51	69	84	58	78	55	57	84	103	99	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	EAST SHORE 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	92	402	387	332	73	274	420	55	59	78	73	401	101	310	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	EASTSHORE 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	92	271	387	332	73	78	420	55	45	78	73	282	101	310	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	EASTSHORE 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	103	215	282	Diverge	73	88	223	63	55	76	80	220	275	Diverge	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	FMC 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	65	84	99	103	53	98	99	56	98	57	64	82	126	115	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	JEFFERSON 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	288	310	352	Diverge	170	228	349	162	84	161	158	313	353	Diverge	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	LARKIN (SF Y) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	85	82	111	133	65	79	91	63	52	62	60	83	105	130	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	LAWRENCE 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	63	63	59	99	32	37	50	43	41	43	63	64	106	99	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	LOS ESTEROS 115KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	104	103	108	Diverge	82	75	86	94	68	95	100	99	250	Diverge	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	LOS ESTEROS 230 KV BAAH BUS #1&2 (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	142	88	121	Diverge	56	91	105	62	64	83	108	87	179	Diverge	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	LOS ESTEROS 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	141	91	108	Diverge	86	99	118	94	59	112	120	89	307	Diverge	Install redundant battery supply
Multiple facility overloads. Highest loadings reported for each scenario.	MARTIN (SF H) 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	93	Diverge	Diverge	Diverge	44	Diverge	Diverge	41	50	41	56	Diverge	Diverge	Diverge	Install redundant battery supply

Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)										Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2026 Summer Peak	2029 Summer Peak	2034 Summer Peak	2026 Winter Peak	2029 Winter Peak	2034 Winter Peak	2026 Spring Off-Peak	2029 Spring Off-Peak	2039 Greater Bay area Summer Peak	2026 SP Heavy Renewable & Min Gas Gen	2026 OP Sensitivity	2029 SP High CEC Forecast	2034 South Bay HI-load	2039 Greater Bay area Summer Peak		
Multiple facility overloads. Highest loadings reported for each scenario.	MARTIN 115KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	101	103	116	Diverge	76	101	119	59	52	59	88	104	113	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	MARTIN 230 KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	103	76	90	Diverge	62	72	93	48	32	48	83	77	80	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	METCALF 115KV BATT(Failure of Non-Redundant Batt)	P5	Non-Redundant Battery/Relay	123	103	158	Diverge	87	90	99	92	87	90	97	98	227	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	METCALF 500-230KV BATT(Failure of Non-Redundant Batt)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	Diverge	Diverge	95	107	184	95	74	109	Diverge	Diverge	Diverge	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	MISSION (SF X) 115KV BATT(Failure of Non-Redundant Batt)	P5	Non-Redundant Battery/Relay	88	53	74	91	61	85	101	48	50	48	83	54	72	90	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	MONTA VISTA 115KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	77	82	103	Diverge	48	70	91	42	49	42	69	82	141	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	MONTA VISTA 230-115KV BATT(Failure of Non-Redundant Batt)	P5	Non-Redundant Battery/Relay	95	94	126	Diverge	65	94	128	59	59	49	90	96	146	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	MONTAGUE 115KV BATT(Failure of Non-Redundant Batt)	P5	Non-Redundant Battery/Relay	35	36	39	99	30	20	34	25	9	32	25	37	137	99	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	MORAGA 230-115KV BATT(Failure of Non-Redundant Batt)	P5	Non-Redundant Battery/Relay	220	224	266	Diverge	148	195	251	129	132	164	165	216	274	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	MORAGA 230KV BUS #1 &2(Failure of Non-Redundant Relay)	P5	Non-Redundant Battery/Relay	144	118	142	Diverge	75	82	136	78	73	162	103	158	148	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	MTCALF 115KV BUS (Failure of Non-Redundant Relay)	P5	Non-Redundant Battery/Relay	139	103	158	Diverge	87	90	99	92	87	90	101	98	227	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	MTCALF 230KV BUS (Failure of Non-Redundant Relay)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	Diverge	Diverge	95	93	186	95	75	108	Diverge	Diverge	Diverge	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	NEWARK 230KV BATT(Failure of Non-Redundant Batt)	P5	Non-Redundant Battery/Relay	114	155	Diverge	Diverge	69	76	167	83	74	78	105	162	Diverge	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	NEWARK E&F 115KV BATT(Failure of Non-Redundant Batt)	P5	Non-Redundant Battery/Relay	106	103	139	231	72	77	87	87	61	87	91	104	242	233	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	NORTECH 115KV BATT(Failure of Non-Redundant Batt)	P5	Non-Redundant Battery/Relay	92	94	96	102	79	73	80	92	60	92	92	90	107	103	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	Newark 115 KV (Failure of Non-Redundant Relay)	P5	Non-Redundant Battery/Relay	107	103	139	Diverge	76	83	103	90	91	93	97	105	232	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	OAKLAND X 115KV BATT(Failure of Non-Redundant Batt)	P5	Non-Redundant Battery/Relay	109	113	135	173	90	105	126	95	93	95	96	115	128	132	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	PITTSBURG PP 230-115KV BATT(Failure of Non-Redundant Batt)	P5	Non-Redundant Battery/Relay	79	82	147	Diverge	34	49	76	47	52	33	77	85	NA	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	PITTSBURG PP 230KV (Failure of Non-Redundant Relay)	P5	Non-Redundant Battery/Relay	84	74	131	Diverge	33	55	81	48	31	33	171	79	93	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	POTRERO (SF A) 115KV BATT(Failure of Non-Redundant Batt)	P5	Non-Redundant Battery/Relay	240	112	203	Diverge	122	234	253	98	100	98	227	115	198	Diverge	Install redundant battery supply	

Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)										Loading % (Sensitivity Scenarios)					Project & Potential Mitigation Solutions
				2026 Summer Peak	2029 Summer Peak	2034 Summer Peak	2026 Winter Peak	2029 Winter Peak	2034 Winter Peak	2026 Spring Off-Peak	2029 Spring Off-Peak	2039 Greater Bay area Summer Peak	2026 SP Heavy Renewable & Min Gas Gen	2026 OP Sensitivity	2029 SP High CEC Forecast	2034 South Bay HI-load	2039 Greater Bay area Summer Peak		
Multiple facility overloads. Highest loadings reported for each scenario.	POTRERO 115KV (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	95	75	115	134	66	91	116	53	47	53	83	77	103	134	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	RAVENSWOOD 115 (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	415	424	430	Diverge	292	335	388	299	204	299	357	425	410	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	RAVENSWOOD 230 KV BAAH BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	98	94	Diverge	Diverge	70	92	97	62	61	65	105	97	114	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	405	415	Diverge	Diverge	291	331	303	297	203	296	333	414	370	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	SAN JOSE B 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	88	98	93	Diverge	73	80	81	88	78	86	89	93	128	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	SAN LEANDRO (OAK U) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	NA	88	102	Diverge	NA	56	107	NA	38	NA	NA	89	98	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	Diverge	Diverge	88	Diverge	Diverge	61	52	57	118	Diverge	Diverge	Diverge	Install redundant battery supply	
Multiple facility overloads. Highest loadings reported for each scenario.	SOBRANTE 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	181	150	284	Diverge	140	107	224	149	29	149	105	198	267	Diverge	Install redundant battery supply	







Table with columns: Substation, Contingency (All and Worst P6), Category, Category Description, and Voltage PU (Baseline Scenarios) and Voltage PU (Sensitivity Scenarios). It contains 100 rows of data for various substations like PIERCY 115.0 kV, PITTSBURG-D 115.0 kV, etc.

Substation	Contingency	Category	Category Description	Post Cont. Voltage Deviation % (Baseline Scenarios)									Post Cont. Voltage Deviation % (Sensitivity Scenarios)				Project & Potential Mitigation Solutions				
				2026 Summer Peak	2029 Summer Peak	2034 Summer Peak	2026 Winter Peak	2029 Winter Peak	2034 Winter Peak	2026 Spring Off-Peak	2029 Spring Off-Peak	2039 Greater Bay area Summer Peak	2026 SP Heavy Renewable & Min Gas Gen	2026 OP Sensitivity	2029 SP High CEC Forecast	2034 South Bay Hi-load		2039 Greater Bay area Summer Peak			
ALMADEN 60.0 kV	P1-2:A17:34:_MONTA VISTA-LOS GATOS 60KV [7610]	P1	N-1	< 8	< 8	8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	10	< 8	Continue to monitor		
MCKEE 115.0 kV	P1-2:A18:57:_PIERCY-METCALF 115KV [4318]	P1	N-1	< 8	< 8	8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	19	< 8	Continue to monitor		
Multiple San Jose and SVP substations in the 60 and 115 kV voltage levels	P1-2:A16:70:_NEWARKHVDC-NEWARK D #1 230KV [0]	P1	N-1	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	>8	< 8	Sensitivity only		
Multiple San Jose and SVP substations in the 60 and 115 kV voltage levels	P1-2:A18:13:_SANJOSEHVDC-SANJOSEB #1 115KV [0]	P1	N-1	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	>8	< 8	Sensitivity only		
PIERCY 115.0 kV	P1-2:A18:57:_PIERCY-METCALF 115KV [4318]	P1	N-1	< 8	< 8	11	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	25	< 8	Continue to monitor		
SWIFT 115.0 kV	P1-2:A18:45:_SWIFT-METCALF 115KV [3900]	P1	N-1	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	8	< 8	Sensitivity only		



Contingency	Category	Category Description	Transient Stability Performance					Potential Mitigation Solutions
			Baseline Scenarios			Sensitivity Scenarios		
			2026 Spring Off-Peak	2029 Summer Peak	2034 Summer Peak	2026 OP Sensitivity	2029 SP High CEC Forecast	
P1-1 - Gen CRCKTCOG 18 kV unit 1	P1	N-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P1-2 - Line TESLA E to NEWARK D 230 kV ckt 1	P1	N-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P1-2 - Line TESLA E to RAVENSWD 230 kV ckt 1	P1	N-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P1-3 - Tran METCALF 500-230 kV bk 13	P1	N-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P1-3 - Tran MORAGA 230-115 kV bk 1	P1	N-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P1-4 - NEWARK E 230 kV SVC id v	P1	N-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P1-4 - POT_SVC 115 kV SVC id v	P1	N-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P1-5 - DC line TransBay Cable (Pittsburg-Potrero) fault at TBC_POT1 115	P1	N-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P1-5 - DC line TransBay Cable (Pittsburg-Potrero) fault at TBC_PT1 230	P1	N-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P1-2 - Cable Embarcadero - Potrero 230 kV ckt 1	P1	N-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P1-2 - Line NEWARK E to NWK DIST 230 kV ckt 1	P1	N-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P2-2 - Bus Fault at NEWARK D 230 kV (Sec 1D)	P2	Bus	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P2-2 - Bus Fault at RAVENSWD 230 kV	P2	Bus	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P2-3 - Internal fault at non-Bus-tie Breaker 262 at METCALF 230 kV Bus D (Metcalf-Los Esteros)	P2	Breaker	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P2-3 - Internal fault at non-Bus-tie Breaker 940 at NWK DIST 230 kV (Newark-Los Esteros)	P2	Breaker	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P2-4 - Internal fault at Bus-tie Breaker 312 at METCALF 230 kV (Sec 1D and 1E)	P2	Breaker	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P3-1 - Gen CRCKTCOG 18 kV unit 1 and ChevGen1 13.8 unit 1	P3	N-1-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P3-2 - Gen RUSELCTY (4 units) and Line TESLA E to RAVENSWD 230 kV ckt 1	P3	N-1-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P3-3 - Gen AGNEWCOGEN 13.8 kV unit 1 and Tran METCALF 500-230 kV bk 13	P3	N-1-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P3-3 - Gen CRCKTCOG 18 kV unit 1 and Tran MORAGA 230-115 kV bk 1	P3	N-1-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P3-4 - Gen LMEC (1 unit) and SVD MONTAVIS 230 kV id v	P3	N-1-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P3-5 - Gen CRCKTCOG 18 kV unit 1 and DC line TransBay Cable (Pittsburg-Potrero)	P3	N-1-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P4-1 - Stuck Breaker 232 protecting Gen CRCKTCOG 18 kV unit 1	P4	Breaker	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P4-3 - Stuck Breaker Ravenswood CB 262 protecting Tran RAVENSWD-RVNSWD D 230-115 kV bk 2 (special)	P4	Breaker	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P4-4 - Stuck Breaker 890 protecting NEWARK E 230 kV SVC id v	P4	Breaker	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P4-6 - Stuck Bus-tie Breaker 202 protecting Substation Bus MONTAVIS 230 kV Bus 1	P4	Breaker	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P4-6 - Stuck Bus-tie Breaker 202 protecting Substation Bus SANMATEO 230 kV Section 1D	P4	Breaker	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P4-6 - Stuck Bus-tie Breaker 202 protecting Substation Bus SOBRANTE 230 kV Bus 1	P4	Breaker	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P5-1 - Failure of non-redundant relay on Los Esteros 115 kV CB 582 protecting Gens at LECEF	P5	Non-Redundant Battery/Relay	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P5-1d - Failure of Pittsburg 230 kV CB 412 control circuits due to non-redundant DC panel with fault for Gens at DEC (ALL 230 kV clears remotely)	P5	Non-Redundant Battery/Relay	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P5-2 - Failure of non-redundant relay on Metcalf CB 232 protecting Line METCALF to MOSSLNSW 230 kV	P5	Non-Redundant Battery/Relay	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P5-2d - Failure of Ravenswood 230 kV CB 202 control circuits due to non-redundant DC panel with fault (not close in) for Line RAVENSWD to TESLA E 230 kV ckt 1 (ALL 230 kV clears remotely)	P5	Non-Redundant Battery/Relay	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required

Contingency	Category	Category Description	Transient Stability Performance					Potential Mitigation Solutions
			Baseline Scenarios			Sensitivity Scenarios		
			2026 Spring Off-Peak	2029 Summer Peak	2034 Summer Peak	2026 OP Sensitivity	2029 SP High CEC Forecast	
P5-3d - Failure of Newark 115 kV CB 750 control circuits due to non-redundant DC panel with fault for Tran NEWARK D 230/115 kV bk 9 (ALL 115 kV clears remotely)	P5	Non-Redundant Battery/Relay	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P5-3d - Failure of San Mateo 230 kV CB 372 control circuits due to non-redundant DC panel with fault for Tran SANMATEO 230 / 115 kV bk 7 (ALL 230 kV clears remotely)	P5	Non-Redundant Battery/Relay	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P5-5a - Failure of a non-redundant relay protecting substation MTCALF D 115 Kv	P5	Non-Redundant Battery/Relay	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P5-5a - Failure of non-redundant relay protecting Substation Bus EAST SHORE 230 KV BAAH BUS #1 (ALL 230 kV elements clear remotely)	P5	Non-Redundant Battery/Relay	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P5-5b - Failure of non-redundant DC battery supplying LAS POSITAS 230 and 60KV Buses	P5	Non-Redundant Battery/Relay	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P5-5c - Failure of non-redundant Station DC Battery Supply JEFFERSON 230-60kV Batt	P5	Non-Redundant Battery/Relay	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P5-5c - Failure of non-redundant Station DC battery Supply RAVENSWD 230 kV non-redundancy failure with fault	P5	Non-Redundant Battery/Relay	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P5-5c - Failure of non-redundant Station DC Battery Supplying Moraga 230kV and 115kV Buses	P5	Non-Redundant Battery/Relay	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P6-1 - Fault on Cable San Mateo - Martin 230 kV ckt 1 with Loss of Cable Jefferson - Egbert 230 kV ckt 1	P6	N-1-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P6-1 - Fault on Line Tesla - Metcalf 500 kV ckt 1 with Loss of Line Moss Landing - Los Banos 500 kV	P6	N-1-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P6-2 - Fault on Tran Metcalf 500-230 kV bk 11 with Loss of Tran Metcalf 500-230 kV bk 13	P6	N-1-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P6-2 - Fault on Tran Newark 230-115 kV bk 7 with Loss of Tran Newark 230-115 kV bk 9	P6	N-1-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P6-2 - Fault on Tran Ravenswood 230-115 kV bk 1 with Loss of Tran Ravenswood 230-115 kV bk 2	P6	N-1-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P6-4 - Fault at Martin on Cable San Mateo - Martin 230 kV ckt 1 with Loss of HVDC Line TransBay Cable	P6	N-1-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P6-4 - Fault on Line East Shore - San Mateo 230 kV ckt 1 with Loss of HVDC Line TransBay Cable	P6	N-1-1	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P7-1_RF - Fault on Line Pittsburg* - Tesla 230 kV ckt 1 and Line Pittsburg* - Tesla 230 kV ckt 2 (HSR Failure)	P7	DCTL	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P7-1_RF - Fault on Line Tesla - Newark* 230 kV ckt 2 and Line Newark Dist* - Los Esteros 230 kV ckt 1 (HSR Failure)	P7	DCTL	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P7-1_RS - Fault on Line Pittsburg* - Tesla 230 kV ckt 1 and Line Pittsburg* - Tesla 230 kV ckt 2 (HSR Success)	P7	DCTL	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required
P7-1_RS - Fault on Line Tesla-Ravenswood* 230 kV ckt 1 and Line Newark-Ravenswood* 230 kV ckt 1 (HSR Success)	P7	DCTL	No Issues	No Issues	No Issues	No Issues	No Issues	No mitigation required

Worst Contingency	Category	Category Description	Amount of Load Drop (MW)														Potential Mitigation Solutions	
			2026 Summer Peak	2029 Summer Peak	2034 Summer Peak	2026 Winter Peak	2029 Winter Peak	2034 Winter Peak	2026 Spring Off-Peak	2029 Spring Off-Peak	2039 Spring Off-Peak	2039 Greater Bay area Summer Peak	2026 SP Heavy Renewable & Min Gas Gen	2026 OP Sensitivity	2029 SP High CEC Forecast	2034 South Bay Hi-load		2039 Greater Bay area Summer Peak

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

Substation															Potential Mitigation Solutions
	2026 Summer Peak	2029 Summer Peak	2034 Summer Peak	2026 Winter Peak	2029 Winter Peak	2034 Winter Peak	2026 Spring Off-Peak	2029 Spring Off-Peak	2039 Greater Bay area Summer Peak	2026 SP Heavy Renewable & Min Gas Gen	2026 OP Sensitivity	2029 SP High CEC Forecast	2034 South Bay Hi-load	2039 Greater Bay area Summer Peak	
Kirker 115 kV	105	109	124	41	53	112	52	4	177	66	52	111	126	177	Removing limiting elements on the Pittsburg - Kirker 115 kV line