2026-2027 ISO Reliability Assessment - Study Results
Study Area: PG&E Greater Bay Area
Thermal Overloads

California ISO

Overloaded Facility	Contingency (All and Worst P6)	Category	Loading % (Baseline Scenarios)										Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
A-H-W #1 115KV	POTRERO E-TBC_POT1 #1 115KV and A-H-W #2 115KV (2)	P6	< 100	< 100	108	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
A-H-W #2 115KV	POTRERO D 115KV SECTION 2D	P2	87	100	121	128	45	95	100	48	40	100	59	46	101	Continue to monitor
	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	96	108	149	149	46	103	105	48	43	104	64	48	111	Potential mitigation in development
	POTRERO D SECTION 2D & POTRERO F SECTION 2F 115KV	P2	87	100	121	128	45	95	100	48	40	100	59	46	101	Continue to monitor
	POTRERO E-TBC_POT1 #1 115KV and A-H-W #1 115KV (2)	P6	< 100	< 100	105	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
AMES B1-B2 115 KV BUS TIE	GATEWAY1 18/230KV TB 1 and MTN VIEW-MONTA VISTA 115KV	P6	< 100	< 100	Diverge	135	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	MNTA VSA 115KV - Middle Breaker Bay 2	P2	77	70	133	140	35	46	106	31	6	85	50	31	52	Continue to monitor
	MT VIEW 115KV Section 1C	P2	NA	64	123	129	NA	43	96	NA	7	82	NA	NA	46	Continue to monitor
	MTN VIEW-MONTA VISTA 115KV	P1	NA	NA	129	136	NA	NA	103	NA	NA	81	NA	NA	NA	Continue to monitor
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 115KV	P2	39	68	109	115	12	48	94	16	30	71	40	17	45	Continue to monitor
	NEWARK E SECTION 2E & NEWARK F SECTION 2F 115KV	P2	49	65	104	110	21	45	88	23	32	69	49	21	42	Continue to monitor
	Newark-Ravenswood 230 KV and Tesla-Ravenswood 230 KV lines	P7	31	32	113	118	4	10	93	3	1	90	26	3	11	Continue to monitor
	NEWARK-RAVENSWOOD 230KV	P1	31	32	97	101	4	10	79	3	1	59	26	3	11	Continue to monitor
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and MTN VIEW-MONTA VISTA 115KV	P3	< 100	< 100	143	148	< 100	< 100	110	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	RVNSWD E SECTION 1E & RVNSWD D SECTION 1D 115KV	P2	111	119	149	157	61	89	109	53	34	91	92	52	101	Potential flow control or capacity increase project
	RVNSWD E SECTION 2E & RVNSWD D SECTION 2D 115KV	P2	38	25	104	110	14	3	79	13	11	63	35	12	8	Continue to monitor
AMES BS1-WHISMAN #1 115KV	AMES BS2-MT VIEW #1 115KV	P1	NA	NA	97	100	NA	NA	70	NA	NA	80	NA	NA	NA	Continue to monitor
	Britton-Monta Vista & Lawrence-Monta Vista 115 KV Lines	P7	78	54	112	114	48	42	72	54	29	78	30	53	64	Continue to monitor
	EGBERTSWSTA-JEFFERSN 230KV	P1	NA	32	98	100	NA	31	74	NA	33	80	NA	NA	40	Continue to monitor
	JEFFERSN-EGBERTSWSTA 230KV	P1	NA	32	98	100	NA	31	74	NA	33	80	NA	NA	40	Continue to monitor
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	51	Diverge	134	129	67	172	103	124	Diverge	Install redundant battery/relay supply
	MNTA VSA 115KV - Middle Breaker Bay 2	P2	85	53	151	158	50	41	103	57	40	110	32	56	62	Continue to monitor
	Monta Vista-Jefferson 230 KV Lines No. 1 & 2	P7	65	50	124	127	47	47	82	60	26	87	28	54	59	Continue to monitor
	Monta Vista-Jefferson Nos. 1 & 2 230 KV lines-1	P7	NA	NA	113	117	NA	NA	74	NA	NA	78	NA	NA	NA	Continue to monitor
	Monta Vista-Jefferson Nos. 1 & 2 230 KV lines-2	P7	NA	NA	124	127	NA	NA	82	NA	NA	87	NA	NA	NA	Continue to monitor
	MONTAVIS 230KV - Section 1E & 2E	P2	153	NA	NA	NA	82	NA	NA	83	NA	NA	95	84	NA	Project: Monta Vista 230 kV Bus Upgrade
	MT VIEW 115KV Section 1C	P2	NA	45	136	141	NA	38	92	NA	41	100	NA	NA	55	Continue to monitor
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	48	Diverge	7	128	67	17	102	123	Diverge	Install redundant battery/relay supply
	MTN VIEW-MONTA VISTA 115KV	P1	NA	NA	140	146	NA	NA	96	NA	NA	100	NA	NA	NA	Continue to monitor
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	62	Diverge	89	75	14	88	59	76	Diverge	Install redundant battery/relay supply
	NEWARK D 230KV - SECTION 1D & 2D	P2	66	76	156	163	44	68	115	54	11	116	33	54	Diverge	Continue to monitor
	NEWARK E 115KV SECTION 2Y	P2	71	59	120	125	35	48	89	45	5	89	43	42	64	Continue to monitor
	Newark-Ravenswood 230 KV and Tesla-Ravenswood 230 KV lines	P7	65	68	126	131	43	46	94	58	15	114	32	57	75	Continue to monitor
	NEWARK-RAVENSWOOD 230KV	P1	42	29	104	107	30	27	77	37	28	78	13	35	35	Continue to monitor
	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	31	5	143	148	19	11	85	19	31	88	3	20	16	Install redundant battery/relay supply
	RAVENSWOOD 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	82	77	157	158	46	Diverge	99	57	13	104	45	58	91	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	31	21	153	156	11	Diverge	87	7	39	91	13	12	3	Install redundant battery/relay supply
	RVNSWD E SECTION 1E & RVNSWD D SECTION 1D 115KV	P2	76	70	134	138	42	52	79	44	16	84	42	46	80	Continue to monitor
AMES BS2-MT VIEW #1 115KV	Metcalf - San Jose B HVDC Gen and WHISMAN-MONTA VISTA 115KV	P3	< 100	< 100	138	122	< 100	< 100	107	< 100	< 100	116	< 100	< 100	< 100	Continue to monitor
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	51	Diverge	116	126	57	141	103	121	Diverge	Install redundant battery/relay supply
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	71	77	95	103	35	53	58	36	17	46	51	36	82	Install redundant battery/relay supply
	MONTAVIS 230KV - Section 1E & 2E	P2	156	NA	NA	NA	81	NA	NA	83	NA	NA	99	84	NA	Project: Monta Vista 230 kV Bus Upgrade
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	49	Diverge	4	125	57	17	102	120	Diverge	Install redundant battery/relay supply
	NEWARK D 230KV - SECTION 1D & 2D	P2	51	59	124	128	36	59	101	46	9	113	22	45	Diverge	Continue to monitor
	Newark-Ravenswood 230 KV and Tesla-Ravenswood 230 KV lines	P7	50	51	100	102	36	40	84	50	12	111	23	49	57	Continue to monitor
	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	18	14	116	119	13	0	77	12	23	91	6	14	10	Install redundant battery/relay supply
	RAVENSWOOD 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	67	60	127	127	38	Diverge	89	48	10	105	33	49	73	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	7	24	125	127	6	Diverge	79	1	31	94	16	7	Diverge	Install redundant battery/relay supply
	RVNSWD E SECTION 1E & RVNSWD D SECTION 1D 115KV	P2	62	57	108	110	34	47	72	37	11	86	33	39	65	Continue to monitor

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
	WHISMAN-MONTA VISTA 115KV	P1	NA	NA	106	110	NA	NA	85	NA	NA	101	NA	NA	NA	Continue to monitor
	WHISMAN-MONTA VISTA 115KV and NEWARK-RAVENSWOOD 230KV	P6	< 100	< 100	145	< 100	< 100	< 100	131	< 100	< 100	111	< 100	< 100	< 100	Continue to monitor
AMES DST-PLO ALTO #1 115KV	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	NA	NA	98	104	NA	NA	77	NA	NA	71	NA	NA	NA	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	NA	108	111	NA	NA	85	NA	NA	80	NA	NA	NA	Install redundant battery/relay supply
A-P #1 115KV	POTRERO D - 1D 115KV & A-Y #1 (UNDERGROUND IDLE) LINE	P2	69	71	133	86	68	48	63	68	72	65	77	68	70	Continue to monitor
	POTRERO D 115KV - MIDDLE BREAKER BAY 2	P2	NA	73	136	91	NA	55	70	NA	73	70	NA	NA	76	Continue to monitor
	POTRERO D 115KV SECTION 2D	P2	75	76	144	95	70	58	72	71	80	73	81	71	79	Continue to monitor
	POTRERO D SECTION 1D & POTRERO F SECTION 1F 115KV	P2	69	71	133	86	68	48	63	68	72	65	77	68	70	Continue to monitor
	POTRERO D SECTION 2D & POTRERO F SECTION 2F 115KV	P2	75	76	144	95	70	58	72	71	80	73	81	71	79	Continue to monitor
APP MAT-DE ANZA SS #1 115KV	Britton-Monta Vista & Lawrence-Monta Vista 115 KV Lines	P7	NA	NA	100	108	NA	NA	67	NA	NA	59	NA	NA	NA	Potential flow control or capacity increase project
	BRITTON-MONTA VISTA 115KV	P1	NA	NA	99	107	NA	NA	67	NA	NA	59	NA	NA	NA	Potential flow control or capacity increase project
	GATEWAY1 18/230KV TB 1 and BRITTON-MONTA VISTA 115KV	P6	< 100	< 100	Diverge	107	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen and BRITTON-MONTA VISTA 115KV	P3	< 100	< 100	104	113	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	NA	Diverge	Diverge	NA	NA	97	NA	NA	108	NA	NA	NA	Install redundant battery/relay supply
	MNTA VSA 115KV - Middle Breaker Bay 2	P2	NA	NA	99	107	NA	NA	67	NA	NA	59	NA	NA	NA	Potential flow control or capacity increase project
	MONTA VISTA 115KV BAAH (FAILURE OF NON-REDUNDENT RELAY)	P5	NA	NA	101	109	NA	NA	67	NA	NA	59	NA	NA	NA	Install redundant battery/relay supply
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	NA	104	112	NA	NA	68	NA	NA	59	NA	NA	NA	Install redundant battery/relay supply
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	20	Diverge	110	42	22	101	37	40	Diverge	Install redundant battery/relay supply
A-X #1 115KV	A-P #1 115KV	P1	73	72	104	93	56	74	82	55	45	63	66	53	75	Continue to monitor
	A-Y #1 (UNDERGROUND IDLE) 115KV	P1	79	79	101	98	55	86	93	51	45	70	66	49	82	Continue to monitor
	A-Y #1 (UNDERGROUND IDLE) 115KV (LARKIN D-POTRERO D)	P2	79	79	101	98	55	86	93	51	45	70	66	49	82	Continue to monitor
	A-Y #2	P1	86	87	120	115	69	99	97	66	50	67	72	64	88	Continue to monitor
	HNTRS PT 115KV - RING R2 & R1	P2	78	77	104	97	56	88	87	54	43	66	67	52	80	Continue to monitor
	HNTRS PT 115KV - RING R2 & R3	P2	71	70	102	89	55	71	79	54	44	61	64	52	73	Continue to monitor
	HUNTERS POINT (SF P) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	89	91	107	108	63	88	104	57	43	76	67	55	94	Install redundant battery/relay supply
	LARKIN (SF Y) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	69	68	101	90	59	78	91	57	45	51	52	54	71	Install redundant battery/relay supply
	LARKIN D 115KV SECTION 1D	P2	79	79	101	98	55	86	93	51	45	70	66	49	82	Continue to monitor
	MARTIN (SF H) 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	0	88	49	Diverge	0	Diverge	100	0	35	74	0	0	90	Install redundant battery/relay supply
	MARTIN 115KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	84	87	70	101	51	89	93	42	36	74	51	58	91	Install redundant battery/relay supply
	Q1552BESS1 0.48KV GEN UNIT 1 and A-Y #2	P3	< 100	< 100	121	118	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	68	71	Diverge	Diverge	42	Diverge	Diverge	49	44	79	60	37	Diverge	Install redundant battery/relay supply
A-Y #2	POTRERO D - 1D 115KV & A-Y #1 (UNDERGROUND IDLE) LINE	P2	116	125	174	144	66	107	113	72	91	113	108	73	126	Potential mitigation in development
	POTRERO D 115KV - MIDDLE BREAKER BAY 2	P2	NA	117	169	137	NA	99	106	NA	90	108	NA	NA	121	Potential mitigation in development
	POTRERO D 115KV - SECTION 1D & 2D	P2	113	NA	NA	NA	66	NA	NA	72	NA	NA	106	72	NA	Potential mitigation in development
	POTRERO D 115KV SECTION 1D	P2	116	125	174	144	66	107	113	72	91	113	108	73	126	Potential mitigation in development
	POTRERO D 115KV SECTION 2D	P2	109	113	163	135	63	97	105	69	82	104	99	69	117	Potential mitigation in development
	POTRERO D SECTION 1D & POTRERO E SECTION 1E 115KV	P2	113	116	125	126	21	114	111	20	99	113	103	20	118	Potential mitigation in development
	POTRERO D SECTION 1D & POTRERO F SECTION 1F 115KV	P2	116	125	174	144	66	107	113	72	91	113	108	73	126	Potential mitigation in development
	POTRERO E - 1E 115KV & POT_SVC-POTRERO E #1 LINE	P2	109	110	118	119	16	110	104	14	100	107	100	15	113	Potential mitigation in development
	POTRERO E 115KV SECTION 1E	P2	109	110	118	119	16	110	104	14	100	107	100	15	113	Potential mitigation in development
BAIR 115/60KV TB 1	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	217	253	62	62	207	216	35	194	178	35	212	194	244	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	190	218	49	53	207	Diverge	14	194	179	17	202	192	Diverge	Install redundant battery/relay supply
	RVNSWD E SECTION 1E & RVNSWD D SECTION 1D 115KV	P2	76	180	127	132	48	153	109	33	79	96	56	36	184	Operational procedure
BAIR-BELMONT 115KV	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	136	153	43	44	116	132	29	110	94	31	121	110	151	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	125	140	32	35	113	Diverge	17	107	91	16	116	107	Diverge	Install redundant battery/relay supply
	BAIR - 1D 115KV & BAIR-RVNSWD D-LONESTAR LINE	P2	71	79	98	105	47	63	78	46	23	60	46	44	81	Continue to monitor
	BAIR 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	71	79	98	105	47	63	78	46	23	60	46	44	81	Install redundant battery/relay supply
	BAIR 115/60KV TB 1	P1	70	78	97	104	46	61	76	44	23	59	45	43	80	Continue to monitor
	BAIR 115KV SECTION 1D	P2	71	79	98	105	47	63	78	46	23	60	46	44	81	Continue to monitor
	CLY LND 115/60KV TB 2 and CLY LND 115/60KV TB 1	P6	< 100	203	332	< 100	< 100	169	177	< 100	< 100	140	< 100	< 100	212	Operational procedure

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
BAIR-CLY LNDG 60KV	GATEWAY1 18/230KV TB 1 and BAIR 115/60KV TB 1	P6	< 100	< 100	Diverge	104	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	341	378	39	47	296	326	8	291	261	15	322	291	373	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	318	351	15	11	294	Diverge	29	290	261	32	311	289	Diverge	Install redundant battery/relay supply
	Ravenswood-Bair Nos. 1 & 2 115 KV lines	P7	67	74	93	102	44	62	79	46	22	61	43	43	76	Continue to monitor
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and BAIR 115/60KV TB 1	P3	< 100	< 100	100	106	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	RVNSWD E SECTION 1E & RVNSWD D SECTION 1D 115KV	P2	72	133	64	73	40	102	41	20	57	46	53	27	138	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
BAIR-REDWOOD-CLY LNDG 60KV	BAIR - 1D 115KV & BAIR-RVNSWD D-LONESTAR LINE	P2	72	80	98	119	30	77	94	33	30	77	46	30	82	Continue to monitor
	BAIR 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	72	80	98	119	30	77	94	33	30	77	46	30	82	Install redundant battery/relay supply
	BAIR 115/60KV TB 1	P1	69	77	95	115	28	73	90	30	28	73	44	27	79	Continue to monitor
	BAIR 115KV SECTION 1D	P2	71	80	98	119	30	77	94	33	30	76	46	29	81	Continue to monitor
	CLY LND 115/60KV TB 2 and CLY LND 115/60KV TB 1	P6	< 100	188	284	< 100	< 100	150	156	< 100	< 100	132	< 100	< 100	196	Operational procedure
	GATEWAY1 18/230KV TB 1 and BAIR 115/60KV TB 1	P6	< 100	< 100	Diverge	116	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	49	50	90	108	14	53	65	13	21	54	27	10	58	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	49	50	90	108	14	53	65	13	21	54	27	10	58	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	49	50	90	108	14	53	65	13	21	54	27	10	58	Continue to monitor
	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	287	326	28	47	275	273	46	280	240	33	289	280	321	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	268	302	67	70	272	Diverge	82	278	240	77	278	276	Diverge	Install redundant battery/relay supply
	Ravenswood-Bair Nos. 1 & 2 115 KV lines	P7	64	71	89	112	25	77	96	34	28	78	40	28	71	Continue to monitor
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and BAIR 115/60KV TB 1	P3	< 100	< 100	100	119	< 100	< 100	100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	RVNSWD E SECTION 1E & RVNSWD D SECTION 1D 115KV	P2	90	135	85	81	45	82	47	41	57	65	68	45	139	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
BAIR-RVNSWD D-LONESTAR 115KV	CLY LND 115/60KV TB 1 and CLY LND 115/60KV TB 2	P6	< 100	< 100	125	< 100	< 100	< 100	108	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	CLY LND 115/60KV TB 2 and CLY LND 115/60KV TB 1	P6	< 100	< 100	119	< 100	< 100	< 100	103	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Ravenswood-San Mateo 115 KV and Ravenswood-Bair No. 1 115 KV lines	P7	65	83	98	104	44	69	86	65	40	84	51	58	83	Continue to monitor
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and RAVENSWOOD-BAIR #1 115KV	P3	< 100	< 100	< 100	103	< 100	< 100	107	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	RVNSWD D SECTION 1D & RVNSWD F SECTION 1F 115KV	P2	NA	101	107	113	NA	79	88	NA	53	91	NA	NA	102	Potential flow control or capacity increase project
BERESFORD - HILLSIDE #1 60 KV	JEFFERSON 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	326	340	254	333	254	337	434	231	117	140	190	237	341	Install redundant battery/relay supply
	MARTIN (SF H) 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	7	73	117	Diverge	2	Diverge	110	4	43	47	10	6	76	Install redundant battery/relay supply
	Monta Vista-Jefferson 230 KV Lines No. 1 & 2	P7	91	111	138	150	70	120	150	75	42	72	60	70	115	Potential flow control or capacity increase project
	Monta Vista-Jefferson Nos. 1 & 2 230 KV lines-1	P7	NA	NA	112	126	NA	NA	125	NA	NA	46	NA	NA	NA	Continue to monitor
	Monta Vista-Jefferson Nos. 1 & 2 230 KV lines-2	P7	NA	NA	138	150	NA	NA	150	NA	NA	72	NA	NA	NA	Continue to monitor
	MONTAVIS 230KV - Section 1A & 2A	P2	107	NA	NA	NA	79	NA	NA	87	NA	NA	72	81	NA	Project: Monta Vista 230 kV Bus Upgrade
	MONTAVIS 230KV - Section 1E & 2E	P2	NA	124	NA	NA	NA	121	NA	NA	53	NA	NA	NA	129	Project: Monta Vista 230 kV Bus Upgrade
	OX_MTN 4.16KV & OX_MTN 4.16KV & OX_MTN 4.16KV & OX_MTN 4.16KV & OX_MTN 4.16KV & OX_MTN 4.16KV and JEFFERSON HILLSDALE JCT 60KV	P3	< 100	< 100	< 100	< 100	< 100	< 100	103	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
BIRDS LANDING SW STA-CONTRA COSTA PP 230KV	BIRDS LANDING SW STA-CONTRA COSTA SUB 230KV	P1	99	99	46	34	21	35	16	99	17	46	98	68	101	Sensitivity only
	Q1349BESS 0.48KV GEN UNIT 1 and BIRDS LANDING SW STA-CONTRA COSTA SUB 230KV	P3	< 100	102	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Q1349-CAYETANO #1 230KV and BIRDS LANDING SW STA-CONTRA COSTA SUB 230KV	P6	< 100	102	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	100	< 100	101	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
BIRDS LANDING SW STA-CONTRA COSTA SUB 230KV	C.COSTAPPE - 2E 230KV & BVISTAWNDC1-DELTAPMP-C.COSTAPPE LINE	P2	99	101	46	36	16	36	22	95	7	54	93	68	103	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	C.COSTAPPE 230KV SECTION 2E	P2	99	101	46	36	16	36	22	95	7	53	93	68	103	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
BRITTON-MONTA VISTA 115KV	APP MAT 115KV - Middle Breaker Bay 2	P2	NA	NA	96	104	NA	NA	64	NA	NA	59	NA	NA	NA	Continue to monitor
	APP MAT-DE ANZA SS #1 115KV	P1	NA	NA	96	104	NA	NA	64	NA	NA	59	NA	NA	NA	Continue to monitor
	DE ANZA SS 115KV Section 1A	P2	NA	NA	96	104	NA	NA	64	NA	NA	59	NA	NA	NA	Continue to monitor
	GATEWAY1 18/230KV TB 1 and APP MAT-DE ANZA SS #1 115KV	P6	< 100	< 100	Diverge	104	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	LOS ESTEROS 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	95	89	98	100	67	73	70	58	20	69	56	59	89	Install redundant battery/relay supply
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	106	111	103	106	73	91	72	62	20	67	60	62	110	Install redundant battery/relay supply
	METCALFE 115KV - Section 2E & 1E	P2	NA	108	NA	NA	NA	88	NA	NA	24	NA	NA	NA	106	Project: New De Anza 115 kV substation
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	107	118	103	106	74	97	72	63	23	67	61	63	118	Install redundant battery/relay supply
	Newark - Lawrence 115 KV and Newark - Applied Materials 115 KV	P7	91	98	96	104	63	75	64	56	37	59	71	55	82	Continue to monitor
	Newark 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	118	98	68	69	87	74	45	77	36	49	84	77	82	Install redundant battery/relay supply
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	92	Diverge	63	80	38	63	86	82	Diverge	Install redundant battery/relay supply
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	< 100	< 100	< 100	105	72	99	60	62	28	59	66	64	Diverge	Results have been updated after line ratings revisions. The near-term overloads were dismissed, while the long-term overloads persist.
	NEWARK E - 2E 230KV & NEWARK E-TASSAJAR-RESEARCH LINE	P2	95	102	86	88	66	84	59	57	28	58	59	59	99	Project: New De Anza 115 kV substation

2026-2027 ISO Reliability Assessment - Study Results
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Overloaded Facility	Contingency (All and Worst P6)	Category	Loading % (Baseline Scenarios)										Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
	NEWARK E 230KV - SECTION 1E & 2E	P2	96	< 100	96	100	67	88	64	57	30	64	60	59	106	Results have been updated after line ratings revisions. The near-term overloads were dismissed, while the long-term overloads persist.
	NEWARK E 230KV SECTION 2E	P2	95	102	86	88	66	84	59	57	28	58	59	59	99	Project: New De Anza 115 kV substation
	NEWARK E SECTION 2E & NEWARK F SECTION 2F 115KV	P2	117	96	68	71	87	74	46	76	36	46	83	76	80	Project: New De Anza 115 kV substation
	NEWARK E&F 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	91	98	95	104	63	75	65	56	37	59	71	56	82	Install redundant battery/relay supply
	NEWARK F - 2F 115KV & NEWARK F-COMPONENT_SW LINE	P2	117	96	NA	NA	87	74	NA	76	36	NA	83	76	80	Project: LC24 Network Upgrade
	NEWARK F - 2F 115KV & NEWARK-NUMMI LINE	P2	117	96	71	74	87	74	49	76	36	49	83	76	80	Project: LC24 Network Upgrade
	NEWARK F 115KV SECTION 2F	P2	117	96	71	74	87	74	49	76	36	49	83	76	80	Project: LC24 Network Upgrade
	NEWARK-APPLIED MATERIALS 115KV (NEWARK F-LCKHD J2)	P2	117	97	71	74	87	74	49	76	36	49	83	76	80	Project: LC24 Network Upgrade
	Newark-Lawrence 115 KV and Newark-Applied Materials 115 KV lines	P7	91	97	96	104	63	74	64	56	36	59	71	56	81	Continue to monitor
	Whisman-Monta Vista & Mountain View-Monta Vista 115 KV Line	P7	< 100	91	99	102	71	77	72	61	9	69	58	62	88	Results have been updated after line ratings revisions. The near-term overloads were dismissed, while the long-term overloads persist.
BVISTAWNDC1-DELTAPMP-C.COSTAPPE 230KV	Lambie SW STA-Birds Landing SW STA 230 KV and Peabody-Birds Landing SW STA 230 KV lines	P7	7	23	12	29	52	12	31	23	104	86	33	19	28	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	60	Diverge	29	39	100	56	61	7	Diverge	Install redundant battery/relay supply
	SAN MATEO-BAY MEADOWS #1 115KV and BRENTWOOD-KELSO 230KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	111	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Vaca-Peabody 230 KV and Vaca-Lambie SW STA 230 KV lines	P7	9	25	15	41	49	12	40	18	110	85	34	24	31	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
CASTRO VALLEY-NEWARK 230KV	C.COSTAPPD 230KV - SECTION 1D & 2D	P2	90	111	68	62	48	55	20	66	55	41	101	59	118	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Contra Costa - Las Positas 230 KV and Contra Costa-Lonetree 230 KV lines	P7	92	110	84	78	61	63	32	72	74	49	101	65	117	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Contra Costa - Las Positas 230 KV and Lonetree - Cayetano 230 KV lines	P7	90	108	83	77	61	63	31	73	76	49	102	64	116	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Contra Costa-Las Positas 230 KV and North Dublin-Vineyard 230 KV lines	P7	86	109	81	77	63	62	31	72	75	48	102	63	116	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Metcalf - San Jose B HVDC Gen and TESLA-NEWARK #2 230KV	P3	< 100	116	< 100	Diverge	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	74	Diverge	30	101	61	54	110	93	Diverge	Install redundant battery/relay supply
	MOSSLANDING-LOSBANOS 500KV and TESLA-METCALF 500KV	P6	< 100	131	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	74	Diverge	33	100	60	52	109	92	Diverge	Install redundant battery/relay supply
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	89	116	82	83	60	66	29	70	69	48	101	65	Diverge	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	NEWARK E - 2E 230KV & NEWARK E-TASSAJAR-RESEARCH LINE	P2	87	111	76	74	55	60	26	66	59	44	97	63	119	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	NEWARK E 230KV SECTION 2E	P2	87	111	76	74	55	60	26	66	59	44	96	62	119	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	PITTSBURG-D SECTION 1D & PITTSBURG-E SECTION 1E 230KV	P2	83	113	73	70	57	60	21	62	65	34	103	60	121	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	90	111	79	76	57	62	29	69	55	47	94	66	120	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	TESLA-METCALF 500KV	P1	NA	95	57	53	NA	51	14	NA	65	35	NA	NA	100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	TESLA-NEWARK #2 230KV	P1	80	101	71	68	51	54	24	62	55	41	89	59	108	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	84	107	72	70	54	66	29	72	65	47	98	67	115	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
CHRISTIE-FRANKLIN #2	Base Case	P0	80	86	94	103	48	69	121	45	15	73	39	45	88	Continue to monitor
	SOBRANTE 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	84	78	97	117	51	76	129	39	13	64	35	39	81	Install redundant battery/relay supply
CHRISTIE-SOBRANTE 115KV	OLEUM 115KV - SECTION 1E & 1D	P2	102	31	35	37	72	23	36	70	9	27	54	70	32	Project: Christie-Sobrante 115 kV Line Reconductor
	OLEUM 115KV - SECTION 1E & 1F	P2	103	32	35	37	72	23	36	70	9	27	54	70	32	Project: Christie-Sobrante 115 kV Line Reconductor
	OLEUM 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	103	32	35	37	72	23	36	70	9	27	54	70	32	Install redundant battery/relay supply
	OLEUM 115KV SECTION 1E	P2	102	31	35	37	72	23	36	70	9	27	54	70	32	Project: Christie-Sobrante 115 kV Line Reconductor
	OLEUM-NORTH TOWER-CHRISTIE 115KV (OLEUM-MRTNZJCT)	P2	102	31	35	37	72	23	36	70	9	27	54	70	32	Project: Christie-Sobrante 115 kV Line Reconductor
	PITTSBURG PP 230KV (FAILURE OF NON-REDUNDANT RELAY)	P5	91	15	15	17	51	4	6	118	1	18	17	118	13	Install redundant battery/relay supply
	PITTSBURG-D 230KV - SECTION 2D & 1D	P2	90	28	33	34	51	14	24	117	4	30	15	117	27	Project: Christie-Sobrante 115 kV Line Reconductor
	SOBRANTE-G #1 115KV and SOBRANTE-G #2 115KV	P6	144	< 100	< 100	< 100	< 100	< 100	< 100	100	< 100	< 100	< 100	< 100	< 100	Project: Christie-Sobrante 115 kV Line Reconductor
	Sobrante-G Nos. 1 & 2 115 KV lines	P7	137	71	84	92	79	50	67	102	15	58	49	97	72	Project: Christie-Sobrante 115 kV Line Reconductor
CHRISTIE-STAUFFER_JCT #1 60KV	C. COSTA SUB 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	43	25	25	25	35	60	89	43	19	69	25	43	120	Sensitivity only
C-L #1 115KV	CLAREMONT (OAKLAND K) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	104	110	31	32	68	124	46	56	53	24	64	56	115	Install redundant battery/relay supply
	CLARMNT 115KV - SECTION 2D & 1D	P2	104	110	31	32	68	124	46	56	53	24	64	56	115	Project: North Oakland Reinforcement Project
	K-D #1 115KV and K-D #2 115KV	P6	103	111	< 100	< 100	< 100	124	< 100	< 100	< 100	< 100	< 100	< 100	115	Project: North Oakland Reinforcement Project
	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	309	232	175	185	158	548	180	230	154	118	172	232	281	Install redundant battery/relay supply
	OAKLAND X 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	48	20	24	25	33	128	10	59	33	28	29	59	22	Install redundant battery/relay supply
	OAKLAND-C 115KV SECTION ME	P2	64	32	37	40	27	94	94	52	23	100	14	52	65	Continue to monitor
	OAKLAND-X 115KV - SECTION 2D & 1D	P2	48	20	24	25	33	128	10	59	33	28	29	59	22	Project: North Oakland Reinforcement Project
CLAYTN-LAKEWD-C-MEDW LNE-WALNUTCR 115KV	GATEWAY1 18/230KV TB 1 and LAKEWOOD-CLAYTON 115KV	P6	< 100	< 100	Diverge	115	< 100	100	100	< 100	< 100	< 100	< 100	< 100	105	Continue to monitor
	LAKEWOOD-CLAYTON 115KV	P1	95	97	107	114	66	81	96	55	53	72	74	60	101	Continue to monitor
	Metcalf - San Jose B HVDC Gen and LAKEWOOD-CLAYTON 115KV	P3	< 100	< 100	115	120	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Results have been updated after load revisions. The near-term overloads were dismissed, while the long-term overloads persist.
CLY LND 115/60KV TB 1	CLY LND 115/60KV TB 2	P1	NA	81	106	110	NA	73	82	NA	20	67	NA	NA	83	Continue to monitor
	CLY LND 115KV - MIDDLE BREAKER BAY 2	P2	NA	79	105	108	NA	71	80	NA	19	65	NA	NA	81	Continue to monitor
	MARSHLD2 230/16.5KV TB 3 and CLY LND 115/60KV TB 2	P6	< 100	< 100	Diverge	110	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen and CLY LND 115/60KV TB 2	P3	< 100	< 100	114	116	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	CLY LND 115/60KV TB 1	P1	NA	81	106	110	NA	73	82	NA	20	67	NA	NA	83	Continue to monitor

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CLY LND 115/60KV TB 2	CLY LND 115KV - MIDDLE BREAKER BAY 1	P2	NA	79	105	107	NA	71	80	NA	19	65	NA	NA	81	Continue to monitor
	MARSHLD2 230/16.5KV TB 3 and CLY LND 115/60KV TB 1	P6	< 100	< 100	Diverge	110	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen and CLY LND 115/60KV TB 1	P3	< 100	< 100	114	116	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
COMPONENT_SW-SRS 115KV	NEWARK D-NSJ-MIDPNTSS #1 230KV and NRS-TRIMBLE #1 230KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
COMPONENT_SW-TRIMBLE-GIS #1 115KV	NEWARK D-NSJ-MIDPNTSS #1 230KV and NRS-TRIMBLE #1 230KV	P6	< 100	< 100	102	108	< 100	< 100	111	< 100	< 100	100	< 100	< 100	< 100	Continue to monitor
CONTRA COSTA PPD - CONTRA COSTA PPE 230 KV BUS TIE #1	C.COSTAPPE - 2E 230KV & BVISTAWNDC1-DELTAPMP-C.COSTAPPE LINE	P2	85	102	15	9	15	32	10	35	31	13	68	29	105	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	C.COSTAPPE 230KV SECTION 2E	P2	85	102	16	9	15	32	9	35	31	14	68	29	105	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	C.COSTAPPE SECTION 2E & C.COSTAPPF SECTION 2F 230KV	P2	92	108	24	18	7	40	3	39	24	20	71	33	112	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
CONTRA COSTA PPD - CONTRA COSTA PPE 230 KV BUS TIE #2	C.COSTAPPE - 1E 230KV & ROSSMOOR-D-MORAGA-C.COSTAPPE LINE	P2	95	113	25	22	12	42	9	38	35	29	69	35	117	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	C.COSTAPPE 230KV SECTION 1E	P2	94	113	25	22	12	42	9	38	35	28	69	35	117	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	C.COSTAPPE SECTION 1E & C.COSTAPPF SECTION 1F 230KV	P2	95	111	26	21	8	40	8	39	30	25	69	33	115	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
CONTRA COSTA-LAS POSITAS 230KV	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	81	Diverge	83	74	48	64	69	69	Diverge	Install redundant battery/relay supply
	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	83	92	102	102	75	89	95	64	57	70	64	58	95	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	81	Diverge	85	74	48	62	68	69	Diverge	Install redundant battery/relay supply
COOLEY LANDING B1-B2 115 KV BUS TIE	CLY LND2 115/60KV TB 2 and RAVENSWOOD-COOLEY LANDING #1 115KV	P6	103	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
COOLEY LANDING-PALO ALTO 115KV	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	120	116	181	186	86	94	125	94	132	110	141	94	115	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	113	108	211	206	86	Diverge	150	93	132	145	137	92	Diverge	Install redundant battery/relay supply
	RAVENSWOOD-COOLEY LANDING #2 115KV and RAVENSWOOD-COOLEY LANDING #1 115KV	P6	< 100	130	169	< 100	< 100	117	133	< 100	< 100	102	< 100	< 100	135	Potential flow control or capacity increase project
	Ravenswood-Cooley Landing Nos. 1 & 2 115 KV lines	P7	88	130	168	172	58	100	113	62	29	103	52	61	134	Potential flow control or capacity increase project
	Ravenswood-Palo Alto Nos. 1 & 2 115 KV lines	P7	125	135	30	32	67	106	25	65	84	45	123	65	141	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
	RVNSWD E 115KV - SECTION 2E & 1E	P2	129	138	24	7	68	108	30	65	85	44	126	66	144	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
	RVNSWD E SECTION 2E & RVNSWD D SECTION 2D 115KV	P2	9	87	155	160	5	75	124	16	19	111	24	11	88	Potential flow control or capacity increase project
COOLEY LANDING-STANFORD 60KV	Base Case	P0	87	97	126	138	47	72	70	53	17	94	45	53	100	Continue to monitor
	CLY LND 115/60KV TB 1	P1	76	85	112	124	44	67	66	46	15	83	39	46	88	Continue to monitor
	CLY LND 115/60KV TB 2	P1	NA	82	107	120	NA	77	76	NA	15	80	NA	NA	85	Continue to monitor
	CLY LND 115/60KV TB 2 and CLY LND 115/60KV TB 1	P6	< 100	< 100	168	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	104	Continue to monitor
	CLY LND 115KV - MIDDLE BREAKER BAY 1	P2	NA	82	107	121	NA	77	76	NA	15	80	NA	NA	85	Continue to monitor
	CLY LND 115KV - MIDDLE BREAKER BAY 2	P2	NA	82	107	121	NA	77	76	NA	15	80	NA	NA	85	Continue to monitor
	Metcalf - San Jose B HVDC Gen	P1	76	85	110	124	44	67	66	46	15	83	39	46	88	Continue to monitor
	METCALF-SJB MONOPOLE	P1	73	82	107	120	50	79	76	44	15	80	37	45	85	Continue to monitor
	MONTA VISTA 115KV BAAH (FAILURE OF NON-REDUNDENT RELAY)	P5	76	85	110	124	44	67	66	46	15	83	39	46	88	Install redundant battery/relay supply
	NEWARK E 230KV - SECTION 1E & 2E	P2	76	85	110	124	44	67	66	46	15	83	39	46	88	Continue to monitor
	POTRERO (SF A) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	76	85	110	124	44	67	66	46	15	83	39	46	88	Install redundant battery/relay supply
	POTRERO 115KV (FAILURE OF NON-REDUNDANT RELAY)	P5	76	85	110	124	44	67	66	46	15	83	39	46	88	Install redundant battery/relay supply
	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	76	85	110	125	44	67	66	46	15	83	39	46	88	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	76	85	113	124	44	67	66	46	15	83	39	46	88	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	76	85	113	124	44	67	66	46	15	83	39	46	88	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	76	85	113	124	44	67	66	46	15	83	39	46	88	Continue to monitor
	POTRERO E-TBC_POT1 #1 115KV	P1	76	85	110	123	44	67	66	46	15	83	39	46	88	Continue to monitor
	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	85	85	115	128	64	70	66	76	23	85	53	76	86	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	80	81	116	128	63	Diverge	66	76	24	85	52	75	Diverge	Install redundant battery/relay supply
	Ravenswood-Cooley Landing Nos. 1 & 2 115 KV lines	P7	76	85	110	125	44	67	66	46	15	83	39	46	88	Continue to monitor
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and SANMATEO SVD=V	P3	< 100	< 100	< 100	125	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	RVNSWD E SECTION 2E & RVNSWD D SECTION 2D 115KV	P2	73	82	107	121	50	79	76	44	11	82	37	45	85	Continue to monitor
	SRI INTL 9.11KV GEN UNIT 1	P1	81	90	115	117	57	84	76	51	18	87	43	51	93	Continue to monitor
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	76	85	110	123	44	67	66	46	15	83	39	46	88	Continue to monitor
	Whisman-Monta Vista & Mountain View-Monta Vista 115 KV Line	P7	76	85	110	123	44	67	66	46	15	83	39	46	88	Continue to monitor
C-X #2 115KV	CLAREMONT (OAKLAND K) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	87	56	4	6	23	143	46	67	50	53	53	68	78	Install redundant battery/relay supply
	CLARMNT 115KV - SECTION 2D & 1D	P2	87	56	4	6	23	143	46	67	50	53	53	68	78	Project: North Oakland Reinforcement Project
	K-D #1 115KV and K-D #2 115KV	P6	< 100	< 100	< 100	< 100	< 100	101	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: North Oakland Reinforcement Project
	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	146	143	59	62	104	214	24	88	63	8	80	88	151	Install redundant battery/relay supply
C-X #3 115KV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	69	67	24	25	49	101	10	41	30	4	38	42	71	Install redundant battery/relay supply
DALY CTY-SERRMNTE 115KV	MARTIN C 115KV - MIDDLE BREAKER BAY 1	P2	70	89	97	107	36	82	117	37	38	77	42	37	93	Continue to monitor
	MARTIN C-QUARRYRDSWST #1 115KV	P1	NA	89	96	105	NA	80	118	NA	38	77	NA	NA	91	Continue to monitor
	Metcalf - San Jose B HVDC Gen and MARTIN C-QUARRYRDSWST #1 115KV	P3	< 100	< 100	< 100	107	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	POT_SVC-POTRERO E #1 115KV and MARTIN C-QUARRYRDSWST #1 115KV	P6	< 100	< 100	< 100	< 100	< 100	109	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	QUARRYRDSWST 115KV - MIDDLE BREAKER BAY 1	P2	NA	74	81	91	NA	69	107	NA	28	68	NA	NA	77	Continue to monitor
	QUARRYRDSWST-DALY CTY #1 115KV	P1	NA	74	81	91	NA	69	107	NA	28	68	NA	NA	77	Continue to monitor

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Overloaded Facility	Contingency (All and Worst P6)	Category	Loading % (Baseline Scenarios)										Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
DE ANZA SS-LAWRENCE #1 115KV	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	NA	Diverge	Diverge	NA	NA	90	NA	NA	95	NA	NA	NA	Install redundant battery/relay supply
DE ANZA SS-LOCKHD 2 115KV	Metcalf - San Jose B HVDC Gen and NEWARK F-LOCKHD 1 115KV	P3	< 100	< 100	101	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
DE ANZA SS-NEWARK F 115KV	Britton-Monta Vista & Lawrence-Monta Vista 115 KV Lines	P7	207	91	50	53	147	67	43	129	32	41	142	129	76	Project: New De Anza 115 kV substation
	BRITTON-MONTA VISTA 115KV	P1	205	90	NA	NA	147	66	NA	128	32	NA	142	128	75	Project: New De Anza 115 kV substation
	BRITTON-MONTA VISTA 115KV and SANJOSEB230 230/115KV TB 1	P6	208	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: New De Anza 115 kV substation
	Metcalf - San Jose B HVDC Gen and BRITTON-MONTA VISTA 115KV	P3	208	< 100	< 100	< 100	148	< 100	< 100	128	< 100	< 100	142	129	< 100	Project: New De Anza 115 kV substation
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	90	Diverge	69	134	25	69	113	129	Diverge	Install redundant battery/relay supply
	MNTA VSA 115KV - Middle Breaker Bay 2	P2	206	90	31	32	147	66	28	128	32	27	142	129	75	Project: New De Anza 115 kV substation
	MONTA VISTA 115KV BAAH (FAILURE OF NON-REDUNDENT RELAY)	P5	210	92	48	50	147	67	41	129	32	39	143	129	77	Install redundant battery/relay supply
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	213	93	47	50	148	69	41	130	32	39	143	129	79	Install redundant battery/relay supply
	MONTAVIS 230KV - Section 1E & 2E	P2	185	NA	NA	NA	131	NA	NA	114	NA	NA	121	114	NA	Project: New De Anza 115 kV substation
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	89	Diverge	36	133	25	30	113	128	Diverge	Install redundant battery/relay supply
DE ANZA SS-NORTECH 115KV	NRS-TRIMBLE #1 230KV and COMPONENT_SW-TRIMBLE-GIS #1 115KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	105	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
DIXON LD-MCKEE-MABURY 115KV	GATEWAY1 18/230KV TB 1 and PIERCY-METCALF 115KV	P6	< 100	< 100	Diverge	108	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	MARSHLD2 230/16.5KV TB 3 and PIERCY-METCALF 115KV	P6	< 100	< 100	Diverge	135	< 100	< 100	107	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen and PIERCY-METCALF 115KV	P3	< 100	< 100	138	145	< 100	< 100	108	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	104	105	133	140	53	76	102	45	15	65	55	46	111	Install redundant battery/relay supply
	METCALFD Section 2D & METCALFE Section 2E 115KV	P2	NA	NA	103	108	NA	NA	81	NA	NA	50	NA	NA	NA	Potential flow control or capacity increase project
	METCALFE - 2E 115KV & METCALFE-METCALFE line	P2	NA	NA	103	109	NA	NA	81	NA	NA	50	NA	NA	NA	Potential flow control or capacity increase project
	METCALFE 115KV - Section 2E & 1E	P2	NA	NA	132	139	NA	NA	102	NA	NA	65	NA	NA	NA	Potential flow control or capacity increase project
	METCALFE 115KV Section 2E	P2	NA	NA	128	134	NA	NA	102	NA	NA	65	NA	NA	NA	Potential flow control or capacity increase project
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	105	105	133	140	54	75	102	45	15	65	55	46	110	Install redundant battery/relay supply
	PIERCY-METCALF 115KV	P1	NA	NA	103	108	NA	NA	81	NA	NA	50	NA	NA	NA	Potential flow control or capacity increase project
	Swift - Metcalf & Piercy - Metcalf 115 KV Lines	P7	103	103	129	136	53	74	102	45	15	65	54	45	108	Potential flow control or capacity increase project
DUMBARTON-NEWARK 115KV	E. SHORE 230/115KV TB 2 and E. SHORE 230/115KV TB 1	P6	184	< 100	< 100	< 100	143	< 100	< 100	128	< 100	< 100	122	129	< 100	Project: LC24 Network Upgrade
	EASTSHORE 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	186	28	5	5	133	23	29	129	6	17	122	129	74	Install redundant battery/relay supply
	Metcalf - San Jose B HVDC Gen and E. SHORE 230/115KV TB 3	P3	< 100	102	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: LC24 Network Upgrade
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	43	56	24	16	41	Diverge	33	70	6	22	34	105	Diverge	Sensitivity only
E. SHORE 230/115KV TB 2	E. SHORE 230/115KV TB 1 and E. SHORE 230/115KV TB 3	P6	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	120	Sensitivity only
E. SHORE 230/115KV TB 3	E. SHORE 230/115KV TB 1 and E. SHORE 230/115KV TB 2	P6	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	120	Project: LC24 Network Upgrade
	MORAGA.E 115KV - SECTION 1E & 2E	P2	NA	56	107	111	NA	32	61	NA	13	53	NA	NA	47	Project: LC24 Network Upgrade
EAST GRAND-SAN MATEO 115KV	Base Case	P0	51	67	95	100	46	92	114	65	49	101	57	39	75	Continue to monitor
	EGBERTSWSTA-JEFFERSN 230KV and SAN MATEO-MARTIN 230KV	P6	< 100	< 100	108	< 100	< 100	Diverge	105	< 100	< 100	111	< 100	< 100	< 100	Continue to monitor
	EGBERTSWSTA-JEFFERSN 230KV and SAN MATEO-MARTIN 230KV (2)	P6	< 100	103	128	< 100	< 100	Diverge	115	< 100	< 100	121	< 100	< 100	102	Potential mitigation in development
	JEFFERSN-EGBERTSWSTA 230KV	P1	NA	76	97	101	NA	82	98	NA	44	91	NA	NA	73	Continue to monitor
	MARTIN (SF H) 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	85	102	125	Diverge	62	Diverge	89	58	55	103	68	59	95	Install redundant battery/relay supply
	MARTIN 115KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	86	103	122	133	62	79	89	58	55	104	68	58	95	Install redundant battery/relay supply
	MARTIN 230 KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	85	81	102	107	70	89	105	94	54	95	84	65	77	Install redundant battery/relay supply
	MARTIN C 115KV - MIDDLE BREAKER BAY 5	P2	83	100	121	128	61	77	89	58	54	92	68	58	92	Continue to monitor
	MARTIN C 230KV - MIDDLE BREAKER BAY 3	P2	51	81	102	107	45	87	105	63	54	95	56	42	77	Continue to monitor
	MARTIN S1 230KV - MIDDLE BREAKER BAY 2	P2	NA	81	102	107	NA	87	105	NA	54	95	NA	NA	77	Continue to monitor
	Martin-East Grand 115 KV and San Mateo-Martin No. 6 115 KV lines	P7	83	100	122	129	61	77	89	58	54	103	68	58	92	Potential mitigation in development
	MARTIN-EAST GRAND 115KV	P1	83	100	121	128	61	77	89	58	54	103	68	58	92	Continue to monitor
	Martin-East Grand No. 2 115 KV and San Mateo-Martin No. 3 115 KV lines	P7	83	100	122	129	61	77	89	58	54	103	68	58	92	Potential mitigation in development
	Metcalf - San Jose B HVDC Gen and MARTIN-EAST GRAND 115KV	P3	< 100	< 100	< 100	106	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	MILLBRAE-SAN MATEO #1 115KV	P1	59	75	95	100	52	81	102	70	50	92	63	48	71	Continue to monitor
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	65	80	105	110	55	88	87	73	47	90	63	52	78	Install redundant battery/relay supply
	Monta Vista-Jefferson 230 KV Lines No. 1 & 2	P7	63	80	102	107	55	86	86	72	47	90	64	52	76	Continue to monitor
	Monta Vista-Jefferson Nos. 1 & 2 230 KV lines-2	P7	NA	NA	102	107	NA	NA	86	NA	NA	90	NA	NA	NA	Continue to monitor
	POTRERO (SF A) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	64	74	100	103	41	77	94	57	56	89	68	38	71	Install redundant battery/relay supply
	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	72	86	116	118	45	88	103	61	61	98	73	42	83	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	72	87	119	122	45	88	104	61	60	97	74	42	84	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	72	87	119	122	45	88	104	61	60	97	74	42	84	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	72	87	119	122	45	88	104	61	60	97	74	42	84	Continue to monitor
	POTRERO E-TBC_POT1 #1 115KV	P1	69	84	104	109	45	86	103	61	60	98	73	42	80	Continue to monitor
	SAN MATEO-MARTIN 230KV	P1	63	81	102	107	56	87	103	75	54	95	69	51	77	Continue to monitor
	SAN MATEO-MARTIN 230KV (2)	P1	NA	81	102	107	NA	87	103	NA	54	95	NA	NA	77	Continue to monitor
	San Mateo-Martin No. 3 115 KV and Burlingame-Martin No. 4 115 KV lines	P7	59	77	100	104	53	85	103	74	53	95	67	49	73	Continue to monitor
	San Mateo-Martin No. 3 115 KV and San Mateo-Burlingame No. 4 115 KV lines	P7	60	78	101	105	54	86	105	75	53	96	67	50	74	Continue to monitor
	San Mateo-Martin No. 3 115 KV and SF Airport-San Mateo No. 5 115 KV lines	P7	61	79	102	107	55	86	105	76	54	97	69	51	75	Continue to monitor

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
	San Mateo-Martin No. 4 115 KV and San Mateo-Martin No. 3 115 KV lines	P7	60	78	101	105	54	86	105	75	53	96	67	50	74	Continue to monitor
	San Mateo-Martin No. 6 115 KV and SF Airport-San Matoe115 KV lines	P7	61	79	102	107	55	86	104	76	54	96	68	51	74	Continue to monitor
EAST SHORE 230/115 kV TB #1	E. SHORE 230/115KV TB 2	P1	101	NA	NA	NA	82	NA	NA	70	NA	NA	77	52	NA	Project: LC24 Network Upgrade
	E. SHORE 230KV - MIDDLE BREAKER BAY 3	P2	101	NA	NA	NA	82	NA	NA	70	NA	NA	77	52	NA	Project: LC24 Network Upgrade
	Metcalf - San Jose B HVDC Gen and E. SHORE 230/115KV TB 2	P3	107	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: LC24 Network Upgrade
	TESLA-NEWARK #2 230KV and E. SHORE 230/115KV TB 2	P6	110	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: LC24 Network Upgrade
EAST SHORE 230/115 kV TB #2	E. SHORE 230/115KV TB 1	P1	101	NA	NA	NA	82	NA	NA	70	NA	NA	77	52	NA	Project: LC24 Network Upgrade
	E. SHORE 230KV - MIDDLE BREAKER BAY 2	P2	133	NA	NA	NA	115	NA	NA	104	NA	NA	116	49	NA	Project: LC24 Network Upgrade
	EASTSHRE - MD 115KV & 26462CORPDC-MT EDEN-EASTSHRE LINE	P2	101	NA	NA	NA	76	NA	NA	65	NA	NA	77	47	NA	Project: LC24 Network Upgrade
	EASTSHRE 115KV SECTION MD	P2	101	NA	NA	NA	82	NA	NA	70	NA	NA	77	52	NA	Project: LC24 Network Upgrade
	Metcalf - San Jose B HVDC Gen and E. SHORE 230/115KV TB 1	P3	107	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: LC24 Network Upgrade
	TESLA-NEWARK #2 230KV and E. SHORE 230/115KV TB 1	P6	110	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: LC24 Network Upgrade
EASTSHORE-SAN MATEO 230KV	GATEWAY1 18/230KV TB 1 and SANMATEO-E. SHORE #2 230KV	P6	< 100	< 100	Diverge	102	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Operational solution: Generation redispatch or Series Reactor insertion
	MEC CTG1 18.00KV & MEC CTG2 18.00KV & MEC STG1 18.00KV Gen Units and SANMATEO-E. SHORE #2 230KV	P3	< 100	< 100	104	110	< 100	< 100	121	< 100	< 100	< 100	< 100	< 100	< 100	Operational solution: Generation redispatch or Series Reactor insertion
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	77	82	99	92	81	Diverge	92	105	60	94	95	61	Diverge	Install redundant battery/relay supply
	SANMATEO 230KV SECTION 1D	P2	60	86	97	102	53	83	99	58	72	99	67	28	86	Continue to monitor
	SANMATEO-E. SHORE #2 230KV	P1	NA	87	98	103	NA	84	100	NA	72	100	NA	NA	88	Continue to monitor
EASTSHRE2 115/230KV TB 1	E. SHORE 230/115KV TB 2 and E. SHORE 230/115KV TB 3	P6	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	120	Sensitivity only
EGBERTSWSTA-EMBRCDRD 230KV	MARTIN (SF H) 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	130	313	Diverge	NA	Diverge	149	NA	13	113	NA	NA	138	Install redundant battery/relay supply
	MARTIN 115KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	NA	67	121	84	NA	64	75	NA	16	59	NA	NA	70	Install redundant battery/relay supply
	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	89	Diverge	Diverge	NA	Diverge	Diverge	NA	53	NConv	NA	NA	Diverge	Install redundant battery/relay supply
EGBERTSWSTA-JEFFERSN 230KV	MARTIN (SF H) 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	91	221	Diverge	NA	Diverge	105	NA	9	78	NA	NA	97	Install redundant battery/relay supply
	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	107	NA	NA	NA	122	NA	NA	160	NA	NA	125	158	NA	Install redundant battery/relay supply
EGBERTSWSTA-MARTIN C 230KV	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	125	Diverge	Diverge	NA	Diverge	Diverge	NA	81	NConv	NA	NA	Diverge	Install redundant battery/relay supply
EL PATIO-SAN JOSE A 115KV	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	118	Diverge	24	108	62	17	67	101	Diverge	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	118	Diverge	15	108	63	14	67	101	Diverge	Install redundant battery/relay supply
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	49	Diverge	14	39	11	10	27	41	Diverge	Install redundant battery/relay supply
	SANJOSEB 115KV - Middle Breaker Bay 4	P2	NA	84	NA	NA	NA	101	NA	NA	30	NA	NA	NA	109	Project: South Bay Reinforcement
	SJB DG Section 1D & SJB EF Section 1F 115KV	P2	115	NA	NA	NA	165	NA	NA	168	NA	NA	122	168	NA	Project: South Bay Reinforcement
	SJB EF - 1F 115KV & SAN JOSE B-STONE-EVERGREEN line	P2	115	NA	NA	NA	165	NA	NA	168	NA	NA	122	168	NA	Project: South Bay Reinforcement
	SJB EF 115KV Section 1F	P2	115	NA	NA	NA	165	NA	NA	168	NA	NA	122	168	NA	Project: South Bay Reinforcement
	TRIMBLE-SANJOSEB230 #1 230KV and SANJOSEB-LC25-11-SWST #1 115KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	130	< 100	< 100	< 100	< 100	Project: South Bay Reinforcement
EVERGREEN-ALMADEN 60KV	Base Case	P0	78	83	98	105	52	53	98	48	14	59	46	48	85	Continue to monitor
	Metcalf - San Jose B HVDC Gen and MONTA VISTA-LOS GATOS 60KV	P3	< 100	< 100	110	121	< 100	< 100	316	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	72	79	96	102	52	57	101	43	13	52	41	43	83	Install redundant battery/relay supply
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	57	Diverge	103	47	13	52	43	46	Diverge	Install redundant battery/relay supply
	METCALFE 115KV - Section 2E & 1E	P2	NA	NA	95	101	NA	NA	101	NA	NA	52	NA	NA	NA	Continue to monitor
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	73	78	96	102	54	56	101	43	13	52	43	43	82	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	57	Diverge	100	47	13	52	43	46	Diverge	Install redundant battery/relay supply
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	69	76	94	103	52	57	98	43	13	52	41	43	Diverge	Continue to monitor
EVRGRN 1-HELLYERSWTST #1 115KV	EVRGRN 1-HELLYERSWTST #2 115KV and LC25-11-SWST-EVRGRN 1 #1 115KV	P6	< 100	< 100	111	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
EVRGRN 1-HELLYERSWTST #2 115KV	EVRGRN 1-HELLYERSWTST #1 115KV and LC25-11-SWST-EVRGRN 1 #1 115KV	P6	< 100	< 100	111	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
FMC-SAN JOSE B 115KV	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and TRIMBLE-SANJOSEB230 #1 230KV	P3	< 100	< 100	< 100	< 100	< 100	102	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: South Bay Reinforcement
	TRIMBLE-SAN JOSE B 115KV and TRIMBLE-SANJOSEB230 #1 230KV	P6	< 100	< 100	< 100	< 100	< 100	125	< 100	< 100	118	< 100	< 100	< 100	107	Project: South Bay Reinforcement
GARLICSWSTA-LLAGAS #1 115KV	GROYPKR1 13.80KV Gen Unit 1 and METCALF-MORGAN HILL 115KV	P3	< 100	< 100	< 100	< 100	107	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: LC24 Network Upgrade
	METCALF-MORGAN HILL 115KV and LLAGAS-GILROY F-GILROYENG-GILROYPK 115KV	P6	119	< 100	< 100	< 100	107	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: LC24 Network Upgrade
GRANT-EASTSHORE #1 115KV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	32	34	72	77	8	13	105	8	5	80	21	8	35	Install redundant battery/relay supply
	MORAGA.E 115KV - SECTION 1E & 2E	P2	32	34	125	136	8	13	114	8	5	88	21	8	35	Continue to monitor
GRANT-EASTSHORE #2 115KV	MORAGA.E 115KV - SECTION 1E & 2E	P2	27	29	119	129	6	11	108	5	3	83	17	5	29	Continue to monitor
GRANT-EASTSHORE #2 115KV (2)	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	41	49	88	93	24	29	118	25	17	108	31	25	50	Install redundant battery/relay supply
	MORAGA.E 115KV - SECTION 1E & 2E	P2	41	49	140	150	24	29	126	25	17	97	31	25	50	Continue to monitor
GRANT-SN LNDRO 115KV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	NA	75	82	NA	NA	105	NA	NA	124	NA	NA	NA	Install redundant battery/relay supply
	MORAGA.E 115KV - SECTION 1E & 2E	P2	NA	NA	149	162	NA	NA	115	NA	NA	108	NA	NA	NA	Continue to monitor
	PITTSBURG-D SECTION 1D & PITTSBURG-E SECTION 1E 230KV	P2	NA	NA	101	98	NA	NA	41	NA	NA	37	NA	NA	NA	Continue to monitor
GREEN VALLEY - MOSS LANDING #1 115 KV	MANNING - METCALF 500 KV and METCALF-MOSSLANDING 500KV	P6	< 100	< 100	< 100	103	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
GREEN VALLEY - MOSS LANDING #2 115 KV	Metcalf - San Jose B HVDC Gen and LLAGAS-GILROY F-GILROYENG-GILROYPK 115KV	P3	< 100	< 100	101	107	< 100	< 100	104	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
GREEN VALLEY-LLAGAS 115KV	MRGN HIL-GARLICSWSTA #1 115KV and LLAGAS-GILROY F-GILROYENG-GILROYPK 115KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	120	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
GREENVALLEY-MRGN HIL #1 115KV	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	Diverge	Diverge	Diverge	NA	Diverge	49	NA	21	41	NA	NA	Diverge	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	NA	Diverge	Diverge	Diverge	NA	Diverge	44	NA	19	39	NA	NA	Diverge	Install redundant battery/relay supply
HELLYERSWTST-METCALFE #1 115KV	HELLYERSWTST-METCALFE #2 115KV and LC25-11-SWST-EVRGRN 1 #1 115KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	140	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen and HELLYERSWTST-METCALFE #2 115KV	P3	< 100	118	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: South Bay Reinforcement
	METCALFD Section 2D & METCALFE Section 2E 115KV	P2	NA	108	NA	NA	NA	91	NA	NA	25	NA	NA	NA	105	Project: South Bay Reinforcement

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Overloaded Facility	Contingency (All and Worst P6)	Category	Loading % (Baseline Scenarios)										Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
HELLYERSWTST-METCALFE #2 115KV	HELLYERSWTST-METCALFE #1 115KV and LC25-11-SWST-EVRGRN 1 #1 115KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	140	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen and HELLYERSWTST-METCALFE #1 115KV	P3	< 100	118	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: South Bay Reinforcement
	METCALFD Section 1D & METCALFE Section 1E 115KV	P2	NA	103	NA	NA	NA	90	NA	NA	25	NA	NA	NA	100	Project: South Bay Reinforcement
HICKS-METCALF 230KV	COYOTE SW STA (MEC) 230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	71	76	97	102	47	64	87	49	8	65	41	47	80	Install redundant battery/relay supply
	Metcalf - MEC & Metcalf - Vasona 230 KV Lines	P7	67	74	101	108	40	61	92	62	11	86	44	58	78	Potential flow control or capacity increase project
	METCALF 500/230KV TB 14	P1	NA	NA	97	103	NA	NA	88	NA	NA	73	NA	NA	NA	Potential flow control or capacity increase project
	METCALF1D - 1D 230KV & METCALF2D-METCALF1D line	P2	74	79	116	122	49	66	102	48	7	80	41	46	83	Potential flow control or capacity increase project
	METCALF1D Section 1D & METCALF1E Section 1E 230KV	P2	NA	106	NA	NA	NA	91	NA	NA	11	NA	NA	NA	112	Potential flow control or capacity increase project
	METCALFF 230KV - Middle Breaker Bay 4	P2	NA	NA	105	112	NA	NA	96	NA	NA	83	NA	NA	NA	Potential flow control or capacity increase project
	Metcalf-Monta Vista No. 3 & Monta Vista-Coyote Sw. Sta. 230 KV Line	P7	98	105	121	127	66	90	109	66	11	82	55	62	109	Potential flow control or capacity increase project
	MONTAVIS 230KV - Section 1D & 2D	P2	101	NA	NA	NA	66	NA	NA	65	NA	NA	56	62	NA	Potential flow control or capacity increase project
	MONTAVIS 230KV Section 1D	P2	76	90	113	118	49	78	97	49	11	76	43	47	94	Potential flow control or capacity increase project
	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	73	82	Diverge	Diverge	50	Diverge	Diverge	57	19	Diverge	49	51	Diverge	Install redundant battery/relay supply
	SARATOGA-VASONA 230KV	P1	71	76	99	105	47	65	90	47	7	71	40	45	79	Potential flow control or capacity increase project
	VASONA 230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	71	77	100	106	48	65	91	48	7	72	41	45	80	Install redundant battery/relay supply
	VASONA-METCALF 230KV	P1	74	79	103	109	49	66	93	49	7	74	42	46	82	Potential flow control or capacity increase project
H-P #3 115KV	POTRERO 115KV (FAILURE OF NON-REDUNDANT RELAY)	P5	77	78	97	101	39	56	79	40	29	70	51	42	82	Install redundant battery/relay supply
	POTRERO E-TBC_POT1 #1 115KV and H-P #1 115KV	P6	< 100	< 100	107	< 100	< 100	< 100	104	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
H-Y #1 115KV	POTRERO (SF A) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	109	111	143	153	65	120	145	53	51	107	84	53	118	Install redundant battery/relay supply
H-Z #2 230KV	MARTIN (SF H) 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	135	313	Diverge	NA	Diverge	155	NA	10	116	NA	NA	144	Install redundant battery/relay supply
	MARTIN 115KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	68	74	166	97	99	76	91	90	25	53	25	90	79	Install redundant battery/relay supply
	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	98	Diverge	Diverge	NA	Diverge	Diverge	NA	55	NConv	NA	NA	Diverge	Install redundant battery/relay supply
JEFFERSON-HILLSDALE JCT 60KV	EGBERT S2-EGBERTSWSTA 230KV NO FAULT	P2	NA	77	90	95	NA	88	120	NA	9	84	NA	NA	80	Continue to monitor
	EGBERTSWSTA 230KV - MIDDLE BREAKER BAY 1	P2	NA	77	91	96	NA	89	120	NA	9	84	NA	NA	82	Continue to monitor
	EGBERTSWSTA-JEFFERSN 230KV	P1	NA	77	91	96	NA	89	120	NA	9	84	NA	NA	82	Continue to monitor
	EGBERTSWSTA-JEFFERSN 230KV and NEWARK-RAVENSWOOD 230KV	P6	< 100	105	112	< 100	< 100	Diverge	133	< 100	< 100	< 100	< 100	< 100	108	Potential flow control or capacity increase project
	JEFFERSN 230KV - MIDDLE BREAKER BAY 3	P2	63	77	91	96	44	89	120	55	8	83	32	46	82	Continue to monitor
	JEFFERSN-EGBERTSWSTA 230KV	P1	NA	77	91	96	NA	89	120	NA	9	84	NA	NA	82	Continue to monitor
	JEFFERSN-JEDAMCX1 230KV NO FAULT	P2	NA	77	91	96	NA	89	120	NA	9	84	NA	NA	82	Continue to monitor
	JEFFERSON 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	282	288	192	253	201	236	276	218	126	119	187	220	285	Install redundant battery/relay supply
	MARTIN (SF H) 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	27	30	103	Diverge	11	Diverge	29	8	44	33	10	16	32	Install redundant battery/relay supply
	MONTA VISTA 115KV BAAH (FAILURE OF NON-REDUNDENT RELAY)	P5	66	76	93	100	43	81	118	45	14	77	29	43	82	Install redundant battery/relay supply
	NEWARK-RAVENSWOOD 230KV and JEFFERSN-EGBERTSWSTA 230KV	P6	< 100	101	115	113	< 100	Diverge	117	< 100	< 100	< 100	< 100	< 100	105	Potential flow control or capacity increase project
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	78	101	97	90	71	Diverge	115	93	30	83	62	91	Diverge	Install redundant battery/relay supply
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and EGBERTSWSTA-JEFFERSN 230KV	P3	< 100	< 100	107	106	< 100	Diverge	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and JEFFERSN-EGBERTSWSTA 230KV	P3	< 100	< 100	105	108	< 100	Diverge	123	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	45	65	Diverge	Diverge	25	Diverge	Diverge	19	10	Diverge	17	22	Diverge	Install redundant battery/relay supply
	SAN MATEO-HILLSDALE JCT 60KV	P1	43	57	71	84	25	64	122	20	8	43	10	23	59	Continue to monitor
JEFFERSON-LAS PULGAS 60KV	Base Case	P0	85	93	118	130	44	61	99	50	13	59	40	50	96	Continue to monitor
	EGBERTSWSTA-JEFFERSN 230KV	P1	NA	82	107	117	NA	61	98	NA	11	52	NA	NA	84	Continue to monitor
	JEFFERSN 230/60KV TB 2 and JEFRSN_D 60/230KV TB 1	P6	< 100	< 100	135	< 100	< 100	< 100	190	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	JEFFERSN-EGBERTSWSTA 230KV	P1	NA	82	107	117	NA	61	98	NA	11	52	NA	NA	84	Continue to monitor
	JEFFERSON 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	118	130	137	181	68	93	158	61	11	54	47	61	130	Install redundant battery/relay supply
	MARTIN (SF H) 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	75	84	90	Diverge	44	Diverge	101	44	11	52	35	44	88	Install redundant battery/relay supply
	Metcalf - Hicks & Metcalf - Vasona 230 KV Lines	P7	75	82	109	116	44	61	98	44	11	52	35	44	84	Continue to monitor
	Metcalf - San Jose B HVDC Gen	P1	75	82	109	120	44	63	98	44	11	52	35	44	89	Continue to monitor
	Metcalf - San Jose B HVDC Gen and EGBERTSWSTA-JEFFERSN 230KV	P3	< 100	< 100	116	126	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf-Monta Vista No. 3 & Monta Vista-Coyote Sw. Sta. 230 KV Line	P7	75	82	107	114	44	61	98	44	11	52	35	44	84	Continue to monitor
JEFFERSON-LAS PULGAS 60KV MOAS OPENED ON JEFRSN_D_WOODSIDE	METCALF-SJB MONOPOLE	P1	75	82	110	121	44	63	98	44	11	52	35	44	90	Continue to monitor
JEFFERSON-LAS PULGAS 60KV	Monta Vista-Jefferson 230 KV Lines No. 1 & 2	P7	75	82	102	112	44	63	98	44	11	52	35	44	84	Continue to monitor
	Monta Vista-Jefferson Nos. 1 & 2 230 KV lines-1	P7	NA	NA	107	119	NA	NA	101	NA	NA	52	NA	NA	NA	Continue to monitor
	Monta Vista-Jefferson Nos. 1 & 2 230 KV lines-2	P7	NA	NA	102	112	NA	NA	98	NA	NA	52	NA	NA	NA	Continue to monitor
	MONTAVIS SVD=v	P1	77	82	107	117	44	61	98	44	11	52	35	44	87	Continue to monitor
	MONTAVIS 230KV Section 1D	P2	78	85	111	122	44	63	98	44	11	52	35	44	89	Continue to monitor
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	77	84	111	124	44	65	98	44	11	52	35	44	Diverge	Continue to monitor
	PITTSBURG PP 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	75	82	108	121	44	61	98	44	11	52	35	44	88	Install redundant battery/relay supply
	POTRERO (SF A) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	75	82	111	119	44	61	98	44	11	52	35	44	84	Install redundant battery/relay supply
	POTRERO 115KV (FAILURE OF NON-REDUNDANT RELAY)	P5	75	82	109	118	44	61	98	44	11	52	35	44	84	Install redundant battery/relay supply
	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	77	82	115	123	44	61	98	44	11	52	35	44	87	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	78	82	118	127	44	61	98	44	11	52	35	44	88	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	78	82	118	127	44	61	98	44	11	52	35	44	88	Continue to monitor

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
	POTRERO E 115KV SECTION 2E	P2	78	82	118	127	44	61	98	44	11	52	35	44	88	Continue to monitor
	RAVENSWOOD 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	77	82	108	117	44	Diverge	98	44	11	52	35	44	87	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	80	87	110	119	44	Diverge	98	44	11	52	35	44	Diverge	Install redundant battery/relay supply
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	75	82	106	116	44	61	98	44	11	52	35	44	87	Continue to monitor
JEFFERSON-STANFORD 60KV	JEFFERSN 230/60KV TB 1 and JEFFERSN 230/60KV TB 2	P6	128	< 100	< 100	< 100	143	< 100	< 100	133	< 100	< 100	120	135	< 100	Project: Jefferson - Stanford recabling (Menlo - SLAC 60 kV Tap only)
	JEFFERSON 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	127	96	1	1	143	90	1	136	81	1	122	137	93	Install redundant battery/relay supply
	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	98	74	1	1	89	Diverge	1	100	67	1	91	80	Diverge	Install redundant battery/relay supply
K-D #1 115KV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	165	134	21	23	88	279	21	112	80	17	91	113	156	Install redundant battery/relay supply
K-D #2 115KV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	160	131	21	22	85	269	20	109	78	17	89	110	152	Install redundant battery/relay supply
KIFER - FMC #1 115 KV	DVRaGT1 13.80KV & DVRbGt2 13.80KV & DVRaST3 13.80KV Gen Units and TRIMBLE-SANJOSEB230 #1 230KV	P3	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	129	< 100	< 100	< 100	< 100	Project: South Bay Reinforcement
	TRIMBLE 230KV - Middle Breaker Bay 2	P2	NA	56	NA	NA	NA	114	NA	NA	119	NA	NA	NA	94	Project: South Bay Reinforcement
	TRIMBLE-SAN JOSE B 115KV and TRIMBLE-SANJOSEB230 #1 230KV	P6	< 100	110	< 100	< 100	< 100	160	< 100	< 100	163	< 100	< 100	< 100	129	Project: South Bay Reinforcement
	TRIMBLE-SANJOSEB230 #1 230KV	P1	NA	56	NA	NA	NA	114	NA	NA	119	NA	NA	NA	94	Project: South Bay Reinforcement
KIRKER - KIRKER TAP1 115 KV	KIRKER 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	NA	NA	105	NA	NA	NA	NA	NA	NA	NA	NA	NA	Install redundant battery/relay supply
	Pittsburg-Columbia Steel 115 KV lines and Pittsburg-Kirker-Columbia Steel 115 KV lines	P7	NA	NA	NA	105	NA	NA	NA	NA	NA	NA	NA	NA	NA	Continue to monitor
LAKEWOOD M - LAKEWOOD C #1 115 KV	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	97	70	97	98	74	97	115	62	45	70	63	68	73	Install redundant battery/relay supply
LAKEWOOD-CLAYTON 115KV	CLAYTN - 1D 115KV & PITTSBURG-CLAYTON #3 LINE	P2	< 100	< 100	120	128	86	100	120	62	47	86	81	66	112	Results have been updated after load revisions. The near-term overloads were dismissed, while the long-term overloads persist.
	CLAYTN 115KV SECTION 1D	P2	< 100	< 100	120	128	86	100	120	62	47	86	81	66	112	Results have been updated after load revisions. The near-term overloads were dismissed, while the long-term overloads persist.
	CLAYTN-LAKEWD-C-MEDW LNE-WALNUTCR 115KV and MORAGA-LAKEWOOD 115KV	P6	< 100	< 100	104	109	< 100	< 100	101	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
LAS POSITAS-NEWARK 230KV	C.COSTAPPE 230KV - SECTION 1E & 2E	P2	42	55	57	59	75	29	47	22	126	20	13	17	56	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	CONTRA COSTA-LONE TREE 230KV	P1	91	99	98	94	68	73	56	79	88	61	88	69	104	Sensitivity only
	Contra Costa-Moraga Nos. 1 & 2 230 KV lines	P7	92	100	107	104	74	79	69	84	96	70	87	72	104	Potential flow control or capacity increase project
	Lonetree - Cayetano 230 KV and Cayetano - North Dublin230 KV lines	P7	88	98	96	92	68	72	55	78	89	60	88	67	103	Sensitivity only
	Metcalf - San Jose B HVDC Gen and TESLA-NEWARK #2 230KV	P3	< 100	107	Diverge	Diverge	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	87	Diverge	62	112	84	73	105	101	Diverge	Install redundant battery/relay supply
	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	100	109	118	115	78	85	75	90	98	105	94	78	115	Install redundant battery/relay supply
	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	98	107	114	107	77	84	72	89	98	103	94	77	113	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	86	Diverge	64	111	84	70	104	100	Diverge	Install redundant battery/relay supply
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	99	116	108	106	76	85	61	87	95	67	98	77	Diverge	Potential flow control or capacity increase project
	NEWARK E - 2E 230KV & NEWARK E-TASSAJAR-RESEARCH LINE	P2	94	107	97	95	69	76	55	80	82	60	91	72	114	Potential flow control or capacity increase project
	NEWARK E 230KV - SECTION 1E & 2E	P2	102	118	101	100	74	81	54	85	84	61	100	77	128	Potential flow control or capacity increase project
	NEWARK E 230KV SECTION 2E	P2	94	107	97	95	69	76	55	80	82	60	91	72	114	Potential flow control or capacity increase project
	NORTH DUBLIN 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	86	99	96	93	71	73	56	79	89	60	90	68	104	Sensitivity only
	NORTH DUBLIN-CAYETANO 230KV	P1	87	100	97	94	71	73	57	80	89	61	90	68	105	Sensitivity only
	NORTH DUBLIN-VINEYARD 230KV	P1	85	97	94	91	70	72	55	79	89	59	89	67	102	Sensitivity only
	PITTSBURG-D SECTION 1D & PITTSBURG-E SECTION 1E 230KV	P2	87	103	92	89	68	73	51	76	84	53	91	69	109	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	98	110	101	99	71	79	59	83	79	64	90	76	117	Potential flow control or capacity increase project
	Tesla - Newark No.2 and Newark - Los Esteros 230 KV Lines	P7	88	99	92	90	66	71	53	76	77	58	84	69	105	Sensitivity only
	TESLA-METCALF 500KV	P1	NA	98	83	81	NA	71	47	NA	88	55	NA	NA	103	Sensitivity only
	TESLA-NEWARK #2 230KV	P1	90	101	94	92	67	73	54	78	80	59	87	70	107	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	96	110	99	98	71	85	62	88	89	67	96	80	118	Potential flow control or capacity increase project
	Vaca-Peabody 230 KV and Vaca-Lambie SW STA 230 KV lines	P7	69	74	68	59	65	59	44	66	104	40	77	50	77	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
LAS POSITAS-VASCO 60KV	FRICKWIND 0.69KV GEN UNIT 1 and LS PSTAS 230/60KV TB 4	P3	< 100	< 100	< 100	< 100	< 100	< 100	104	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	NEWARK D 115/115KV TB 1 and LS PSTAS 230/60KV TB 4	P6	< 100	< 100	< 100	< 100	< 100	< 100	120	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
LAWRENCE-MONTA VISTA 115KV	LOCKHEED #1 TAP 115KV (LCKHD J1-MFT.FD J)	P2	36	135	NA	NA	26	130	NA	26	67	NA	16	28	138	Project: New De Anza 115 kV substation
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	68	102	84	84	54	92	61	59	24	56	36	60	111	Install redundant battery/relay supply
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	69	109	84	84	55	97	61	61	24	56	37	61	118	Install redundant battery/relay supply
	Newark - Lawrence 115 KV and Newark - Applied Materials 115 KV	P7	39	133	49	47	29	127	35	31	65	36	27	31	136	Project: New De Anza 115 kV substation
	Newark 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	75	136	48	47	70	130	32	83	67	36	60	83	139	Install redundant battery/relay supply
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	73	Diverge	50	82	42	52	59	86	Diverge	Install redundant battery/relay supply
	NEWARK E SECTION 1E & NEWARK F SECTION 1F 115KV	P2	74	135	51	51	70	130	35	83	67	36	59	82	138	Project: New De Anza 115 kV substation
	NEWARK E&F 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	39	134	45	43	30	128	29	31	65	32	27	31	136	Install redundant battery/relay supply
	NEWARK F - 1F 115KV & NEWARK F-ZANKER-KRS LINE	P2	74	135	54	54	70	130	38	82	67	39	59	82	138	Project: New De Anza 115 kV substation
	NEWARK F - 1F 115KV & NEWARK-MILPITAS #1 LINE	P2	74	135	54	53	70	130	38	82	67	39	59	82	138	Project: New De Anza 115 kV substation
	NEWARK F 115KV SECTION 1F	P2	74	135	54	53	70	130	38	82	67	39	59	82	138	Project: New De Anza 115 kV substation
	NEWARK F-LOCKHD 1 115KV	P1	NA	133	51	51	NA	127	36	NA	65	37	NA	NA	136	Project: New De Anza 115 kV substation
	NEWARK-LAWRENCE 115KV (NEWARK F-LCKHD J1)	P2	74	135	46	46	70	130	38	82	67	36	59	82	138	Project: New De Anza 115 kV substation

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Overloaded Facility	Contingency (All and Worst P6)	Category	Loading % (Baseline Scenarios)										Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
	POT_SVC-POTRERO E #1 115KV and NEWARK F-LOCKHD 1 115KV	P6	< 100	134	< 100	< 100	< 100	136	< 100	< 100	< 100	< 100	< 100	< 100	137	Project: New De Anza 115 kV substation
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and NEWARK F-LOCKHD 1 115KV	P3	< 100	134	< 100	< 100	< 100	135	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: New De Anza 115 kV substation
	Swift - Metcalf & Piercy - Metcalf 115 KV Lines	P7	58	93	62	63	40	84	44	35	25	43	32	36	100	Sensitivity only
LIVERMORE-LAS POSITAS 60KV	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	77	Diverge	96	84	72	80	85	78	Diverge	Install redundant battery/relay supply
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and SANRAMON 230/60KV TB 1	P3	< 100	< 100	< 100	< 100	< 100	< 100	119	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	SAN RAMON-MORAGA 230KV and PITTSBURG-SAN RAMON 230KV	P6	173	179	180	184	155	178	233	147	< 100	205	147	145	180	Operational procedure (Reverse Power Scheme)
LONETREE-VASCOWIND 230KV	Base Case	P0	97	94	106	104	61	76	71	81	76	69	84	72	99	Potential flow control or capacity increase project
	C.COSTAPPD SECTION 1D & C.COSTAPPE SECTION 1E 230KV	P2	104	106	109	109	67	85	83	81	71	80	88	72	113	Potential flow control or capacity increase project
	C.COSTAPPE 230KV - SECTION 1E & 2E	P2	6	14	79	81	72	46	70	42	102	41	14	36	12	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	CONTRA COSTA-LAS POSITAS 230KV	P1	101	101	110	109	69	86	81	83	78	72	86	73	107	Potential flow control or capacity increase project
	Contra Costa-Moraga Nos. 1 & 2 230 KV lines	P7	101	98	115	114	71	89	89	85	81	77	83	75	103	Potential flow control or capacity increase project
	Eastshore-San Mateo 230 KV #1 and Eastshore-San Mateo 230 KV #2	P7	90	89	100	100	61	79	72	75	73	68	79	65	94	Potential flow control or capacity increase project
	LAS POSITAS 230-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	99	98	108	106	68	85	79	82	78	71	86	72	104	Install redundant battery/relay supply
	LS PSTAS 230KV SECTION 1D	P2	99	99	109	107	69	85	80	82	78	72	86	72	104	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen and TESLA-NEWARK #2 230KV	P3	< 100	105	Diverge	Diverge	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	82	Diverge	82	103	72	78	97	93	Diverge	Install redundant battery/relay supply
	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	107	106	123	123	75	94	95	89	82	102	88	79	112	Install redundant battery/relay supply
	MORAGA 230KV - SECTION 2D & 1D	P2	106	88	101	100	74	78	75	88	72	67	88	78	94	Potential flow control or capacity increase project
	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	106	104	120	117	74	93	92	88	82	100	88	78	110	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	82	Diverge	84	102	72	75	96	92	Diverge	Install redundant battery/relay supply
	NEWARK D 230KV SECTION 1D	P2	103	104	107	107	71	91	78	86	80	71	90	77	111	Potential flow control or capacity increase project
	NEWARK D SECTION 1D & NEWARK E SECTION 1E 230KV	P2	108	111	123	125	75	95	88	91	83	80	98	81	120	Potential flow control or capacity increase project
	NEWARK E - 2E 230KV & NEWARK E-TASSAJAR-RESEARCH LINE	P2	102	103	107	107	66	86	76	81	70	69	85	74	111	Potential flow control or capacity increase project
	NEWARK E 230KV - SECTION 1E & 2E	P2	107	111	109	110	70	90	76	84	72	69	91	76	119	Potential flow control or capacity increase project
	NEWARK E 230KV SECTION 2E	P2	102	103	107	107	66	86	76	81	70	69	85	73	111	Potential flow control or capacity increase project
	Q1349 230/34.5KV TB 1	P1	86	98	103	104	70	78	78	72	63	65	74	63	103	Potential flow control or capacity increase project
	Q1349BESS 0.48KV GEN UNIT 1	P1	85	97	103	103	70	70	70	72	52	52	59	63	102	Potential flow control or capacity increase project
	Q1349-CAYETANO #1 230KV	P1	86	98	103	104	70	78	78	72	63	65	74	63	103	Potential flow control or capacity increase project
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	104	105	109	110	68	88	79	83	68	71	84	76	113	Potential flow control or capacity increase project
	Tesla - Newark No.2 and Newark - Los Esteros 230 KV Lines	P7	98	97	104	104	63	82	75	79	67	67	80	71	104	Potential flow control or capacity increase project
	TESLA-METCALF 500KV	P1	NA	97	98	97	NA	82	70	NA	74	65	NA	NA	103	Potential flow control or capacity increase project
	TESLA-METCALF 500KV and MANNING - METCALF 500 KV	P6	< 100	< 100	108	Diverge	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	TESLA-NEWARK #2 230KV	P1	99	99	105	105	64	83	75	79	69	68	82	72	106	Potential flow control or capacity increase project
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	104	106	108	109	68	94	82	86	75	74	88	79	114	Potential flow control or capacity increase project
LOS ESTEROS - LOS ESTEROS ENERGY FACILITY	Metcalf - San Jose B HVDC Gen and 115KV	P3	< 100	< 100	102	102	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
LOS ESTEROS - TRIMBLE #1 115 KV	LOS ESTEROS-MONTAGUE 115KV and TRIMBLE-SAN JOSE B 115KV	P6	116	< 100	< 100	< 100	134	< 100	< 100	116	< 100	< 100	< 100	115	< 100	Project: LC24 Network Upgrade
	Metcalf - San Jose B HVDC Gen and LOS ESTEROS-MONTAGUE 115KV	P3	123	< 100	< 100	< 100	111	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: LC24 Network Upgrade
LOS ESTEROS-METCALF 230KV	GATEWAY1 18/230KV TB 1 and NEWARK E-F BUS TIE 230KV	P6	< 100	< 100	Diverge	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	104	Sensitivity only
	Metcalf - San Jose B HVDC Gen	P1	64	83	NA	NA	59	94	NA	52	22	NA	30	50	104	Sensitivity only
	Metcalf - San Jose B HVDC Gen and TESLA-NEWARK #2 230KV	P3	< 100	103	Diverge	Diverge	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	84	103	NA	102	74	110	NA	63	19	NA	37	61	128	Install redundant battery/relay supply
	METCALF1D - 1D 230KV & METCALF2D-METCALF1D line	P2	58	63	NA	102	53	71	NA	44	14	NA	23	42	79	Potential flow control or capacity increase project
	METCALF1D Section 1D & METCALF1E Section 1E 230KV	P2	NA	NA	103	107	NA	NA	106	NA	NA	NA	NA	NA	NA	Potential flow control or capacity increase project
	METCALF-SJB MONOPOLE	P1	64	83	NA	NA	59	94	NA	52	21	NA	30	50	104	Sensitivity only
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	90	95	103	106	80	108	101	72	13	NA	42	68	118	Install redundant battery/relay supply
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	85	96	NA	102	76	104	NA	65	19	NA	38	63	120	Install redundant battery/relay supply
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	120	Diverge	114	107	47	NA	86	108	Diverge	Install redundant battery/relay supply
	NEWARK D SECTION 1D & NEWARK E SECTION 1E 230KV	P2	86	96	107	111	80	111	106	72	29	NA	51	71	118	Potential flow control or capacity increase project
	NEWARK E 230KV - SECTION 1E & 2E	P2	91	102	108	113	81	114	107	72	28	NA	52	72	126	Potential flow control or capacity increase project
	NEWARK E 230KV SECTION 1E	P2	78	86	NA	NA	73	100	NA	65	25	NA	44	63	104	Sensitivity only
	NEWARK E-F BUS TIE 230KV	P1	77	84	NA	101	72	99	NA	63	23	NA	42	62	102	Continue to monitor
	Tesla - Newark No.2 and Newark - Los Esteros 230 KV Lines	P7	77	87	NA	NA	71	98	NA	63	20	NA	43	63	107	Sensitivity only
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	74	82	NA	NA	64	94	NA	61	14	NA	37	61	102	Sensitivity only
LOS ESTEROS-MONTAGUE 115KV	LOS ESTEROS-TRIMBLE 115KV and TRIMBLE-SAN JOSE B 115KV	P6	108	< 100	< 100	< 100	125	< 100	< 100	109	< 100	< 100	< 100	108	< 100	Project: LC24 Network Upgrade
	Metcalf - San Jose B HVDC Gen and LOS ESTEROS-TRIMBLE 115KV	P3	108	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: LC24 Network Upgrade
	Britton-Monta Vista & Lawrence-Monta Vista 115 KV Lines	P7	51	55	105	108	32	50	81	37	18	92	43	38	65	Continue to monitor
	Los Esteros - Trimble & Los Esteros - Montague 115 KV	P7	94	75	99	102	69	64	83	78	22	92	74	79	88	Continue to monitor
	Los Esteros - Trimble & Montague - Trimble 115 KV Line	P7	69	58	99	102	59	51	83	67	18	92	61	68	68	Continue to monitor

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
LOS ESTEROS-NORTECH 115KV	LS ESTRS 115KV - Middle Breaker Bay 4	P2	NA	NA	99	102	NA	NA	83	NA	NA	92	NA	NA	NA	Continue to monitor
	MEC CTG1 18.00KV & MEC CTG2 18.00KV & MEC STG1 18.00KV Gen Units and COMPONENT_SW-TRIMBLE-GIS #1 115KV	P3	< 100	< 100	< 100	< 100	< 100	< 100	101	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - Hicks & Metcalf - Vasona 230 KV Lines	P7	52	53	98	101	32	48	81	39	18	86	45	40	63	Continue to monitor
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	24	Diverge	89	32	22	109	41	33	Diverge	Install redundant battery/relay supply
	MONTA VISTA 115KV BAAH (FAILURE OF NON-REDUNDENT RELAY)	P5	58	58	108	111	35	53	83	42	18	94	48	42	69	Install redundant battery/relay supply
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	63	62	114	117	38	57	84	46	18	95	50	46	74	Install redundant battery/relay supply
	TRIMBLE 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	64	60	101	105	51	54	87	59	21	101	56	60	71	Install redundant battery/relay supply
	TRIMBLE-GIS 115KV - Middle Breaker Bay 1	P2	NA	NA	108	112	NA	NA	91	NA	NA	107	NA	NA	NA	Continue to monitor
	TRIMBLE-GIS 115KV - Middle Breaker Bay 4	P2	NA	NA	99	102	NA	NA	83	NA	NA	92	NA	NA	NA	Continue to monitor
LOS ESTEROS-TRIMBLE 115KV	LOS ESTEROS-NORTECH 115KV	P1	NA	NA	53	109	NA	NA	99	NA	NA	92	NA	NA	NA	Continue to monitor
	LS ESTRS 115KV - Middle Breaker Bay 1	P2	NA	NA	53	109	NA	NA	99	NA	NA	92	NA	NA	NA	Continue to monitor
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	NA	57	117	NA	NA	89	NA	NA	76	NA	NA	NA	Install redundant battery/relay supply
	METCALFE 115KV - Section 2E & 1E	P2	NA	NA	51	104	NA	NA	80	NA	NA	68	NA	NA	NA	Continue to monitor
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	NA	NA	57	116	NA	NA	89	NA	NA	76	NA	NA	NA	Install redundant battery/relay supply
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	NA	NA	47	100	NA	NA	64	NA	NA	58	NA	NA	NA	Continue to monitor
	NEWARK D-NSJ-MIDPNTSS #1 230KV and NRS-NRSriser SVP 230 KV UG cable	P6	< 100	< 100	< 100	131	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	NORTECH 115KV Section 1F	P2	NA	NA	53	108	NA	NA	98	NA	NA	91	NA	NA	NA	Continue to monitor
	NRS-NRSriser SVP 230 KV UG cable	P1	NA	NA	49	101	NA	NA	77	NA	NA	72	NA	NA	NA	Continue to monitor
	SSS-NRSriser SVP 230 KV path	P1	NA	NA	49	100	NA	NA	77	NA	NA	72	NA	NA	NA	Continue to monitor
LOS ESTEROS-SSS PST #1	Metcalf - San Jose B HVDC Gen and NEWARK D-NSJ-MIDPNTSS #1 230KV	P3	111	109	< 100	< 100	108	< 100	101	104	104	< 100	107	104	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	NEWARK D 230KV - SECTION 1D & 2D	P2	112	88	70	72	107	98	81	103	70	78	107	105	Diverge	Project: PST addition (SVP)
	NEWARK D 230KV SECTION 2D	P2	108	86	68	68	104	97	79	100	70	77	103	101	102	Project: PST addition (SVP)
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	109	88	62	62	105	97	77	101	73	77	105	103	Diverge	Project: PST addition (SVP)
	NEWARK D-NSJ-MIDPNTSS #1 230KV	P1	105	84	67	68	102	95	77	97	70	77	101	98	102	Project: PST addition (SVP)
	NRS-TRIMBLE #1 230KV and NEWARK D-NSJ-MIDPNTSS #1 230KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	123	< 100	< 100	117	< 100	< 100	< 100	Continue to monitor
	NSJ-MIDPNTSS 230KV - MIDDLE BREAKER BAY 1	P2	101	79	63	65	96	88	73	92	65	73	97	93	98	Project: PST addition (SVP)
	NSJ-MIDPNTSS-NRS #1 230KV	P1	101	79	63	64	96	88	72	92	64	73	97	93	98	Project: PST addition (SVP)
LOS ESTEROS-SSS PST #2	SSS 230/230KV TB 1 and NEWARK D-NSJ-MIDPNTSS #1 230KV	P6	< 100	102	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: PST addition (SVP)
LS PSTAS 230/60KV TB 4	Base Case	P0	43	44	64	66	37	66	125	28	24	81	24	33	44	Continue to monitor
	Contra Costa-Moraga Nos. 1 & 2 230 KV lines	P7	42	42	60	62	37	62	109	28	26	71	23	32	43	Continue to monitor
	FRICKWIND 0.69KV GEN UNIT 1 and SANRAMON 230/60KV TB 1	P3	< 100	< 100	< 100	< 100	< 100	< 100	133	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Las Positas-Newark 230 KV and North Dublin-Vineyard 230 KV lines	P7	58	64	77	77	57	80	118	44	46	81	44	45	66	Continue to monitor
	LAS POSITAS-NEWARK 230KV	P1	51	56	69	70	50	73	112	39	41	76	38	40	57	Continue to monitor
	LS PSTAS 230KV SECTION 1F	P2	51	56	70	72	50	74	116	39	41	77	38	40	58	Continue to monitor
	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	45	45	64	63	38	64	112	32	26	76	25	35	45	Install redundant battery/relay supply
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	72	Diverge	127	59	56	102	61	61	Diverge	Install redundant battery/relay supply
	NEWARK D 115/115KV TB 1	P1	30	28	49	50	23	51	108	18	15	68	14	22	28	Continue to monitor
	NEWARK D 230KV - SECTION 1D & 2D	P2	65	74	84	86	62	94	125	49	50	86	50	51	Diverge	Continue to monitor
	PITTSBURG PP 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	42	46	64	67	33	63	113	22	19	71	22	27	47	Install redundant battery/relay supply
	Pittsburg-San Ramon 230 KV and Pittsburg-Tassajara 230 KV lines	P7	40	42	58	60	32	58	105	21	19	67	22	28	42	Continue to monitor
	PITTSBURG-SAN RAMON 230KV	P1	41	43	59	61	33	59	105	23	19	68	22	28	43	Continue to monitor
	SAN RAMN-E DUBLIN-RADUM-PARKS 60KV	P1	50	55	69	72	41	72	128	30	26	83	33	35	57	Continue to monitor
	San Ramon 230 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	51	57	70	74	42	73	130	31	27	85	34	36	58	Install redundant battery/relay supply
	SAN RAMON 230-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	50	56	69	72	41	72	128	30	26	83	33	35	57	Install redundant battery/relay supply
	SAN RAMON-MORAGA 230KV and PITTSBURG-SAN RAMON 230KV	P6	133	138	146	151	121	149	218	108	< 100	181	110	112	137	Operational procedure (Reverse Power Scheme)
	SANRAMON 230/60KV TB 1	P1	51	57	70	74	42	73	130	31	27	84	34	36	58	Continue to monitor
	SANRAMON 230KV - SECTION 1D & 1E	P2	51	57	70	74	42	73	130	31	27	85	34	36	58	Continue to monitor
	SANRAMON 230KV - SECTION 2D & 1D	P2	51	57	70	74	42	73	130	31	27	85	34	36	58	Continue to monitor
	SANRAMON 230KV SECTION 1D	P2	51	57	70	74	42	73	130	31	27	85	34	36	58	Continue to monitor
MARTIN C 115/60KV TB 6	E. SHORE1-25 25.00KV GEN UNIT VS and MILLBRAE 115/60KV TB 5	P3	< 100	< 100	< 100	< 100	< 100	< 100	148	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	MARTIN-MILLBRAE #1 115KV and MILLBRAE-SAN MATEO #1 115KV	P6	111	127	145	< 100	< 100	227	318	< 100	< 100	168	< 100	< 100	131	Reverse power flow relay
	MILLBRAE 115/60KV TB 5	P1	33	37	46	51	32	68	148	27	13	64	14	26	38	Continue to monitor
	MILLBRAE 115KV - SECTION 1E & 1D	P2	33	37	45	51	32	68	148	27	13	64	14	27	38	Continue to monitor
	MILLBRAE 115KV - SECTION 1F & 1E	P2	33	37	46	51	32	68	148	27	13	64	14	26	38	Continue to monitor
	MILLBRAE 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	33	37	46	51	32	68	148	27	13	64	14	26	38	Install redundant battery/relay supply
	MILLBRAE 115KV SECTION 1E	P2	33	37	45	51	32	68	148	27	13	64	14	27	38	Continue to monitor
MARTIN C 230/115KV TB 7	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	31	52	Diverge	Diverge	47	Diverge	Diverge	64	37	Diverge	44	75	Diverge	Install redundant battery/relay supply
MARTIN C 230/115KV TB 8	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	37	60	Diverge	Diverge	54	Diverge	Diverge	75	43	Diverge	51	87	Diverge	Install redundant battery/relay supply
MARTIN C-QUARRYRDSWST #1 115KV	DALY CTY-SERRMNTE 115KV	P1	NA	89	95	105	NA	79	118	NA	38	77	NA	NA	91	Continue to monitor
	DLY CTYP 115KV SECTION 1F	P2	NA	99	108	119	NA	92	144	NA	41	91	NA	NA	102	Continue to monitor
	MARTIN C 115KV - MIDDLE BREAKER BAY 2	P2	NA	99	108	119	NA	92	143	NA	41	91	NA	NA	102	Continue to monitor
	MARTIN-DALY CITY #2 115KV	P1	NA	99	108	119	NA	92	144	NA	41	91	NA	NA	102	Continue to monitor
	MARTIN-DALY CITY #2 115KV (DALY CTY-DLY CTYP)	P2	NA	89	95	105	NA	79	118	NA	38	77	NA	NA	91	Continue to monitor
	MARTIN-DALY CITY #2 115KV and LARKIN D 115/12KV TB 1	P6	< 100	< 100	< 100	< 100	< 100	< 100	183	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen and MARTIN-DALY CITY #2 115KV	P3	< 100	< 100	< 100	122	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	SERRAMONTE 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	89	95	105	NA	79	118	NA	38	77	NA	NA	91	Install redundant battery/relay supply
MARTIN-DALY CITY #2 115KV	MARTIN C 115KV - MIDDLE BREAKER BAY 1	P2	79	99	110	122	40	95	143	42	41	91	47	42	104	Continue to monitor
	MARTIN C-QUARRYRDSWST #1 115KV	P1	NA	99	108	119	NA	92	144	NA	41	91	NA	NA	102	Continue to monitor
	MARTIN C-QUARRYRDSWST #1 115KV and LARKIN D 115/12KV TB 1	P6	< 100	< 100	< 100	< 100	< 100	< 100	183	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen and MARTIN C-QUARRYRDSWST #1 115KV	P3	< 100	< 100	< 100	122	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	QUARRYRDSWST 115KV - MIDDLE BREAKER BAY 1	P2	NA	85	94	105	NA	81	133	NA	32	82	NA	NA	88	Continue to monitor
	QUARRYRDSWST-DALY CTY #1 115KV	P1	NA	85	94	105	NA	81	133	NA	32	82	NA	NA	88	Continue to monitor

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
MARTIN-EAST GRAND 115KV	EAST GRAND-SAN MATEO 115KV (SANMATEO-SFIA-MA)	P2	80	84	114	120	60	72	88	57	46	100	66	56	77	Continue to monitor
MARTINEZ - SOBRANTE #1 115 KV	PITTSBURG-D 230KV - SECTION 2D & 1D	P2	58	NA	NA	NA	18	NA	NA	158	NA	NA	18	158	NA	Project: North Tower 115 kV Looping Project
MARTINEZ E - MARTINEZ E 115 KV BUS TIE	SOBRANTE 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	125	69	160	188	77	70	173	71	11	146	36	71	72	Install redundant battery/relay supply
MARTIN-MILLBRAE #1 115KV	MARTIN C 115/60KV TB 6 and MILLBRAE-SAN MATEO #1 115KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	128	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
MARTIN-SF AIRPORT 115KV	Base Case	P0	43	56	91	90	44	92	105	69	48	89	53	39	67	Continue to monitor
MARTIN-SNEATH LANE 60KV	E. SHORE1-25 25.00KV GEN UNIT VS and MILLBRAE 115/60KV TB 5	P3	< 100	< 100	< 100	< 100	< 100	< 100	129	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	MARTIN-MILLBRAE #1 115KV and MILLBRAE-SAN MATEO #1 115KV	P6	198	109	122	< 100	159	193	272	135	< 100	142	110	135	111	Operational procedure (Reverse Power Scheme)
	MILLBRAE 115/60KV TB 5	P1	60	32	40	45	46	56	119	49	12	57	25	48	34	Continue to monitor
	MILLBRAE 115KV - SECTION 1E & 1D	P2	60	32	40	45	46	56	119	49	12	57	25	48	34	Continue to monitor
	MILLBRAE 115KV - SECTION 1F & 1E	P2	60	32	40	45	46	56	119	49	12	57	25	48	34	Continue to monitor
	MILLBRAE 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	60	32	40	45	46	56	119	49	12	57	25	48	34	Install redundant battery/relay supply
	MILLBRAE 115KV SECTION 1E	P2	60	32	40	45	46	56	120	49	12	57	25	48	34	Continue to monitor
MARTNZ D-NRTH TWR 115KV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	83	94	23	26	36	122	26	21	25	10	35	30	101	Install redundant battery/relay supply
	PITTSBURG PP 230KV (FAILURE OF NON-REDUNDANT RELAY)	P5	49	85	28	27	8	78	34	147	10	10	20	145	94	Install redundant battery/relay supply
	SOBRANTE 230/115KV TB 1 and SOBRANTE 230/115KV TB 2	P6	< 100	< 100	< 100	< 100	< 100	100	< 100	< 100	< 100	< 100	< 100	< 100	104	Sensitivity only
	SOBRANTE 230KV - SECTION 2D & 1D	P2	78	98	22	24	38	86	23	23	20	10	45	29	102	Sensitivity only
MCKEE-PIERCY 115KV	Metcalf - San Jose B HVDC Gen and NEWARK-DIXON LANDING 115KV	P3	140	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	Newark - Dixon Landing & Newark - Milpitas #1 115 KV Lines	P7	136	48	58	59	73	37	45	62	10	33	74	62	50	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	Newark 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	140	49	59	61	74	37	46	63	10	33	75	62	50	Install redundant battery/relay supply
	NEWARK E SECTION 2E & NEWARK F SECTION 2F 115KV	P2	136	48	57	59	74	37	45	62	10	33	74	62	50	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	NEWARK E&F 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	144	49	58	60	75	38	45	63	11	33	75	63	51	Install redundant battery/relay supply
	NEWARK F - 2F 115KV & NEWARK F-COMPONENT_SW LINE	P2	136	48	NA	NA	73	37	NA	62	10	NA	74	62	50	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	NEWARK F - 2F 115KV & NEWARK F-LOCKHD 2-APP MAT LINE	P2	136	NA	NA	NA	73	NA	NA	62	NA	NA	74	62	NA	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	NEWARK F - 2F 115KV & NEWARK-NUMMI LINE	P2	136	48	57	60	73	37	45	62	10	33	74	62	50	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	NEWARK F 115KV SECTION 2F	P2	136	48	57	60	73	37	45	62	10	33	74	62	50	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	Newark-Dixon Landing 115 KV and Newark-Milpitas No. 1 115 KV lines	P7	136	48	58	59	73	37	45	62	10	33	74	62	50	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	NEWARK-DIXON LANDING 115KV	P1	135	48	57	59	73	37	45	62	10	33	74	62	50	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	NEWARK-DIXON LANDING 115KV and SANJOSEB230 230/115KV TB 1	P6	141	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
METCALF - EVERGREEN #1 115 KV	SAN JOSE B-STONE-EVERGREEN 115KV and EVRGRN 1-METCALFE #2 115KV	P6	109	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: LC24 Network Upgrade
METCALF - LLAGAS #1 115 KV	GARLICSWSTA 115KV - Middle Breaker Bay 1	P2	70	NA	NA	NA	7	NA	NA	13	NA	NA	101	15	NA	Sensitivity only
	GARLICSWSTA-LLAGAS #1 115KV	P1	70	NA	NA	NA	7	NA	NA	12	NA	NA	101	14	NA	Sensitivity only
	GROYPKR1 13.80KV Gen Unit 1 and METCALF-MORGAN HILL 115KV	P3	< 100	< 100	< 100	< 100	165	< 100	< 100	135	< 100	< 100	< 100	< 100	< 100	Project: Morgan Hill Area Reinforcement (formerly Spring 230/115 kV substation)
	GROYPKR2 13.80KV Gen Unit 1 and METCALF-MORGAN HILL 115KV	P3	< 100	< 100	< 100	< 100	181	< 100	< 100	100	< 100	< 100	< 100	100	< 100	Project: Morgan Hill Area Reinforcement (formerly Spring 230/115 kV substation)
	METCALFD - 2D 115KV & METCALFD-METCALFD line	P2	19	NA	NA	NA	77	NA	NA	103	NA	NA	54	77	NA	Project: Morgan Hill Area Reinforcement (formerly Spring 230/115 kV substation)
	METCALF-MORGAN HILL 115KV and LLAGAS-GILROY F-GILROYENG-GILROYPK 115KV	P6	239	< 100	< 100	< 100	181	< 100	< 100	149	< 100	< 100	< 100	148	< 100	Project: Morgan Hill Area Reinforcement (formerly Spring 230/115 kV substation)
METCALF 1D - METCALF 1E 230 KV BUS TIE	METCALF2E 230KV Section 2E	P2	NA	41	97	102	NA	39	89	NA	1	65	NA	NA	44	Continue to monitor
	METCALF2E Section 2E & METCALFF Section 2F 230KV	P2	NA	NA	98	103	NA	NA	89	NA	NA	68	NA	NA	NA	Continue to monitor
METCALF 230/115 kV TB #2	Metcalf - San Jose B HVDC Gen and METCALF2D 230/115KV TB 4	P3	102	112	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	METCALF1D Section 1D & METCALF1E Section 1E 230KV	P2	NA	122	NA	NA	NA	113	NA	NA	38	NA	NA	NA	127	Potential flow control or capacity increase project
	METCALF2D - 2D 230KV & METCALF2D-METCALF1D line	P2	93	105	NA	NA	79	97	NA	67	29	NA	51	64	110	Potential flow control or capacity increase project
	METCALF2D 230KV - Section 2D & 2E	P2	95	108	NA	NA	80	99	NA	68	30	NA	52	66	113	Potential flow control or capacity increase project
	METCALF2D 230KV Section 2D	P2	NA	108	NA	NA	NA	99	NA	NA	30	NA	NA	NA	113	Potential flow control or capacity increase project
	METCALF2D 230KV Section 2E	P2	NA	96	NA	NA	NA	89	NA	NA	30	NA	NA	NA	100	Sensitivity only
METCALF 230/115 kV TB #3	METCALF2D Section 2D & METCALF2E Section 2E 230KV	P2	NA	134	NA	NA	NA	124	NA	NA	38	NA	NA	NA	142	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	METCALF2E 230/115KV TB 2 and METCALF2D 230/115KV TB 4	P6	110	121	< 100	< 100	< 100	110	< 100	< 100	< 100	< 100	< 100	< 100	126	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
METCALF 2D - METCALF 2E 230 KV BUS TIE	METCALF1D - 1D 230KV & METCALF2D-METCALF1D line	P2	43	45	104	108	43	44	89	18	5	66	11	13	48	Continue to monitor
	METCALF1E 230KV Section 1E	P2	NA	72	97	102	NA	69	88	NA	1	65	NA	NA	74	Continue to monitor
	METCALF1E Section 1E & METCALFF Section 1F 230KV	P2	NA	NA	98	103	NA	NA	89	NA	NA	68	NA	NA	NA	Continue to monitor
METCALF 500/230KV TB 11	Metcalf - San Jose B HVDC Gen and METCALF 500/230KV TB 13	P3	< 100	101	105	107	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF1E - 1E 230KV & METCALF2E-METCALF1E line	P2	76	85	95	100	51	78	97	66	19	75	49	67	91	Potential flow control or capacity increase project
	METCALF2E - 2E 230KV & METCALF2E-METCALF1E line	P2	79	87	95	100	54	81	97	66	19	75	50	68	93	Potential flow control or capacity increase project
	METCALF2E-METCALF1E 230KV and METCALF2D-METCALF1D 230KV	P6	< 100	132	< 100	< 100	< 100	121	< 100	< 100	< 100	< 100	< 100	< 100	140	Project: Metcalf 500/230 kV TB
METCALF 500/230KV TB 12	METCALF1E - 1E 230KV & METCALF2E-METCALF1E line	P2	81	90	101	106	55	83	103	70	20	80	52	72	96	Potential flow control or capacity increase project
	METCALF2E - 2E 230KV & METCALF2E-METCALF1E line	P2	84	93	101	106	57	86	103	70	20	80	53	72	99	Potential flow control or capacity increase project
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	62	Diverge	90	73	30	72	65	76	Diverge	Install redundant battery/relay supply
	TESLA-NEWARK #2 230KV and METCALF2E-METCALF1E 230KV	P6	< 100	< 100	103	109	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
METCALF 500/230KV TB 13	METCALF 500/230KV TB 12	P1	78	87	96	101	50	81	100	67	22	78	52	71	93	Potential flow control or capacity increase project
	METCALF2D-METCALF1D 230KV	P1	NA	NA	96	101	NA	NA	100	NA	NA	78	NA	NA	NA	Potential flow control or capacity increase project
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	65	Diverge	92	76	32	74	68	80	Diverge	Install redundant battery/relay supply
	TESLA-NEWARK #2 230KV and METCALF2D-METCALF1D 230KV	P6	< 100	< 100	105	111	< 100	< 100	100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
METCALF 500/230KV TB 14	MEC CTG1 18.00KV & MEC CTG2 18.00KV & MEC STG1 18.00KV Gen Units	P1	NA	NA	106	111	NA	NA	108	NA	NA	81	NA	NA	NA	Potential flow control or capacity increase project
	Metcalf - Hicks & Metcalf - Vasona 230 KV Lines	P7	NA	NA	106	114	NA	NA	109	NA	NA	101	NA	NA	NA	Potential flow control or capacity increase project
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	NA	Diverge	Diverge	NA	NA	151	NA	NA	111	NA	NA	NA	Install redundant battery/relay supply
	METCALF1D - 1D 230KV & METCALF2D-METCALF1D line	P2	NA	NA	107	114	NA	NA	108	NA	NA	101	NA	NA	NA	Potential flow control or capacity increase project
	METCALF1D Section 1D & METCALF1E Section 1E 230KV	P2	NA	NA	104	110	NA	NA	105	NA	NA	99	NA	NA	NA	Potential flow control or capacity increase project
	METCALF2D - 2D 230KV & METCALF2D-METCALF1D line	P2	NA	NA	107	114	NA	NA	108	NA	NA	101	NA	NA	NA	Potential flow control or capacity increase project
	METCALF2D 230KV Section 2D	P2	NA	NA	99	106	NA	NA	101	NA	NA	95	NA	NA	NA	Potential flow control or capacity increase project
	METCALF2D Section 2D & METCALF2E Section 2E 230KV	P2	NA	NA	104	111	NA	NA	104	NA	NA	99	NA	NA	NA	Potential flow control or capacity increase project
	METCALF2E-METCALF1E 230KV and METCALF2D-METCALF1D 230KV	P6	< 100	< 100	112	< 100	< 100	< 100	110	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	Monta Vista-Saratoga & Monta Vista-Hicks 230 KV Lines	P7	NA	NA	95	102	NA	NA	98	NA	NA	95	NA	NA	NA	Potential flow control or capacity increase project
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	NA	NA	Diverge	Diverge	NA	NA	183	NA	NA	155	NA	NA	NA	Install redundant battery/relay supply
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	NA	Diverge	Diverge	NA	NA	100	NA	NA	95	NA	NA	NA	Install redundant battery/relay supply
	Saratoga-Vasona & Monta Vista-Hicks 230 KV Line	P7	NA	NA	99	106	NA	NA	103	NA	NA	97	NA	NA	NA	Potential flow control or capacity increase project
METCALF1D 230/115KV TB 1	Metcalf - Hicks & Metcalf - Vasona 230 KV Lines	P7	64	73	96	100	54	67	91	47	23	71	37	45	76	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen and METCALF2D 230/115KV TB 4	P3	< 100	< 100	109	112	< 100	< 100	101	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF2D - 2D 230KV & METCALF2D-METCALF1D line	P2	82	92	112	117	69	85	106	59	26	82	46	57	97	Potential flow control or capacity increase project
	METCALF2D 230/115KV TB 4	P1	NA	NA	99	104	NA	NA	95	NA	NA	75	NA	NA	NA	Potential flow control or capacity increase project
	METCALF2D 230KV - Section 2D & 2E	P2	84	96	119	124	71	88	112	62	27	88	47	60	101	Potential flow control or capacity increase project
	METCALF2D 230KV Section 2D	P2	NA	96	119	124	NA	88	112	NA	27	88	NA	NA	101	Potential flow control or capacity increase project
	METCALF2D Section 2D & METCALF2E Section 2E 230KV	P2	NA	121	NA	NA	NA	112	NA	NA	35	NA	NA	NA	128	Potential flow control or capacity increase project
	METCALFD - 2D 115KV & METCALFD-METCALFD line	P2	NA	NA	111	117	NA	NA	108	NA	NA	73	NA	NA	NA	Potential flow control or capacity increase project
	METCALFD-METCALFD 115KV	P1	NA	NA	99	104	NA	NA	95	NA	NA	75	NA	NA	NA	Potential flow control or capacity increase project
METCALF2D 230/115KV TB 4	Metcalf - San Jose B HVDC Gen and METCALF1D 230/115KV TB 1	P3	< 100	< 100	107	110	< 100	< 100	100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF1D - 1D 230KV & METCALF2D-METCALF1D line	P2	72	80	110	115	62	74	105	54	26	83	41	51	83	Potential flow control or capacity increase project
	METCALF1D 230/115KV TB 1	P1	NA	NA	98	102	NA	NA	94	NA	NA	74	NA	NA	NA	Potential flow control or capacity increase project
	METCALF1D Section 1D & METCALF1E Section 1E 230KV	P2	NA	107	NA	NA	NA	99	NA	NA	34	NA	NA	NA	111	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	METCALFF 230KV - Middle Breaker Bay 4	P2	NA	NA	100	105	NA	NA	98	NA	NA	83	NA	NA	NA	Potential flow control or capacity increase project
METCALF-EDENVALE #2 115KV	GATEWAY1 18/230KV TB 1 and ST TRESA-EDENVALE 115KV	P6	< 100	< 100	Diverge	119	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	MARSHLD2 230/16.5KV TB 3 and ST TRESA-EDENVALE 115KV	P6	< 100	< 100	Diverge	116	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen	P1	62	84	99	103	41	71	79	36	30	59	26	35	88	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen and ST TRESA-METCALFD 115KV	P3	< 100	< 100	208	213	< 100	< 100	< 100	< 100	< 100	123	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF-SANTA TERESA 115KV (EDNVL J1-METCALFD)	P2	NA	172	NA	NA	NA	146	NA	NA	65	126	NA	NA	175	Potential flow control or capacity increase project
	METCALF-SJB MONOPOLE	P1	62	84	100	103	41	71	79	36	30	59	26	35	88	Potential flow control or capacity increase project
	Newark 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	64	82	97	100	41	69	79	36	30	59	26	35	83	Install redundant battery/relay supply
	PITTSBURG PP 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	62	82	97	101	41	69	79	36	30	59	26	35	86	Install redundant battery/relay supply
	SANTA TERESA-EDENVALE 115KV (EDENVALE-EDNVL J3)	P2	NA	NA	113	118	NA	NA	79	NA	NA	51	NA	NA	NA	Potential flow control or capacity increase project
	ST TRESA 115KV - Ring R1 & R3	P2	NA	NA	114	119	NA	NA	79	NA	NA	51	NA	NA	NA	Potential flow control or capacity increase project
	ST TRESA 115KV - Ring R2 & R1	P2	NA	164	NA	NA	NA	134	NA	NA	59	111	NA	NA	166	Potential flow control or capacity increase project
	ST TRESA 115KV - Ring R2 & R3	P2	NA	NA	112	118	NA	NA	79	NA	NA	51	NA	NA	NA	Potential flow control or capacity increase project
	ST TRESA-EDENVALE 115KV	P1	NA	NA	114	119	NA	NA	79	NA	NA	51	NA	NA	NA	Potential flow control or capacity increase project
	ST TRESA-METCALFD 115KV	P1	128	NA	NA	NA	82	NA	NA	70	NA	124	49	70	NA	Potential flow control or capacity increase project
METCALF-EL PATIO #1 115KV	SAN JOSE A-SAN JOSE B 115KV and METCALF-EL PATIO #2 115KV	P6	128	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: LC24 Network Upgrade
	SANJOSEB 115KV - Middle Breaker Bay 4	P2	NA	NA	102	105	NA	NA	81	NA	NA	65	NA	NA	NA	Continue to monitor
METCALF-EL PATIO #2 115KV	METCALFD Section 1D & METCALFE Section 1E 115KV	P2	NA	93	NA	NA	NA	87	NA	NA	24	NA	NA	NA	102	Sensitivity only
	SAN JOSE A-SAN JOSE B 115KV and METCALF-EL PATIO #1 115KV	P6	128	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: LC24 Network Upgrade
	SANJOSEB 115KV - Middle Breaker Bay 4	P2	NA	NA	102	105	NA	NA	83	NA	NA	65	NA	NA	NA	Continue to monitor
METCALFE-METCALFE 115KV	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	0	Diverge	103	0	0	81	0	0	Diverge	Install redundant battery/relay supply
METCALFF 230/115KV TB 2	GATEWAY1 18/230KV TB 1 and METCALFE-METCALFE 115KV	P6	< 100	< 100	Diverge	108	< 100	< 100	101	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen and METCALFF 230/115KV TB 3	P3	< 100	< 100	117	119	< 100	< 100	108	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	NA	Diverge	Diverge	NA	NA	148	NA	NA	110	NA	NA	NA	Install redundant battery/relay supply
	METCALF1D - 1D 230KV & METCALF2D-METCALF1D line	P2	NA	NA	100	104	NA	NA	97	NA	NA	66	NA	NA	NA	Potential flow control or capacity increase project
	METCALF2D - 2D 230KV & METCALF2D-METCALF1D line	P2	NA	NA	99	103	NA	NA	96	NA	NA	65	NA	NA	NA	Potential flow control or capacity increase project
	METCALF2D 230/115KV TB 4	P1	NA	NA	97	101	NA	NA	94	NA	NA	63	NA	NA	NA	Potential flow control or capacity increase project
	METCALFD-METCALFD 115KV	P1	NA	NA	97	101	NA	NA	94	NA	NA	63	NA	NA	NA	Potential flow control or capacity increase project
	METCALFE - 2E 115KV & METCALFE-METCALFE line	P2	NA	NA	99	102	NA	NA	94	NA	NA	72	NA	NA	NA	Potential flow control or capacity increase project
	METCALFE-METCALFE 115KV	P1	NA	NA	104	109	NA	NA	102	NA	NA	66	NA	NA	NA	Potential flow control or capacity increase project
	METCALFF 230/115KV TB 3	P1	NA	NA	104	109	NA	NA	102	NA	NA	66	NA	NA	NA	Potential flow control or capacity increase project
	METCALFF 230KV - Middle Breaker Bay 2	P2	NA	NA	99	104	NA	NA	98	NA	NA	73	NA	NA	NA	Potential flow control or capacity increase project

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Overloaded Facility	Contingency (All and Worst P6)	Category	Loading % (Baseline Scenarios)										Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
	Metcalf-Monta Vista No. 3 & Monta Vista-Coyote Sw. Sta. 230 KV Line	P7	NA	NA	110	114	NA	NA	108	NA	NA	69	NA	NA	NA	Potential flow control or capacity increase project
	MONTA VISTA 115KV BAAH (FAILURE OF NON-REDUNDENT RELAY)	P5	NA	NA	99	103	NA	NA	95	NA	NA	63	NA	NA	NA	Install redundant battery/relay supply
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	NA	115	120	NA	NA	110	NA	NA	72	NA	NA	NA	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	NA	NA	Diverge	Diverge	NA	NA	126	NA	NA	88	NA	NA	NA	Install redundant battery/relay supply
METCALFF 230/115KV TB 3	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	NA	Diverge	Diverge	NA	NA	145	NA	NA	108	NA	NA	NA	Install redundant battery/relay supply
	METCALF1D - 1D 230KV & METCALF2D-METCALF1D line	P2	NA	NA	99	103	NA	NA	96	NA	NA	65	NA	NA	NA	Potential flow control or capacity increase project
	METCALF2D - 2D 230KV & METCALF2D-METCALF1D line	P2	NA	NA	98	102	NA	NA	95	NA	NA	64	NA	NA	NA	Potential flow control or capacity increase project
	METCALFF 230/115KV TB 2	P1	NA	NA	103	107	NA	NA	101	NA	NA	66	NA	NA	NA	Potential flow control or capacity increase project
	METCALFF 230KV - Middle Breaker Bay 1	P2	NA	NA	104	108	NA	NA	101	NA	NA	64	NA	NA	NA	Potential flow control or capacity increase project
	Metcalf-Monta Vista No. 3 & Monta Vista-Coyote Sw. Sta. 230 KV Line	P7	NA	NA	108	113	NA	NA	107	NA	NA	68	NA	NA	NA	Potential flow control or capacity increase project
	MONTA VISTA 115KV BAAH (FAILURE OF NON-REDUNDENT RELAY)	P5	NA	NA	97	102	NA	NA	94	NA	NA	63	NA	NA	NA	Install redundant battery/relay supply
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	NA	114	118	NA	NA	108	NA	NA	71	NA	NA	NA	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	NA	NA	Diverge	Diverge	NA	NA	125	NA	NA	87	NA	NA	NA	Install redundant battery/relay supply
METCALF-GREEN VALLEY 115KV	LLAGAS-GILROY F-GILROYENG-GILROYPK 115KV and METCALF-MORGAN HILL 115KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	149	< 100	< 100	< 100	< 100	< 100	< 100	Project: Morgan Hill Area Reinforcement (formerly Spring 230/115 kV substation)
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	Diverge	Diverge	Diverge	NA	Diverge	22	NA	5	53	NA	NA	Diverge	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	NA	Diverge	Diverge	Diverge	NA	Diverge	20	NA	7	53	NA	NA	Diverge	Install redundant battery/relay supply
METCALF-MONTA VISTA #3 230KV	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	NA	NA	Diverge	Diverge	NA	NA	77	NA	NA	67	NA	NA	NA	Install redundant battery/relay supply
METCALF-MORGAN HILL 115KV	LLAGAS - 1D 115KV & LLAGAS-GILROY F-GILROYENG-GILROYPK line	P2	121	NA	NA	NA	96	NA	NA	93	NA	NA	59	93	NA	Project: Morgan Hill Area Reinforcement (formerly Spring 230/115 kV substation)
	LLAGAS - 1D 115KV & METCALFD-LLAGAS line	P2	121	NA	NA	NA	96	NA	NA	93	NA	NA	59	93	NA	Project: Morgan Hill Area Reinforcement (formerly Spring 230/115 kV substation)
	LLAGAS 115KV Section 1D	P2	121	NA	NA	NA	96	NA	NA	93	NA	NA	59	93	NA	Project: Morgan Hill Area Reinforcement (formerly Spring 230/115 kV substation)
	LLAGAS-GILROY F-GILROYENG-GILROYPK 115KV and METCALFD-LLAGAS 115KV	P6	156	< 100	< 100	< 100	136	< 100	< 100	117	< 100	< 100	< 100	117	< 100	Project: Morgan Hill Area Reinforcement (formerly Spring 230/115 kV substation)
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	53	Diverge	22	56	5	44	15	45	Diverge	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	53	Diverge	19	56	7	44	16	45	Diverge	Install redundant battery/relay supply
METCALF-MOSS LANDING #1 230KV	TESLA-METCALF 500KV and METCALF-MOSSLANDING 500KV	P6	< 100	135	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
METCALF-MOSS LANDING #2 230KV	TESLA-METCALF 500KV and METCALF-MOSSLANDING 500KV	P6	< 100	135	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
MILLBRAE 115/60KV TB 5	Base Case	P0	26	32	40	43	27	58	113	28	15	60	16	22	32	Continue to monitor
	MARTIN (SF H) 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	36	40	50	Diverge	35	Diverge	150	29	14	69	14	29	42	Install redundant battery/relay supply
	MARTIN 115KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	36	40	50	56	35	73	150	29	14	69	14	29	42	Install redundant battery/relay supply
	MARTIN 230 KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	33	32	40	44	31	57	108	35	16	59	24	27	33	Install redundant battery/relay supply
	MARTIN C 115/60KV TB 6	P1	36	40	50	56	35	73	150	29	14	69	14	29	42	Continue to monitor
	MARTIN C 115KV - MIDDLE BREAKER BAY B	P2	36	40	50	56	35	73	150	29	14	69	14	29	42	Continue to monitor
	MARTIN C 230KV - MIDDLE BREAKER BAY 3	P2	24	32	40	44	25	57	108	26	16	59	14	20	33	Continue to monitor
	MARTIN S1 230KV - MIDDLE BREAKER BAY 2	P2	NA	32	40	44	NA	57	108	NA	16	59	NA	NA	33	Continue to monitor
	Martin-Millbrae No. 1 115 KV and San Mateo-Martin No. 3 115 KV lines	P7	28	35	45	49	29	61	111	35	20	64	23	25	36	Continue to monitor
	Martin-Millbrae No. 1 115 KV and San Mateo-Martin No. 6 115 KV lines	P7	28	35	45	49	29	61	111	35	20	64	22	25	36	Continue to monitor
	MARTIN-SNEATH LANE 60KV	P1	36	40	50	56	35	73	150	29	14	69	14	29	42	Continue to monitor
	Metcalf - San Jose B HVDC Gen and MARTIN-SNEATH LANE 60KV	P3	< 100	< 100	< 100	< 100	< 100	< 100	150	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	MILLBRAE 115KV SECTION 1F	P2	27	34	43	47	29	60	112	33	19	63	21	24	35	Continue to monitor
	MILLBRAE-SAN MATEO #1 115KV and MARTIN C 115/60KV TB 6	P6	< 100	< 100	< 100	< 100	< 100	< 100	150	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	POTRERO 115KV (FAILURE OF NON-REDUNDANT RELAY)	P5	28	31	38	39	25	54	105	26	17	58	19	20	32	Install redundant battery/relay supply
	POTRERO E-TBC_POT1 #1 115KV	P1	29	33	41	44	25	57	107	26	18	60	19	20	34	Continue to monitor
	San Mateo-Martin #2 115 KV and San Mateo-Martin No. 6 115 KV lines	P7	27	32	41	44	27	57	109	30	16	60	18	23	33	Continue to monitor
	SAN MATEO-MARTIN 230KV	P1	27	32	40	44	28	57	107	30	16	59	18	23	34	Continue to monitor
	SAN MATEO-MARTIN 230KV (2)	P1	NA	32	40	44	NA	57	107	NA	16	59	NA	NA	34	Continue to monitor
	SAN MATEO-MARTIN 230KV (SANMATEO-MARTIN S1)	P2	NA	33	40	44	NA	57	108	NA	16	59	NA	NA	33	Continue to monitor
	San Mateo-Martin No. 3 115 KV and San Mateo-Burlingame No. 4 115 KV lines	P7	26	32	40	44	27	57	108	30	16	59	18	23	33	Continue to monitor
	San Mateo-Martin No. 4 115 KV and San Mateo-Martin No. 3 115 KV lines	P7	26	32	40	44	27	57	108	30	16	59	18	23	33	Continue to monitor
	SFIA STATION MA 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	24	29	38	42	25	55	106	26	14	58	14	20	31	Install redundant battery/relay supply
	Base Case	P0	49	57	78	82	44	78	110	60	38	86	49	40	58	Continue to monitor
	BURLINGAME 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	52	62	85	89	47	85	118	66	42	93	54	43	63	Install redundant battery/relay supply
	EGBERTSWSTA-JEFFERSN 230KV	P1	NA	68	92	96	NA	92	126	NA	38	99	NA	NA	70	Continue to monitor
	JEFFERSN-EGBERTSWSTA 230KV	P1	NA	68	92	96	NA	92	126	NA	38	99	NA	NA	70	Continue to monitor
	MARTIN 230 KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	82	72	97	102	70	99	132	96	48	104	79	65	73	Install redundant battery/relay supply
	MARTIN C 230KV - MIDDLE BREAKER BAY 3	P2	49	72	96	102	44	98	132	62	48	104	49	40	73	Continue to monitor
	MARTIN S1 230KV - MIDDLE BREAKER BAY 2	P2	NA	72	96	102	NA	98	132	NA	48	104	NA	NA	73	Continue to monitor
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	64	73	101	106	55	98	113	73	42	98	58	50	76	Install redundant battery/relay supply
	Monta Vista-Jefferson 230 KV Lines No. 1 & 2	P7	62	72	98	103	54	96	112	73	41	99	58	51	74	Continue to monitor
	Monta Vista-Jefferson Nos. 1 & 2 230 KV lines-2	P7	NA	NA	98	103	NA	NA	112	NA	NA	99	NA	NA	NA	Continue to monitor
	POTRERO (SF A) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	60	65	88	92	39	87	120	56	51	97	62	35	66	Install redundant battery/relay supply
	POTRERO 115KV (FAILURE OF NON-REDUNDANT RELAY)	P5	62	66	89	93	41	88	122	58	52	99	64	37	68	Install redundant battery/relay supply
	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	68	76	105	108	44	98	130	60	55	106	67	40	78	Continue to monitor

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
MILLBRAE-SAN MATEO #1 115KV	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	69	77	109	112	44	98	131	60	55	106	68	40	80	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	69	77	109	112	44	98	131	60	55	106	68	40	80	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	69	77	109	112	44	98	131	60	55	106	68	40	80	Continue to monitor
	POTRERO E-TBC_POT1 #1 115KV	P1	68	76	99	104	44	96	131	60	55	107	69	40	78	Continue to monitor
	POTRERO E-TBC_POT1 115KV NO FAULT	P2	68	76	99	104	44	96	131	60	55	107	69	40	78	Continue to monitor
	Q1552C1 34.5/115KV TB 1 and SAN MATEO-MARTIN 230KV	P6	< 100	< 100	108	< 100	< 100	Diverge	140	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	San Mateo-Martin #2 115 KV and San Mateo-Martin No. 6 115 KV lines	P7	60	72	99	104	54	98	135	76	49	107	63	50	74	Continue to monitor
	SAN MATEO-MARTIN 230KV	P1	62	73	97	102	55	98	131	75	49	104	64	50	74	Continue to monitor
	SAN MATEO-MARTIN 230KV (2)	P1	NA	73	97	102	NA	98	131	NA	49	104	NA	NA	74	Continue to monitor
	San Mateo-Martin No. 3 115 KV and San Mateo-Burlingame No. 4 115 KV lines	P7	58	70	97	101	53	96	132	75	48	105	62	49	71	Continue to monitor
	San Mateo-Martin No. 3 115 KV and SF Airport-San Mateo No. 5 115 KV lines	P7	60	72	99	103	55	97	132	77	49	106	63	50	72	Continue to monitor
	San Mateo-Martin No. 4 115 KV and San Mateo-Martin No. 3 115 KV lines	P7	58	70	97	101	53	96	132	75	48	105	62	49	71	Continue to monitor
	San Mateo-Martin No. 6 115 KV and SF Airport-San Matoe115 KV lines	P7	60	72	98	103	55	97	132	77	49	105	63	50	72	Continue to monitor
	SFIA STATION MA 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	55	65	89	93	49	88	122	67	44	97	56	44	66	Install redundant battery/relay supply
MILLBRAE-SNEATH LANE 60KV	MARTIN-MILLBRAE #1 115KV and MILLBRAE-SAN MATEO #1 115KV	P6	151	< 100	< 100	< 100	110	140	168	< 100	< 100	112	< 100	< 100	< 100	Reverse power flow relay
	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	15	7	Diverge	Diverge	70	Diverge	Diverge	17	2	Diverge	7	105	Diverge	Sensitivity only
MILPITAS-SWIFT 115KV	Newark 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	103	94	109	118	56	70	74	48	28	60	56	48	97	Install redundant battery/relay supply
	NEWARK E&F 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	166	127	30	31	109	100	33	99	46	37	92	98	131	Install redundant battery/relay supply
	NEWARK F-RINGWOODSWST #1 115KV and NEWARK-MILPITAS #1 115KV	P6	156	126	< 100	< 100	113	103	< 100	< 100	< 100	< 100	< 100	< 100	129	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
MNTA VSA 115/60KV TB 5	DVRaGT1 13.80KV & DVRbGt2 13.80KV & DVRaST3 13.80KV Gen Units and MNTA VSA 115/60KV TB 6	P3	< 100	< 100	< 100	< 100	< 100	< 100	135	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	LOS ESTEROS-NORTECH 115KV and MNTA VSA 115/60KV TB 6	P6	< 100	< 100	< 100	< 100	< 100	< 100	135	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	MNTA VSA 115/60KV TB 6	P1	NA	NA	67	73	NA	NA	135	NA	NA	69	NA	NA	NA	Continue to monitor
	MNTA VSA 115KV - Middle Breaker Bay 1	P2	49	54	67	74	34	71	135	28	13	69	28	28	55	Continue to monitor
MNTA VSA 115/60KV TB 6	DVRaGT1 13.80KV & DVRbGt2 13.80KV & DVRaST3 13.80KV Gen Units and MNTA VSA 115/60KV TB 5	P3	< 100	< 100	< 100	< 100	< 100	< 100	135	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	LOS ESTEROS-NORTECH 115KV and MNTA VSA 115/60KV TB 5	P6	< 100	< 100	< 100	< 100	< 100	< 100	135	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	MNTA VSA 115/60KV TB 5	P1	NA	NA	67	73	NA	NA	135	NA	NA	69	NA	NA	NA	Continue to monitor
	MNTA VSA 115KV - Middle Breaker Bay 6	P2	49	54	67	73	34	71	135	28	13	69	28	28	55	Continue to monitor
MONTA VISTA - SLAC 230 KV	POTRERO E-TBC_POT1 #1 115KV and MONTA VISTA-JEFFERSON #2 230KV	P6	< 100	< 100	< 100	< 100	< 100	102	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
MONTA VISTA 230/115 kV TB #1	MANNING - METCALF 500 KV and TESLA-NEWARK #2 230KV	P6	< 100	< 100	104	145	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen	P1	NA	NA	108	110	NA	NA	NA	NA	NA	NA	NA	NA	NA	Continue to monitor
	Metcalf - San Jose B HVDC Gen and MONTAVIS 230/115KV TB 3	P3	< 100	< 100	145	149	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	METCALF-SJB MONOPOLE	P1	NA	NA	142	144	NA	NA	NA	NA	NA	NA	NA	NA	NA	Continue to monitor
	NEWARK D 230KV - SECTION 1D & 2D	P2	NA	NA	144	145	NA	NA	NA	NA	NA	NA	NA	NA	NA	Continue to monitor
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	NA	NA	143	142	NA	NA	NA	NA	NA	NA	NA	NA	NA	Continue to monitor
	PITTSBURG PP 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	NA	106	147	NA	NA	NA	NA	NA	NA	NA	NA	NA	Install redundant battery/relay supply
	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	NA	NA	141	97	NA	NA	NA	NA	NA	NA	NA	NA	NA	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	NA	NA	139	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	NA	NA	139	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	NA	NA	139	143	NA	NA	NA	NA	NA	NA	NA	NA	NA	Continue to monitor
	RAVENSWOOD 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	NA	NA	151	154	NA	NA	NA	NA	NA	NA	NA	NA	NA	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	NA	147	151	NA	NA	NA	NA	NA	NA	NA	NA	NA	Install redundant battery/relay supply
MONTA VISTA-HICKS 230KV	COYOTE SW STA (MEC) 230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	NA	98	103	NA	NA	100	NA	NA	75	NA	NA	NA	Install redundant battery/relay supply
	Metcalf - MEC & Metcalf - Vasona 230 KV Lines	P7	NA	NA	104	111	NA	NA	108	NA	NA	108	NA	NA	NA	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen and VASONA-METCALF 230KV	P3	< 100	< 100	120	122	< 100	< 100	113	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF 500/230KV TB 14	P1	NA	NA	99	105	NA	NA	102	NA	NA	86	NA	NA	NA	Potential flow control or capacity increase project
	METCALF1D - 1D 230KV & METCALF2D-METCALF1D line	P2	NA	NA	124	130	NA	NA	122	NA	NA	95	NA	NA	NA	Potential flow control or capacity increase project
	METCALF1D Section 1D & METCALF1E Section 1E 230KV	P2	NA	118	NA	NA	NA	119	NA	NA	NA	107	NA	NA	124	Potential flow control or capacity increase project
	METCALFF 230KV - Middle Breaker Bay 4	P2	NA	NA	111	118	NA	NA	114	NA	NA	102	NA	NA	NA	Potential flow control or capacity increase project
	METCALF-MONTA VISTA #3 230KV and MONTA VISTA-COYOTE SW STA 230KV	P6	102	116	< 100	< 100	< 100	112	< 100	< 100	< 100	< 100	< 100	< 100	122	Potential flow control or capacity increase project
	Metcalf-Monta Vista No. 3 & Monta Vista-Coyote Sw. Sta. 230 KV Line	P7	108	115	132	138	NA	118	135	NA	NA	101	NA	NA	121	Potential flow control or capacity increase project
	MONTAVIS 230KV - Section 1D & 2D	P2	110	NA	NA	NA	83	NA	NA	78	NA	NA	63	73	NA	Potential flow control or capacity increase project
	MONTAVIS 230KV Section 1D	P2	NA	NA	119	123	NA	NA	116	NA	NA	90	NA	NA	NA	Potential flow control or capacity increase project
	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	NA	Diverge	Diverge	NA	NA	Diverge	NA	NA	Diverge	NA	NA	NA	Install redundant battery/relay supply
	SARATOGA-VASONA 230KV	P1	NA	NA	102	108	NA	NA	105	NA	NA	83	NA	NA	NA	Potential flow control or capacity increase project
	VASONA 230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	NA	103	109	NA	NA	106	NA	NA	84	NA	NA	NA	Install redundant battery/relay supply
	VASONA-METCALF 230KV	P1	NA	NA	107	113	NA	NA	110	NA	NA	87	NA	NA	NA	Potential flow control or capacity increase project
MONTA VISTA-JEFFERSON #2	MARTIN (SF H) 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	21	75	155	Diverge	16	Diverge	97	14	11	61	8	17	79	Install redundant battery/relay supply
	Metcalf - San Jose B HVDC Gen and MONTAVIS-STNFD230 #1 230KV	P3	< 100	< 100	101	100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
230KV	MONTAVIS-STNFD230 #1 230KV and POTRERO E-TBC_POT1 #1 115KV	P6	< 100	< 100	100	102	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	89	118	Diverge	Diverge	84	Diverge	Diverge	121	69	NConv	95	94	Diverge	Install redundant battery/relay supply
MONTA VISTA-LOS ALTOS 60KV	Base Case	P0	99	110	64	70	65	124	112	60	23	62	49	60	113	Project: Monta Vista - Los Altos 60 kV Reconductor
	Britton-Monta Vista & Lawrence-Monta Vista 115 KV Lines	P7	88	98	64	70	65	126	112	54	20	62	44	53	101	Continue to monitor
	EASTSHORE 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	88	98	64	70	65	126	112	54	20	62	44	53	101	Install redundant battery/relay supply
	MNTA VSA 115/60KV TB 5	P1	NA	NA	64	70	NA	NA	114	NA	NA	62	NA	NA	NA	Continue to monitor
	MNTA VSA 115/60KV TB 6	P1	NA	NA	64	70	NA	NA	114	NA	NA	62	NA	NA	NA	Continue to monitor
	MNTA VSA 115KV - Middle Breaker Bay 6	P2	88	98	64	70	65	123	114	54	20	62	44	53	101	Continue to monitor
	MONTAVIS SVD=v	P1	88	98	64	70	65	126	112	54	20	62	44	53	101	Continue to monitor
	MONTAVIS - 2E 230KV & MONTA VISTA-JEFFERSON #2 line	P2	NA	98	NA	NA	NA	126	NA	NA	20	NA	NA	NA	101	Project: Monta Vista - Los Altos 60 kV Reconductor
	MONTAVIS 230KV Section 2E	P2	NA	98	64	70	NA	126	112	NA	20	62	NA	NA	101	Continue to monitor
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	88	98	21	27	65	126	112	54	20	62	44	53	Diverge	Continue to monitor
	NEWARK E 230KV - SECTION 1E & 2E	P2	88	98	64	70	65	126	112	54	20	62	44	53	101	Continue to monitor
	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	88	98	64	70	65	126	112	54	20	62	44	53	101	Install redundant battery/relay supply
	RVNSWD E SECTION 1E & RVNSWD D SECTION 1D 115KV	P2	88	98	64	70	65	126	112	54	20	62	44	53	101	Continue to monitor
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	88	98	64	70	65	126	112	54	20	62	44	53	101	Continue to monitor
MONTA VISTA-LOS GATOS 60KV	Base Case	P0	60	73	78	83	35	75	144	32	16	93	40	32	75	Continue to monitor
	Metcalf - San Jose B HVDC Gen	P1	54	65	69	74	32	70	138	28	15	83	36	28	67	Continue to monitor
	Metcalf - San Jose B HVDC Gen and MONTA VISTA-LOS GATOS 60KV	P3	< 100	< 100	< 100	< 100	< 100	< 100	195	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	METCALF1D - 1D 230KV & METCALF2D-METCALF1D line	P2	54	65	69	74	32	70	137	28	15	83	36	28	67	Continue to monitor
	METCALF-SJB MONOPOLE	P1	54	65	14	17	32	70	138	28	15	83	36	28	67	Continue to monitor
	MNTA VSA 115/60KV TB 5	P1	NA	NA	69	74	NA	NA	138	NA	NA	83	NA	NA	NA	Continue to monitor
	MNTA VSA 115/60KV TB 6	P1	NA	NA	69	74	NA	NA	138	NA	NA	83	NA	NA	NA	Continue to monitor
	MNTA VSA 115KV - Middle Breaker Bay 6	P2	54	65	69	74	32	70	138	28	15	83	36	28	67	Continue to monitor
	MONTA VISTA-LOS GATOS 60KV	P1	NA	NA	NA	NA	NA	NA	175	NA	NA	NA	NA	NA	NA	Continue to monitor
	MONTAVIS SVD=v	P1	54	65	69	74	32	70	138	28	15	83	36	28	67	Continue to monitor
	NEWARK D 230KV - SECTION 1D & 2D	P2	54	65	14	17	32	70	138	28	15	83	36	28	Diverge	Continue to monitor
	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	54	65	69	74	32	70	138	28	15	83	36	28	67	Install redundant battery/relay supply
MONTA VISTA-SARATOGA 230KV	HICKS-METCALF 230KV	P1	NA	NA	101	106	NA	NA	85	NA	NA	82	NA	NA	NA	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen and HICKS-METCALF 230KV	P3	< 100	< 100	112	114	< 100	< 100	100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	58	95	72	75	41	80	58	45	17	60	33	42	102	Sensitivity only
	METCALF2D - 2D 230KV & METCALF2D-METCALF1D line	P2	73	77	117	122	51	68	95	57	14	91	41	52	81	Potential flow control or capacity increase project
	METCALF2D 230KV - Section 2D & 2E	P2	77	80	126	132	53	71	104	59	14	102	44	55	85	Potential flow control or capacity increase project
	METCALF2D 230KV Section 2D	P2	NA	80	126	132	NA	71	104	NA	14	102	NA	NA	85	Potential flow control or capacity increase project
	METCALF2D Section 2D & METCALF2E Section 2E 230KV	P2	NA	NA	126	132	NA	NA	105	NA	NA	103	NA	NA	NA	Potential flow control or capacity increase project
	METCALFF 230KV - Middle Breaker Bay 4	P2	NA	NA	103	109	NA	NA	87	NA	NA	96	NA	NA	NA	Potential flow control or capacity increase project
	Metcalf-Monta Vista No. 3 & Monta Vista-Coyote Sw. Sta. 230 KV Line	P7	99	105	125	131	68	94	108	76	20	94	59	70	109	Potential flow control or capacity increase project
	MONTA VISTA-COYOTE SW STA 230KV and HICKS-METCALF 230KV	P6	< 100	< 100	134	< 100	< 100	< 100	122	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	58	66	Diverge	Diverge	48	Diverge	Diverge	60	30	Diverge	49	62	Diverge	Install redundant battery/relay supply
MONTA VISTA-WOLFE 115KV	GATEWAY1 18/230KV TB 1 and STELLING-MONTA VISTA 115KV	P6	< 100	< 100	Diverge	116	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen and STELLING-MONTA VISTA 115KV	P3	< 100	< 100	109	118	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	MNTA VSA 115KV - Middle Breaker Bay 4	P2	80	87	107	116	59	70	80	48	16	51	47	48	89	Continue to monitor
	STELLING-MONTA VISTA 115KV	P1	NA	NA	107	116	NA	NA	80	NA	NA	51	NA	NA	NA	Continue to monitor
MONTAGUE-RINGWOODSWST #1 115KV	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	NA	95	100	NA	NA	70	NA	NA	44	NA	NA	NA	Install redundant battery/relay supply
	METCALFE 115KV - Section 2E & 1E	P2	NA	NA	99	104	NA	NA	73	NA	NA	47	NA	NA	NA	Potential flow control or capacity increase project
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	NA	NA	95	100	NA	NA	70	NA	NA	44	NA	NA	NA	Install redundant battery/relay supply
	NEWARK E 230/115KV TB 11 and SWIFT-METCALF 115KV	P6	< 100	< 100	116	122	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	Swift - Metcalf & Piercy - Metcalf 115 KV Lines	P7	NA	NA	104	109	NA	NA	78	NA	NA	50	NA	NA	NA	Potential flow control or capacity increase project
MONTAVIS 230/115KV TB 1	MONTAVIS 230/115KV TB 2 and MONTAVIS 230/115KV TB 4	P6	< 100	< 100	< 100	< 100	< 100	< 100	103	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
MONTAVIS 230/115KV TB 2	Metcalf - San Jose B HVDC Gen and MONTAVIS 230/115KV TB 4	P3	< 100	106	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Monta Vista 230/115 kV Transformer bank addition
	MONTAVIS 230/115KV TB 3 and MONTAVIS 230/115KV TB 4	P6	139	143	100	< 100	< 100	137	< 100	< 100	< 100	< 100	< 100	< 100	151	Project: Monta Vista 230/115 kV Transformer bank addition
	MONTAVIS 230KV - Section 2D & 2E	P2	131	NA	NA	NA	87	NA	NA	73	NA	NA	67	75	NA	Project: Monta Vista 230/115 kV Transformer bank addition
	MONTAVIS 230KV - Section 2E & 2D	P2	NA	123	NA	NA	NA	121	NA	NA	22	NA	NA	NA	133	Project: Monta Vista 230/115 kV Transformer bank addition
	MONTAVIS 230KV Section 2D	P2	57	86	93	100	40	84	74	34	10	54	30	34	90	Potential flow control or capacity increase project
	MONTAVIS 230KV Section 2E	P2	139	NA	NA	NA	94	NA	NA	80	NA	NA	73	81	NA	Project: Monta Vista 230/115 kV Transformer bank addition
MONTAVIS 230/115KV TB 3	MONTAVIS 230/115KV TB 4 and MONTAVIS 230/115KV TB 2	P6	134	136	< 100	< 100	< 100	132	< 100	< 100	< 100	< 100	< 100	< 100	146	Project: Monta Vista 230/115 kV Transformer bank addition
	Metcalf - San Jose B HVDC Gen and MONTAVIS 230/115KV TB 2	P3	< 100	107	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Monta Vista 230/115 kV Transformer bank addition

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
MONTAVIS 230/115KV TB 4	MONTAVIS 230/115KV TB 3 and MONTAVIS 230/115KV TB 2	P6	140	144	100	< 100	< 100	139	< 100	< 100	< 100	< 100	< 100	< 100	152	Project: Monta Vista 230/115 kV Transformer bank addition
	MONTAVIS 230KV - Section 1E & 2E	P2	NA	97	NA	NA	NA	95	NA	NA	18	NA	NA	NA	102	Sensitivity only
MONTAVIS-STNFD230 #1 230KV	MARTIN (SF H) 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	NA	102	Diverge	NA	NA	69	NA	NA	52	NA	NA	NA	Install redundant battery/relay supply
	MONTA VISTA-JEFFERSON #2 230KV and POTRERO E-TBC_POT1 #1 115KV	P6	< 100	< 100	< 100	107	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and MONTA VISTA-JEFFERSON #2 230KV	P3	< 100	< 100	< 100	101	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	NA	Diverge	Diverge	NA	NA	Diverge	NA	NA	NConv	NA	NA	NA	Install redundant battery/relay supply
MORAGA.E-EDES 115KV	Moraga-Oakland J 115 KV and San Leandro-Oakland J #1 115 KV lines	P7	NA	NA	93	100	NA	NA	84	NA	NA	83	NA	NA	NA	Continue to monitor
	MORAGA-OAKLAND J 115KV and OAKLAND J-GRANT 115KV	P6	< 100	< 100	< 100	100	< 100	< 100	108	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
MORAGA-CASTRO VALLEY 230KV	C.COSTAPPD 230KV - SECTION 1D & 2D	P2	97	116	86	84	58	64	45	67	46	50	94	60	123	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	CAYETANO 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	77	95	80	80	58	57	43	58	50	45	81	52	101	Sensitivity only
	Contra Costa - Las Positas 230 KV and Contra Costa-Lonetree 230 KV lines	P7	98	115	99	98	71	71	57	72	62	57	95	65	122	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Contra Costa - Las Positas 230 KV and Lonetree - Cayetano 230 KV lines	P7	96	114	98	97	70	71	56	72	63	57	95	65	121	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Contra Costa-Las Positas 230 KV and North Dublin-Vineyard 230 KV lines	P7	94	114	98	97	73	71	56	72	63	56	95	64	122	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	EASTSHORE 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	81	92	75	75	60	56	39	61	49	41	84	50	103	Sensitivity only
	Metcalf - San Jose B HVDC Gen	P1	71	96	80	80	54	59	42	54	55	46	76	49	104	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Metcalf - San Jose B HVDC Gen and TESLA-NEWARK #2 230KV	P3	< 100	122	Diverge	Diverge	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	84	Diverge	56	97	51	61	103	90	Diverge	Sensitivity only
	METCALF-SJB MONOPOLE	P1	71	97	80	80	54	59	43	55	55	46	76	49	105	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	84	Diverge	59	96	50	59	102	89	Diverge	Sensitivity only
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	97	122	100	102	70	76	54	70	58	56	95	66	Diverge	Continue to monitor
	NEWARK E - 2E 230KV & NEWARK E-TASSAJAR-RESEARCH LINE	P2	94	116	93	95	65	69	51	66	49	53	91	64	124	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	NEWARK E 230KV SECTION 2E	P2	94	116	93	94	65	69	51	66	49	53	91	64	124	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	NORTH DUBLIN 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	76	95	80	80	59	57	43	59	51	45	81	52	101	Sensitivity only
	PITTSBURG-D SECTION 1D & PITTSBURG-E SECTION 1E 230KV	P2	91	118	91	91	67	69	46	63	54	44	97	62	126	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	97	117	95	97	67	71	54	69	46	55	89	66	125	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	TESLA-METCALF 500KV	P1	NA	103	76	77	NA	61	40	NA	54	45	NA	NA	108	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	TESLA-NEWARK #1 230KV	P1	80	99	81	81	58	62	47	62	49	49	83	57	105	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	TESLA-NEWARK #2 230KV	P1	88	108	88	89	61	64	49	63	46	51	85	61	115	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	91	113	90	91	64	74	54	71	54	55	92	68	121	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
MORAGA-CLAREMONT #1 115KV	C-X #2 115KV and C-X #3 115KV	P6	< 100	< 100	< 100	< 100	< 100	116	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: North Oakland Reinforcement Project
	MORAGA.C SECTION 2C & MORAGA.D SECTION 2D 115KV	P2	56	76	46	46	23	123	50	43	32	108	4	46	77	Project: North Oakland Reinforcement Project
	OAKLAND X 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	73	48	39	40	22	103	44	59	29	22	22	60	56	Install redundant battery/relay supply
	OAKLAND-X 115KV - SECTION 2D & 1D	P2	73	48	39	40	22	103	44	59	29	22	22	60	56	Project: North Oakland Reinforcement Project
MORAGA-CLAREMONT #2 115KV	C-X #2 115KV and C-X #3 115KV	P6	< 100	< 100	< 100	< 100	< 100	116	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: North Oakland Reinforcement Project
	OAKLAND X 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	73	49	39	41	22	104	44	59	29	22	22	60	56	Install redundant battery/relay supply
	OAKLAND-X 115KV - SECTION 2D & 1D	P2	73	49	39	41	22	104	44	59	29	22	22	60	56	Project: North Oakland Reinforcement Project
MORAGA-LAKEWOOD 115KV	CLAYTN-LAKEWD-C-MEDW LNE-WALNUTCR 115KV and LAKEWOOD-CLAYTON 115KV	P6	< 100	< 100	106	107	< 100	101	113	< 100	< 100	< 100	< 100	< 100	102	Results have been updated after load revisions. The near-term overloads were dismissed, while the long-term overloads persist.
	CLAYTON 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	95	94	100	101	90	94	107	87	80	90	85	87	96	Install redundant battery/relay supply
	LAKEWD-C - 1J 115KV & CLAYTN-LAKEWD-C-MEDW LNE-WALNUTCR LINE	P2	95	94	100	101	90	95	107	88	74	89	85	88	96	Continue to monitor
	LAKEWD-C 115KV - SECTION 1G & 1H	P2	96	94	100	101	90	95	107	88	74	89	85	88	96	Continue to monitor
	LAKEWD-C 115KV SECTION 1D	P2	95	94	100	101	90	95	107	88	74	89	85	88	96	Continue to monitor
	LAKEWD-C 115KV SECTION 1G	P2	96	94	101	101	90	95	107	88	74	89	85	88	96	Continue to monitor
	LAKEWD-C 115KV SECTION 1H	P2	96	94	100	101	90	95	107	88	74	89	85	88	96	Continue to monitor
	Lakewood-Clayton and Lakewood-Meadow Lane-Clayton 115 KV lines	P7	95	94	100	101	90	94	107	87	80	90	85	88	96	Continue to monitor
	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	52	49	49	51	24	101	70	9	18	18	12	16	53	Install redundant battery/relay supply
	PITTSBURG PP 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	98	95	105	105	91	97	108	88	88	90	85	88	98	Install redundant battery/relay supply
	PITTSBURG PP 230KV (FAILURE OF NON-REDUNDANT RELAY)	P5	91	21	24	32	37	39	50	201	6	16	3	206	29	Install redundant battery/relay supply
	Pittsburg-Clayton Nos. 3 & 4 115 KV lines	P7	< 100	99	106	107	31	13	85	62	18	50	35	56	101	Results have been updated after load revisions. The near-term overloads were dismissed, while the long-term overloads persist.
	PITTSBURG-D 115KV - SECTION 1D & 2D	P2	96	52	101	101	62	31	107	59	30	44	55	53	51	Continue to monitor
	PITTSBURG-D 230KV - SECTION 2D & 1D	P2	81	23	32	34	36	2	1	195	3	51	19	195	19	Results have been updated after load revisions. The near-term overloads were dismissed, while the long-term overloads persist.
MORAGA-OAKLAND #1 115KV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	102	35	20	21	58	48	3	62	17	5	60	62	37	Install redundant battery/relay supply
MORAGA-OAKLAND #2 115KV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	102	35	20	21	58	48	3	62	17	5	60	62	37	Install redundant battery/relay supply
MORAGA-OAKLAND #3 115KV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	103	35	21	21	58	48	3	62	17	5	61	62	37	Install redundant battery/relay supply
	CRCKTCOG 18.00KV GEN UNIT 1 and MORAGA-SAN LEANDRO #3 115KV	P3	< 100	< 100	< 100	< 100	< 100	213	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: South Oakland Reinforcement Phase 2
	LS PSTAS 230/60KV TB 4 and MORAGA-SAN LEANDRO #3 115KV	P6	< 100	< 100	< 100	< 100	< 100	220	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: South Oakland Reinforcement Phase 2
	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	63	61	15	16	43	192	12	38	31	10	37	39	65	Install redundant battery/relay supply

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
MORAGA-OAKLAND J 115KV	MORAGA.D SECTION 1D & MORAGA.E SECTION 1E 115KV	P2	112	123	44	46	98	201	39	84	49	33	74	84	127	Project: South Oakland Reinforcement Phase 2
	MORAGA.E 115KV SECTION 1E	P2	112	123	44	46	98	200	39	84	49	33	74	84	127	Project: South Oakland Reinforcement Phase 2
	MORAGA-SAN LEANDRO #1 115KV	P1	61	66	31	32	47	199	27	41	36	23	41	41	127	Project: South Oakland Reinforcement Phase 2
	MORAGA-SAN LEANDRO #2 115KV	P1	61	66	31	32	47	199	27	41	36	23	41	41	68	Project: South Oakland Reinforcement Phase 2
	MORAGA-SAN LEANDRO #3 115KV	P1	62	122	NA	NA	48	199	NA	42	36	NA	42	42	127	Project: South Oakland Reinforcement Phase 2
	Moraga-San Leandro Nos. 1 & 2 115 KV lines	P7	112	122	44	46	98	199	36	55	47	31	55	56	127	Project: South Oakland Reinforcement Phase 2
	SAN LEANDRO (OAK U) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	111	122	65	70	97	197	70	84	82	58	74	84	126	Install redundant battery/relay supply
	SAN LEANDRO-OAKLND J #1 115KV	P1	112	122	NA	NA	98	199	NA	84	82	NA	74	84	127	Project: South Oakland Reinforcement Phase 2
	SAN LEANDRO-OAKLND J #1 115KV (OAKLAND-J-EDESJCT1)	P2	112	122	28	29	69	123	24	61	56	21	74	61	127	Project: South Oakland Reinforcement Phase 2
	SN LNDRO 115KV - SECTION MD & ME	P2	111	122	31	33	97	197	34	84	82	29	74	84	126	Project: South Oakland Reinforcement Phase 2
	SN LNDRO 115KV SECTION MD	P2	111	122	31	33	97	197	34	84	82	29	74	84	126	Project: South Oakland Reinforcement Phase 2
	SN LNDRO 115KV SECTION ME	P2	112	122	25	27	98	198	26	84	47	23	74	84	127	Project: South Oakland Reinforcement Phase 2
MOSS LANDING - LAS AGUILAS #1 230 KV	MOSSLANDING-LOSBANOS 500KV	P1	NA	80	60	65	NA	103	82	NA	69	105	NA	NA	88	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and MOSSLANDING-LOSBANOS 500KV	P3	< 100	< 100	< 100	< 100	< 100	116	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
MRGN HIL-GARLICSWSTA #1 115KV	GREEN VALLEY-LLAGAS 115KV and LLAGAS-GILROY F-GILROYENG-GILROYPK 115KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	120	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
MTN VIEW-MONTA VISTA 115KV	Britton-Monta Vista & Lawrence-Monta Vista 115 KV Lines	P7	109	95	46	49	70	84	50	67	6	44	57	66	104	Project: South Bay Reinforcement
	JEFFERSN-EGBERTSWSTA 230KV and NEWARK-RAVENSWOOD 230KV	P6	< 100	100	< 100	< 100	< 100	Diverge	< 100	< 100	< 100	< 100	< 100	< 100	106	Project: South Bay Reinforcement
	JEFFERSON 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	100	93	47	50	68	83	53	71	6	46	55	67	103	Sensitivity only
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	111	77	47	49	71	71	52	68	13	44	54	67	88	Install redundant battery/relay supply
	Monta Vista-Jefferson Nos. 1 & 2 230 KV lines	P7	99	92	NA	NA	68	88	NA	71	6	NA	54	66	100	Sensitivity only
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	112	93	47	49	73	83	52	69	11	44	56	68	103	Install redundant battery/relay supply
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	83	Diverge	56	84	7	47	81	85	Diverge	Install redundant battery/relay supply
	NEWARK D 230KV - SECTION 1D & 2D	P2	101	113	57	61	66	109	66	67	9	55	60	67	Diverge	Project: South Bay Reinforcement
	NEWARK E 115KV SECTION 2Y	P2	104	100	48	51	57	89	56	59	13	47	68	56	105	Project: South Bay Reinforcement
	Newark-Ravenswood 230 KV and Tesla-Ravenswood 230 KV lines	P7	99	105	50	52	65	87	58	69	6	57	58	69	113	Project: South Bay Reinforcement
	RAVENSWOOD 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	114	114	57	59	71	Diverge	60	71	22	57	70	71	125	Install redundant battery/relay supply
	RVNSWD E SECTION 1E & RVNSWD D SECTION 1D 115KV	P2	110	109	52	55	68	95	53	62	21	47	69	63	118	Project: South Bay Reinforcement
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	103	93	44	46	67	82	50	65	13	43	52	66	103	Project: South Bay Reinforcement
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	96	91	46	49	62	84	54	65	3	47	54	67	101	Sensitivity only
	WHISMAN-MONTA VISTA 115KV	P1	100	84	NA	NA	64	78	NA	62	19	NA	49	61	94	Project: South Bay Reinforcement
NEWARK - COMPONENT SS #1 115 KV	LOS ESTEROS-TRIMBLE 115KV and LOS ESTEROS-MONTAGUE 115KV	P6	103	< 100	< 100	< 100	135	< 100	< 100	116	< 100	< 100	< 100	118	< 100	Project: LC24 Network Upgrade
NEWARK - DUMBARTON #1 115 KV	E. SHORE 230/115KV TB 2 and E. SHORE 230/115KV TB 1	P6	100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: LC24 Network Upgrade
NEWARK - LOCKHEED 2 115 KV	LAWRENCE 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	109	NA	NA	NA	87	NA	NA	103	NA	NA	80	102	NA	Install redundant battery/relay supply
	LOCKHD 1 - 1E 115KV & NEWARK F-LAWRENCE-LOCKHD 1 line	P2	109	NA	NA	NA	87	NA	NA	103	NA	NA	81	103	NA	Project: LC24 Network Upgrade
	LOCKHD 1 115KV Section 1E	P2	109	NA	NA	NA	87	NA	NA	103	NA	NA	81	103	NA	Project: LC24 Network Upgrade
NEWARK 230/115 kV TB #11	Britton-Monta Vista & Lawrence-Monta Vista 115 KV Lines	P7	83	110	NA	NA	63	99	NA	57	54	NA	69	59	111	Project: Newark 230/115 kV Bank upgrade
	McKee - Piercy & Milpitas - Swift 115 KV Lines	P7	83	106	NA	NA	63	94	NA	57	47	NA	69	59	108	Project: Newark 230/115 kV Bank upgrade
	Metcalf - San Jose B HVDC Gen and NEWARK D-NSJ-MIDPNTSS #1 230KV	P3	< 100	121	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Newark 230/115 kV Bank upgrade
	METCALFE - 2E 115KV & METCALFE-METCALFE line	P2	NA	103	NA	NA	NA	91	NA	NA	47	NA	NA	NA	104	Project: Newark 230/115 kV Bank upgrade
	MONTA VISTA 115KV BAAH (FAILURE OF NON-REDUNDENT RELAY)	P5	93	109	NA	NA	70	97	NA	64	53	NA	74	66	109	Install redundant battery/relay supply
	NEWARK D 230KV SECTION 2Y	P2	102	101	NA	NA	74	83	NA	66	30	NA	83	72	105	Project: Newark 230/115 kV Bank upgrade
	NSJ-MIDPNTSS 230KV - MIDDLE BREAKER BAY 1	P2	84	99	NA	NA	65	86	NA	59	40	NA	72	61	106	Sensitivity only
	NSJ-MIDPNTSS-NRS #1 230KV	P1	84	97	NA	NA	65	84	NA	58	39	NA	72	60	104	Sensitivity only
	PIERCY-METCALF 115KV	P1	NA	100	NA	NA	NA	89	NA	NA	47	NA	NA	NA	102	Project: Newark 230/115 kV Bank upgrade
	SWIFT-METCALF 115KV	P1	NA	99	NA	NA	NA	87	NA	NA	47	NA	NA	NA	101	Sensitivity only
	TESLA-METCALF 500KV	P1	NA	104	NA	NA	NA	93	NA	NA	59	NA	NA	NA	105	Project: Newark 230/115 kV Bank upgrade
NEWARK 230/115 kV TB #7	NEWARK-RAVENSWOOD 230KV and NEWARK D 230/115KV TB 9	P6	< 100	< 100	< 100	101	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
NEWARK D 115/115KV TB 1	LS PSTAS 230/60KV TB 4 and SANRAMON 230/60KV TB 1	P6	< 100	< 100	149	155	< 100	161	225	< 100	< 100	204	< 100	< 100	< 100	Reverse power flow relay
NEWARK D-NSJ-MIDPNTSS #1 230KV	LOS ESTEROS 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	84	120	62	66	47	50	36	49	16	29	75	50	144	Install redundant battery/relay supply
	Metcalf - San Jose B HVDC Gen	P1	52	106	62	64	28	60	44	28	28	38	44	29	131	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Metcalf - San Jose B HVDC Gen and TESLA F-TRIMBLE #1 230KV	P3	< 100	< 100	101	Diverge	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	54	84	44	45	26	41	26	25	15	16	41	26	108	Sensitivity only
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	44	Diverge	33	47	7	17	59	47	Diverge	Install redundant battery/relay supply
	METCALF-SJB MONOPOLE	P1	52	106	62	65	28	60	45	28	28	38	44	29	132	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	55	83	44	45	28	41	26	27	15	16	44	28	107	Sensitivity only
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	44	Diverge	44	46	8	31	58	46	Diverge	Install redundant battery/relay supply
	Newark - Los Esteros & Los Esteros - Metcalf 230 KV Lines	P7	77	110	52	55	43	56	33	42	17	24	65	43	133	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	NEWARK E 230KV - SECTION 1E & 2E	P2	58	91	48	52	32	47	27	32	20	22	51	32	112	Sensitivity only
	NEWARK E 230KV SECTION 1E	P2	63	92	49	51	34	45	33	34	16	23	54	35	113	Sensitivity only
	NEWARK E-F BUS TIE 230KV	P1	64	95	50	53	35	46	33	34	17	24	56	36	115	Sensitivity only

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
	NEWARK E-F BUS TIE 230KV and TESLA-METCALF 500KV	P6	< 100	132	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	NWK DIST 230KV - RING R1 & R2	P2	61	92	48	50	34	44	31	33	16	22	54	35	112	Sensitivity only
	NWK DIST 230KV - RING R1 & R5	P2	62	92	49	51	34	44	32	34	16	23	55	35	112	Sensitivity only
	NWK DIST 230KV - RING R3 & R2	P2	53	80	39	41	31	38	28	30	14	17	52	32	100	Sensitivity only
NEWARK E - NEWARK D 230 KV BUS TIE	NEWARK D SECTION 1D & NEWARK E SECTION 1E 230KV	P2	73	90	0	0	49	71	0	45	11	0	52	53	101	Sensitivity only
NEWARK E 230/115KV TB 11	NEWARK D SECTION 1D & NEWARK E SECTION 1E 230KV	P2	NA	NA	135	145	NA	NA	115	NA	NA	94	NA	NA	NA	Continue to monitor
	NEWARK E-F BUS TIE 230KV and NEWARK D-NSJ-MIDPNTSS #1 230KV	P6	< 100	< 100	105	117	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
NEWARK E-F BUS TIE 230KV	LOS ESTEROS-METCALF 230KV	P1	NA	106	NA	NA	NA	91	NA	NA	65	NA	NA	NA	108	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	LS ESTRS 230KV - Middle Breaker Bay 1	P2	84	106	107	110	62	91	75	63	65	76	63	64	108	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen and NEWARK D-NSJ-MIDPNTSS #1 230KV	P3	< 100	143	102	109	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	83	Diverge	88	89	69	88	80	89	Diverge	Install redundant battery/relay supply
	METCALF2D - 2D 230KV & METCALF2D-METCALF1D line	P2	86	108	110	113	63	92	77	65	65	78	64	66	111	Potential flow control or capacity increase project
	METCALF2D 230KV - Section 2D & 2E	P2	85	107	109	112	63	92	76	64	65	77	64	65	110	Potential flow control or capacity increase project
	METCALF2D 230KV Section 2D	P2	NA	107	109	112	NA	92	76	NA	65	77	NA	NA	110	Potential flow control or capacity increase project
	METCALF2D Section 2D & METCALF2E Section 2E 230KV	P2	NA	110	NA	NA	NA	94	NA	NA	65	NA	NA	NA	113	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	83	Diverge	89	88	68	87	79	88	Diverge	Install redundant battery/relay supply
	NEWARK D 230KV - SECTION 1D & 2D	P2	86	117	87	92	60	89	52	61	55	53	73	66	Diverge	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	NEWARK D 230KV SECTION 2D	P2	80	112	81	85	59	86	50	60	60	52	71	64	124	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	74	109	70	80	55	88	45	56	62	49	67	59	Diverge	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	NEWARK D-NSJ-MIDPNTSS #1 230KV	P1	73	105	77	81	56	80	47	56	60	50	66	59	117	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	NSJ-MIDPNTSS-NRS #1 230KV	P1	70	96	70	73	52	73	41	53	55	45	63	55	107	Sensitivity only
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	80	102	100	103	60	88	70	61	65	72	61	62	104	Potential flow control or capacity increase project
	TESLA-METCALF 500KV	P1	NA	101	83	87	NA	82	52	NA	81	59	NA	NA	101	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
NEWARK E-LC25-28SWTST #1 115KV	Metcalf - San Jose B HVDC Gen and NEWARK-FREMONT #2 115KV	P3	< 100	< 100	< 100	103	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 115KV	P2	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	78	NA	NA	Project: LC24 Network Upgrade
	NEWARK E 115KV SECTION 2E	P2	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	78	NA	NA	Project: LC24 Network Upgrade
	TESLA-NEWARK #2 230KV and NEWARK-FREMONT #2 115KV	P6	101	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: LC24 Network Upgrade
NEWARK F-FMC 115KV	Los Esteros - Trimble & Los Esteros - Montague 115 KV	P7	104	9	8	10	121	13	8	109	15	9	68	109	12	Project: LC24 Network Upgrade
	LOS ESTEROS 115KV BAAH BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	105	8	8	10	122	13	8	110	14	9	69	110	14	Install redundant battery/relay supply
	LOS ESTEROS 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	104	13	8	10	120	16	8	109	16	9	68	108	27	Install redundant battery/relay supply
	LOS ESTEROS-TRIMBLE 115KV and LOS ESTEROS-MONTAGUE 115KV	P6	103	< 100	< 100	< 100	135	< 100	< 100	116	< 100	< 100	< 100	118	< 100	Project: LC24 Network Upgrade
	TRIMBLE-SAN JOSE B 115KV and TRIMBLE-SANJOSEB230 #1 230KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	100	< 100	< 100	< 100	< 100	Project: South Bay Reinforcement
NEWARK F-LOCKHD 1 115KV	APPLIED MATERIALS 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	113	21	20	19	90	22	19	107	17	18	85	107	21	Install redundant battery/relay supply
	Britton-Monta Vista & Lawrence-Monta Vista 115 KV Lines	P7	75	138	40	38	60	133	34	57	67	33	59	57	141	Project: New De Anza 115 kV substation
	DE ANZA SS 115KV - Middle Breaker Bay 1	P2	NA	NA	105	91	NA	NA	99	NA	NA	87	NA	NA	NA	Continue to monitor
	DE ANZA SS-LCKHD-LP 115KV No Fault	P2	NA	NA	105	91	NA	NA	99	NA	NA	87	NA	NA	NA	Continue to monitor
	DE ANZA SS-LOCKHD 2 115KV	P1	NA	NA	105	91	NA	NA	99	NA	NA	87	NA	NA	NA	Continue to monitor
	GATEWAY1 18/230KV TB 1 and DE ANZA SS-LOCKHD 2 115KV	P6	< 100	< 100	Diverge	< 100	< 100	< 100	107	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	LAWRENCE - 1F 115KV & LAWRENCE-MONTA VISTA line	P2	60	119	NA	NA	50	117	NA	49	63	NA	47	49	121	Project: New De Anza 115 kV substation
	Lawrence - Monta Vista & Applied Materials-Britton 115 KV Lines	P7	75	137	32	30	60	132	28	57	67	27	59	57	140	Project: New De Anza 115 kV substation
	LAWRENCE 115KV Section 1F	P2	NA	119	NA	NA	NA	117	NA	NA	63	NA	NA	NA	121	Project: New De Anza 115 kV substation
	LAWRENCE-MONTA VISTA 115KV	P1	NA	136	NA	NA	NA	131	NA	NA	66	NA	NA	NA	139	Project: New De Anza 115 kV substation
	LAWRENCE-MONTA VISTA 115KV (LAWRENCE-PHILLIPSJCT)	P2	75	136	NA	NA	60	131	NA	57	66	NA	59	57	139	Project: New De Anza 115 kV substation
	LAWRENCE-MONTA VISTA 115KV (PHILLIPSJCT-MNTA VSA)	P2	75	136	NA	NA	61	132	NA	57	67	NA	59	57	140	Project: New De Anza 115 kV substation
	LCKHD-LP-LOCKHD 2 115KV No Fault	P2	NA	NA	105	91	NA	NA	99	NA	NA	87	NA	NA	NA	Continue to monitor
	Metcalf - San Jose B HVDC Gen and LAWRENCE-MONTA VISTA 115KV	P3	< 100	141	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: New De Anza 115 kV substation
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	48	Diverge	43	76	49	43	64	73	Diverge	Install redundant battery/relay supply
	MNTA VSA 115KV - Middle Breaker Bay 1	P2	75	136	32	30	60	131	29	57	66	27	59	57	140	Project: New De Anza 115 kV substation
	MONTA VISTA 115KV BAAH (FAILURE OF NON-REDUNDENT RELAY)	P5	76	138	39	38	61	133	33	57	67	32	59	57	143	Install redundant battery/relay supply
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	77	140	39	38	61	137	33	57	67	32	60	57	147	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	48	Diverge	31	75	50	28	64	73	Diverge	Install redundant battery/relay supply
	Newark-Applied Materials & Lawrence-Monta Vista 115 KV Lines	P7	98	136	31	30	81	132	29	75	66	27	70	75	140	Project: New De Anza 115 kV substation
	Newark-Lawrence 115 KV and Newark-Applied Materials 115 KV lines	P7	113	23	20	19	90	22	19	107	17	18	85	107	21	Project: LC24 Network Upgrade
NEWARK F-RINGWOODSWST #1 115KV	LOS ESTEROS-TRIMBLE 115KV and SWIFT-METCALF 115KV	P6	< 100	< 100	138	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	NEWARK-MILPITAS #1 115KV and SWIFT-METCALF 115KV	P6	197	< 100	< 100	< 100	143	< 100	< 100	124	< 100	< 100	123	124	< 100	Project: LC24 Network Upgrade
NEWARK-AMES #2 115KV	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	30	Diverge	91	79	49	115	68	73	Diverge	Install redundant battery/relay supply
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	68	67	113	115	41	71	84	59	33	93	54	52	69	Install redundant battery/relay supply
	Newark-Ravenswood 230 KV and Tesla-Ravenswood 230 KV lines	P7	87	99	109	113	51	93	88	86	71	109	87	83	95	Potential flow control or capacity increase project
	NEWARK-RAVENSWOOD 230KV and NEWARK-AMES DISTRIBUTION 115KV	P6	< 100	< 100	105	111	< 100	< 100	115	< 100	< 100	102	< 100	< 100	< 100	Continue to monitor
	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	17	31	93	100	15	31	75	18	46	84	33	14	28	Install redundant battery/relay supply

2026-2027 ISO Reliability Assessment - Study Results
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Thermal Overloads

California ISO

Overloaded Facility	Contingency (All and Worst P6)	Category	Loading % (Baseline Scenarios)										Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
	RAVENSWOOD 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	100	99	110	112	61	Diverge	91	89	78	109	100	84	95	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	25	38	105	108	18	Diverge	85	26	52	101	39	23	Diverge	Install redundant battery/relay supply
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and NEWARK-RAVENSWOOD 230KV	P3	< 100	< 100	102	106	< 100	< 100	110	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
NEWARK-AMES #3 115KV	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	29	Diverge	89	65	48	95	56	60	Diverge	Install redundant battery/relay supply
	RAVENSWOOD 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	82	97	89	90	59	Diverge	87	73	76	90	82	69	93	Install redundant battery/relay supply
NEWARK-AMES DISTRIBUTION 115KV	AMES DISTRIBUTION-AMES 115KV and NEWARK-RAVENSWOOD 230KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	113	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	29	Diverge	90	66	49	96	57	61	Diverge	Install redundant battery/relay supply
	RAVENSWOOD 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	84	98	97	98	60	Diverge	95	74	77	96	83	70	94	Install redundant battery/relay supply
NEWARK-DIXON LANDING 115KV	McKee - Piercy & Milpitas - Swift 115 KV Lines	P7	132	48	56	58	70	36	45	65	10	33	77	65	50	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	MCKEE-PIERCY 115KV	P1	132	NA	NA	NA	70	NA	NA	65	NA	NA	77	65	NA	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	Metcalf - San Jose B HVDC Gen and PIERCY-METCALF 115KV	P3	172	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	173	62	74	77	83	49	62	76	13	44	90	77	65	Install redundant battery/relay supply
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	119	Diverge	20	111	18	9	96	105	Diverge	Install redundant battery/relay supply
	METCALFD Section 2D & METCALFE Section 2E 115KV	P2	170	NA	NA	NA	82	NA	NA	76	NA	NA	89	76	NA	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	METCALFE - 2E 115KV & METCALFE-METCALFE line	P2	170	NA	NA	NA	83	NA	NA	76	NA	NA	89	76	NA	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	METCALFE 115KV - Section 2E & 1E	P2	172	NA	NA	NA	83	NA	NA	76	NA	NA	89	76	NA	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	METCALFE 115KV Section 2E	P2	169	NA	NA	NA	82	NA	NA	76	NA	NA	89	76	NA	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	173	62	74	77	83	48	62	76	13	44	90	77	65	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	119	Diverge	25	110	18	18	95	104	Diverge	Install redundant battery/relay supply
	NEWARK D 230/115KV TB 7 and PIERCY-METCALF 115KV	P6	172	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	PIERCY 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	132	48	56	58	70	36	45	65	10	33	77	65	49	Install redundant battery/relay supply
	PIERCY 115KV Section 1D	P2	132	NA	NA	NA	70	NA	NA	65	NA	NA	77	65	NA	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	PIERCY-METCALF 115KV	P1	169	NA	NA	NA	82	NA	NA	76	NA	NA	89	76	NA	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	Swift - Metcalf & Piercy - Metcalf 115 KV Lines	P7	171	61	72	75	83	48	62	76	13	44	89	76	63	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
NEWARK-FREMONT #2 115KV	GATEWAY1 18/230KV TB 1 and NEWARK E-LC25-28SWTST #1 115KV	P6	< 100	< 100	Diverge	101	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen and NEWARK E-LC25-28SWTST #1 115KV	P3	< 100	< 100	< 100	104	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	NEWARK E-LC25-28SWTST #1 115KV	P1	NA	84	96	101	NA	60	62	NA	22	50	NA	NA	86	Continue to monitor
NEWARK-JARVIS #1 115KV	GATEWAY1 18/230KV TB 1 and NEWARK-JARVIS #2 115KV	P6	< 100	< 100	Diverge	119	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	102	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen and NEWARK-JARVIS #2 115KV	P3	< 100	102	121	124	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	NEWARK-JARVIS #2 115KV	P1	93	99	115	119	35	60	63	38	23	55	51	38	101	Potential flow control or capacity increase project
	NEWARK-JARVIS #2 115KV (NEWARK D-NUMI JCT)	P2	93	101	125	128	35	62	69	37	22	55	51	37	104	Potential flow control or capacity increase project
	NEWARK-JARVIS #2 115KV (NUMI JCT-JARVIS)	P2	93	99	115	119	35	60	63	38	23	55	51	38	101	Potential flow control or capacity increase project
NEWARK-JARVIS #2 115KV	MARSHLD2 230/16.5KV TB 3 and NEWARK-JARVIS #1 115KV	P6	< 100	< 100	Diverge	120	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	102	Continue to monitor
	Metcalf - San Jose B HVDC Gen and NEWARK-JARVIS #1 115KV	P3	< 100	104	129	132	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	NEWARK-JARVIS #1 115KV	P1	94	99	116	119	45	78	82	38	23	55	51	38	102	Continue to monitor
NEWARK-LIVERMORE 60KV	FRICKWIND 0.69KV GEN UNIT 1 and LS PSTAS 230/60KV TB 4	P3	< 100	< 100	< 100	< 100	< 100	< 100	129	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	LS PSTAS 230/60KV TB 4 and SANRAMON 230/60KV TB 1	P6	< 100	< 100	165	171	< 100	178	250	< 100	< 100	225	< 100	< 100	< 100	Continue to monitor
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	77	Diverge	26	95	86	40	115	95	Diverge	Sensitivity only
	SANRAMON 230/60KV TB 1 and LS PSTAS 230/60KV TB 4	P6	100	102	191	197	< 100	206	291	< 100	< 100	260	< 100	< 100	106	Operational procedure (Reverse Power Scheme)
NEWARK-LOS ESTEROS 230KV	Metcalf - San Jose B HVDC Gen and NEWARK D-NSJ-MIDPNTSS #1 230KV	P3	< 100	133	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	92	Diverge	85	86	69	74	80	87	Diverge	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	91	Diverge	85	85	68	74	79	86	Diverge	Install redundant battery/relay supply
	NEWARK D 230KV - SECTION 1D & 2D	P2	70	106	68	72	62	88	37	55	52	34	73	60	Diverge	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	NEWARK D 230KV SECTION 2D	P2	64	99	61	64	59	84	34	53	58	33	69	58	112	Sensitivity only
	NEWARK D-NSJ-MIDPNTSS #1 230KV	P1	56	92	57	60	55	77	31	49	59	30	65	52	104	Sensitivity only
NEWARK-MILPITAS #1 115KV	RINGWOODSWST-MILPITAS #1 115KV and SWIFT-METCALF 115KV	P6	< 100	< 100	161	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	RINGWOODSWST-MILPITAS #1 115KV and SWIFT-METCALF 115KV	P6	< 100	< 100	163	< 100	< 100	< 100	100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
NEWARK-NORTHERN RECEIVING STATION #1 115KV	Metcalf - San Jose B HVDC Gen and NEWARK D-NSJ-MIDPNTSS #1 230KV	P3	< 100	122	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	66	Diverge	21	57	27	33	65	46	Diverge	Install redundant battery/relay supply
	NEWARK E-F BUS TIE 230KV and NEWARK D-NSJ-MIDPNTSS #1 230KV	P6	101	142	< 100	< 100	115	140	< 100	< 100	< 100	< 100	< 100	< 100	190	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
NEWARK-VALLECITOS 60KV	FRICKWIND 0.69KV GEN UNIT 1 and LS PSTAS 230/60KV TB 4	P3	< 100	< 100	< 100	< 100	< 100	< 100	106	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	LS PSTAS 230/60KV TB 4 and SANRAMON 230/60KV TB 1	P6	113	116	210	217	< 100	218	290	< 100	< 100	257	< 100	< 100	120	Operational procedure (Reverse Power Scheme)
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	71	Diverge	29	85	77	40	108	87	Diverge	Sensitivity only
	SANRAMON 230/60KV TB 1 and LS PSTAS 230/60KV TB 4	P6	< 100	< 100	165	170	< 100	179	255	< 100	< 100	232	< 100	< 100	< 100	Operational procedure (Reverse Power Scheme)
NORTECH - NRS #1 115 KV	NEWARK D-NSJ-MIDPNTSS #1 230KV and NRS-NRSriser SVP 230 KV UG cable	P6	124	102	< 100	< 100	113	< 100	< 100	100	< 100	< 100	100	< 100	106	Project: New De Anza 115 kV substation
	C.COSTAPPD SECTION 1D & C.COSTAPPE SECTION 1E 230KV	P2	77	96	92	94	77	81	85	61	49	66	67	54	101	Sensitivity only
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	89	Diverge	84	79	49	64	72	71	Diverge	Install redundant battery/relay supply
	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	80	95	103	104	84	89	96	68	58	69	68	59	100	Install redundant battery/relay supply

2026-2027 ISO Reliability Assessment - Study Results
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California ISO

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
NORTH DUBLIN-CAYETANO 230KV	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	79	94	100	100	83	88	93	67	57	67	67	59	98	Install redundant battery/relay supply
	MOSSLANDING-LOSBANOS 500KV and TESLA-METCALF 500KV	P6	< 100	104	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Greater Bay Area 500 kV Transmission Reinforcement
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	89	Diverge	86	78	49	63	72	70	Diverge	Install redundant battery/relay supply
	NEWARK D SECTION 1D & NEWARK E SECTION 1E 230KV	P2	80	99	103	106	84	89	90	69	58	67	75	61	106	Potential flow control or capacity increase project
	NEWARK E 230KV - SECTION 1E & 2E	P2	80	98	92	95	79	84	79	63	50	58	69	57	106	Sensitivity only
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	77	94	91	94	78	88	84	65	52	61	67	59	100	Sensitivity only
NORTH DUBLIN-VINEYARD 230KV	C.COSTAPPD SECTION 1D & C.COSTAPPE SECTION 1E 230KV	P2	86	107	75	76	90	91	69	70	61	55	79	61	113	Project: North Dublin - Vineyard 230 kV line Reconductoring
	CONTRA COSTA-LAS POSITAS 230KV	P1	83	101	75	76	92	93	67	72	67	50	78	62	106	Project: North Dublin - Vineyard 230 kV line Reconductoring
	Contra Costa-Moraga Nos. 1 & 2 230 KV lines	P7	83	99	79	79	94	97	74	74	70	53	74	64	104	Project: North Dublin - Vineyard 230 kV line Reconductoring
	LAS POSITAS 230-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	81	99	73	73	91	91	65	71	67	49	77	61	104	Sensitivity only
	Metcalf - San Jose B HVDC Gen	P1	71	93	70	71	81	89	59	63	64	45	68	55	102	Project: North Dublin - Vineyard 230 kV line Reconductoring
	Metcalf - San Jose B HVDC Gen and TESLA-NEWARK #2 230KV	P3	< 100	105	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: North Dublin - Vineyard 230 kV line Reconductoring
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	105	Diverge	68	92	61	53	86	83	Diverge	Install redundant battery/relay supply
	METCALF-SJB MONOPOLE	P1	71	94	70	71	81	89	60	63	64	45	68	55	102	Project: North Dublin - Vineyard 230 kV line Reconductoring
	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	89	106	85	86	98	102	79	78	71	57	80	68	111	Install redundant battery/relay supply
	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	88	104	83	81	97	101	76	77	71	56	80	67	110	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	105	Diverge	70	92	61	52	85	82	Diverge	Install redundant battery/relay supply
	NEWARK D 230KV SECTION 1D	P2	85	103	73	74	93	98	65	75	69	49	81	66	110	Project: North Dublin - Vineyard 230 kV line Reconductoring
	NEWARK D SECTION 1D & NEWARK E SECTION 1E 230KV	P2	90	110	85	87	98	102	73	80	72	55	88	70	119	Project: North Dublin - Vineyard 230 kV line Reconductoring
	NEWARK E - 2E 230KV & NEWARK E-TASSAJAR-RESEARCH LINE	P2	83	102	73	75	88	92	63	70	60	47	76	62	109	Project: North Dublin - Vineyard 230 kV line Reconductoring
	NEWARK E 230KV - SECTION 1E & 2E	P2	89	110	76	78	92	97	63	73	61	47	82	65	119	Project: North Dublin - Vineyard 230 kV line Reconductoring
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	86	104	75	76	90	95	66	72	58	49	76	65	111	Project: North Dublin - Vineyard 230 kV line Reconductoring
	Tesla - Newark No.2 and Newark - Los Esteros 230 KV Lines	P7	80	97	71	72	85	87	62	68	57	46	72	60	103	Project: North Dublin - Vineyard 230 kV line Reconductoring
	TESLA-METCALF 500KV	P1	NA	97	66	67	NA	88	58	NA	64	45	NA	NA	102	Project: North Dublin - Vineyard 230 kV line Reconductoring
	TESLA-NEWARK #2 230KV	P1	80	98	72	73	86	89	63	68	58	47	73	61	104	Project: North Dublin - Vineyard 230 kV line Reconductoring
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	85	105	75	76	90	101	68	75	64	50	79	68	112	Project: North Dublin - Vineyard 230 kV line Reconductoring
NRS-TRIMBLE #1 230KV	C.COSTAPP 230KV BUS 1&2(FAILURE OF NON-REDUNDANT RELAY)	P5	NA	21	106	108	NA	36	107	NA	48	88	NA	NA	28	Install redundant battery/relay supply
	COMPONENT_SW 115KV - Middle Breaker Bay 1	P2	NA	NA	93	99	NA	NA	103	NA	NA	97	NA	NA	NA	Continue to monitor
	COMPONENT_SW-SRS 115KV	P1	NA	NA	93	99	NA	NA	103	NA	NA	97	NA	NA	NA	Continue to monitor
	CONTRA COSTA PP 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	20	104	106	NA	35	106	NA	48	88	NA	NA	8	Install redundant battery/relay supply
	LOS ESTEROS 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	21	103	106	NA	22	95	NA	40	85	NA	NA	21	Install redundant battery/relay supply
	METCALF2D 230KV - Section 2D & 2E	P2	NA	20	100	104	NA	27	100	NA	40	87	NA	NA	26	Continue to monitor
	METCALF2D 230KV Section 2D	P2	NA	20	100	104	NA	27	100	NA	40	87	NA	NA	26	Continue to monitor
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	27	113	116	NA	38	106	NA	42	95	NA	NA	29	Install redundant battery/relay supply
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	Diverge	Diverge	Diverge	NA	Diverge	100	NA	42	89	NA	NA	Diverge	Install redundant battery/relay supply
	NEWARK D 230KV - SECTION 1D & 2D	P2	NA	33	99	104	NA	48	94	NA	39	82	NA	NA	Diverge	Continue to monitor
	NEWARK D SECTION 1D & NEWARK E SECTION 1E 230KV	P2	NA	18	112	119	NA	21	109	NA	34	93	NA	NA	26	Continue to monitor
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	NA	32	106	113	NA	48	97	NA	39	83	NA	NA	Diverge	Continue to monitor
	SAN JOSE B 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	16	101	105	NA	30	103	NA	51	100	NA	NA	32	Install redundant battery/relay supply
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	NA	22	115	120	NA	36	113	NA	41	96	NA	NA	29	Continue to monitor
	TESLA-NEWARK #2 230KV	P1	NA	19	97	101	NA	31	97	NA	41	84	NA	NA	8	Continue to monitor
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	NA	25	106	111	NA	36	111	NA	44	95	NA	NA	28	Continue to monitor
	TRIMBLE-GIS 115KV - Middle Breaker Bay 1	P2	NA	NA	105	109	NA	NA	108	NA	NA	98	NA	NA	NA	Continue to monitor
NSJ-MIDPNTSS-NRS #1 230KV	LOS ESTEROS 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	79	103	48	54	43	41	25	44	8	21	70	45	127	Install redundant battery/relay supply
	Metcalf - San Jose B HVDC Gen	P1	48	90	51	57	25	51	33	24	21	31	41	25	114	Sensitivity only
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	40	Diverge	26	41	10	17	54	42	Diverge	Install redundant battery/relay supply
	METCALF-SJB MONOPOLE	P1	48	90	51	58	25	51	33	24	21	31	41	25	115	Sensitivity only
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	40	Diverge	29	41	12	22	54	41	Diverge	Install redundant battery/relay supply
	Newark - Los Esteros & Los Esteros - Metcalf 230 KV Lines	P7	72	93	37	43	38	46	24	37	8	16	60	38	116	Sensitivity only
	NEWARK E-F BUS TIE 230KV and TESLA-METCALF 500KV	P6	< 100	114	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
OAKLAND D - OAKLAND L #1 115 KV	C-X #2 115KV and C-X #3 115KV	P6	< 100	< 100	< 100	< 100	< 100	161	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: North Oakland Reinforcement Project
	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	349	271	NA	NA	179	618	NA	247	177	NA	194	249	322	Install redundant battery/relay supply
	MORAGA.C SECTION 2C & MORAGA.D SECTION 2D 115KV	P2	25	10	NA	NA	19	108	NA	22	43	NA	40	21	42	Project: North Oakland Reinforcement Project
	MORAGA.D 115KV - SECTION 1D & 2D	P2	84	24	NA	NA	21	129	NA	58	47	NA	72	58	53	Project: North Oakland Reinforcement Project
	OAKLAND X 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	81	27	NA	NA	17	177	NA	75	56	NA	50	75	59	Install redundant battery/relay supply
	OAKLAND-C - ME 115KV & OAKLAND C-MARITIME LINE	P2	106	76	NA	NA	54	151	NA	76	52	NA	41	76	111	Project: North Oakland Reinforcement Project
	OAKLAND-C 115KV SECTION ME	P2	99	69	NA	NA	47	144	NA	69	45	NA	33	69	103	Project: North Oakland Reinforcement Project
	OAKLAND-X 115KV - SECTION 2D & 1D	P2	81	27	NA	NA	17	177	NA	75	56	NA	50	75	59	Project: North Oakland Reinforcement Project
	CHRISTIE 115KV - RING R1 & R4	P2	131	62	69	74	84	47	73	90	17	53	68	90	64	Project: North Tower 115 kV Looping Project
	CHRISTIE 115KV - RING R4 & R3	P2	131	62	69	74	84	47	73	90	17	53	68	90	64	Project: North Tower 115 kV Looping Project
	Christie-Sobrante 115 KV and Martinez-Sobrante 115 KV lines	P7	131	62	68	73	83	46	72	89	17	53	68	90	63	Project: North Tower 115 kV Looping Project
	CHRISTIE-SOBRANTE 115KV	P1	131	62	68	73	83	46	72	89	17	53	68	90	63	Project: North Tower 115 kV Looping Project

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
OLEUM-CHRISTIE 115KV	CHRISTIE-SOBRANTE 115KV and UNOCAL2 115/12KV TB 1	P6	133	< 100	< 100	< 100	108	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: North Tower 115 kV Looping Project
	SOBRANTE 115KV - SECTION 1D & 2D	P2	131	62	68	74	84	46	72	90	17	53	68	90	63	Project: North Tower 115 kV Looping Project
	SOBRANTE 115KV - SECTION 2E & 2D	P2	132	62	68	74	84	47	72	90	17	53	68	90	64	Project: North Tower 115 kV Looping Project
	SOBRANTE 115KV SECTION 2D	P2	131	62	68	73	83	46	72	89	17	53	68	90	63	Project: North Tower 115 kV Looping Project
	SOBRANTE 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	153	65	79	93	89	51	78	94	17	53	70	94	67	Install redundant battery/relay supply
	Sobrante-G Nos. 1 & 2 115 KV lines	P7	53	83	99	108	18	56	64	51	14	125	22	45	83	Continue to monitor
	UNOCAL 12.00KV GEN UNIT 1 and CHRISTIE-SOBRANTE 115KV	P3	132	< 100	< 100	< 100	107	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: North Tower 115 kV Looping Project
OLEUM-G #1 115KV	SOBRANTE 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	177	164	235	288	68	144	175	73	62	127	82	73	170	Install redundant battery/relay supply
	SOBRANTE-G #2 115KV and SOBRANTE-G #1 115KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Results have been updated after topology revisions. The near-term overloads were dismissed, while the long-term overloads persist.
	Sobrante-G Nos. 1 & 2 115 KV lines	P7	< 100	< 100	< 100	< 100	65	< 100	< 100	70	62	< 100	80	70	< 100	Results have been updated after topology revisions. The near-term overloads were dismissed, while the long-term overloads persist.
OLEUM-MARTINEZ 115KV	OLEUM-G #1 115KV and CHRISTIE-SOBRANTE 115KV	P6	113	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: North Oakland Reinforcement Project
PARKWAY-MORAGA 230KV	C.COSTAPP 230KV BUS 1&2(FAILURE OF NON-REDUNDANT RELAY)	P5	94	89	101	103	40	73	71	79	18	86	67	74	92	Install redundant battery/relay supply
	VACA-DIX-COLLINSVILLE 500KV and CCLCSWTST-TESLA 500KV	P6	< 100	< 100	< 100	101	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
PIERCY-METCALF 115KV	Metcalf - San Jose B HVDC Gen and NEWARK-DIXON LANDING 115KV	P3	169	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	MONTA VISTA 115KV BAAH (FAILURE OF NON-REDUNDENT RELAY)	P5	108	48	50	52	60	42	46	54	8	33	54	55	52	Install redundant battery/relay supply
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	119	53	55	58	67	47	49	63	7	36	60	62	57	Install redundant battery/relay supply
	Newark - Dixon Landing & Newark - Milpitas #1 115 KV Lines	P7	165	59	70	73	83	47	60	72	12	43	84	71	61	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	Newark 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	170	60	72	75	84	47	61	72	12	43	85	72	61	Install redundant battery/relay supply
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	73	Diverge	51	68	11	37	73	70	Diverge	Install redundant battery/relay supply
	NEWARK E SECTION 2E & NEWARK F SECTION 2F 115KV	P2	165	59	70	73	83	47	60	72	12	43	84	72	61	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	NEWARK E&F 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	174	60	70	73	84	48	60	73	13	43	85	73	62	Install redundant battery/relay supply
	NEWARK F - 2F 115KV & NEWARK F-COMPONENT_SW LINE	P2	165	59	NA	NA	83	47	NA	72	12	NA	84	72	61	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	NEWARK F - 2F 115KV & NEWARK F-LOCKHD 2-APP MAT LINE	P2	165	NA	NA	NA	83	NA	NA	72	NA	NA	84	72	NA	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	NEWARK F - 2F 115KV & NEWARK-NUMMI LINE	P2	165	59	70	73	83	47	60	72	12	43	84	72	61	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	NEWARK F 115KV SECTION 2F	P2	165	59	70	73	83	47	60	72	12	43	84	72	61	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	Newark-Dixon Landing 115 KV and Newark-Milpitas No. 1 115 KV lines	P7	165	59	70	73	83	47	60	72	12	43	84	71	61	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	NEWARK-DIXON LANDING 115KV	P1	164	59	70	73	82	47	60	72	12	43	84	71	61	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	NEWARK-DIXON LANDING 115KV and SANJOSEB230 230/115KV TB 1	P6	170	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	105	46	50	52	58	40	46	53	6	33	52	55	50	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
PITTSBURG-CLAYTON #3 115KV	KIRKER 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	96	55	116	123	68	43	94	59	11	76	61	61	57	Install redundant battery/relay supply
	Metcalf - San Jose B HVDC Gen and PITTSBURG-CLAYTON #1 115KV	P3	< 100	< 100	108	113	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	PITTSBURG-CLAYTON #1 115KV	P1	88	50	104	110	65	42	85	55	15	66	62	57	52	Continue to monitor
	Pittsburg-Columbia Steel 115 KV lines and Pittsburg-Kirker-Columbia Steel 115 KV lines	P7	96	55	117	124	68	43	94	59	11	76	61	61	57	Continue to monitor
	PITTSBURG-E - 2E 115KV & PITTSBURG-MARTINEZ #2 LINE	P2	89	50	103	109	66	42	85	55	15	63	62	57	52	Continue to monitor
	PITTSBURG-E 115KV - SECTION 2E & 1E	P2	90	50	103	109	67	43	87	48	17	56	64	51	52	Continue to monitor
	PITTSBURG-E 115KV SECTION 2E	P2	89	50	103	109	66	42	85	55	15	63	62	57	52	Continue to monitor
PITTSBURG-D 230/115KV TB 13	LMECCT2 18.00KV & LMECCT1 18.00KV & LMECST1 18.00KV GEN UNITS and PITTSBURG-D 230/115KV TB 12	P3	138	< 100	< 100	100	110	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	PITTSBURG-D - 2D 230KV & PITTSBURG-D-COLLINSVILLE LINE	P2	59	41	48	55	36	28	34	96	33	62	22	102	39	Sensitivity only
	PITTSBURG-D - 2D 230KV & PITTSBURG-D-TBC_PTB1 #1 LINE	P2	59	41	48	55	36	28	34	96	33	62	22	102	39	Sensitivity only
	PITTSBURG-D 230KV SECTION 2D	P2	59	41	48	55	36	28	34	96	33	62	22	102	39	Sensitivity only
	PITTSBURG-E 115KV - SECTION 2E & 1E	P2	34	39	50	59	23	21	25	97	66	114	26	100	39	Continue to monitor
	PITTSBURG-E 115KV SECTION 1E	P2	48	33	40	46	28	21	27	95	37	61	23	100	31	Sensitivity only
PITTSBURG-EASTSHORE 230KV	DUMBARTON-NEWARK 115KV and EASTSHORE-SAN MATEO 230KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	115	< 100	Sensitivity only
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	69	NA	NA	74	NA	NA	80	101	NA	Sensitivity only
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	68	NA	NA	73	NA	NA	78	100	NA	Sensitivity only
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	83	NA	NA	79	NA	NA	105	110	NA	Sensitivity only
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	80	78	75	71	63	NA	NA	71	NA	NA	79	100	NA	Sensitivity only
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and EASTSHORE-SAN MATEO 230KV	P3	104	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
PITTSBURG-E-WILLOWPASS #1 115KV	SOBRANTE 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	69	56	91	105	36	44	80	36	10	45	22	36	47	Install redundant battery/relay supply
PITTSBURG-F 230/115KV TB 14	PITTSBURG PP 230KV (FAILURE OF NON-REDUNDANT RELAY)	P5	NA	84	104	113	NA	66	98	NA	56	150	NA	NA	84	Install redundant battery/relay supply
PITTSBURG-MARTINEZ #2 115KV	SOBRANTE 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	69	52	90	105	40	48	91	38	8	49	18	39	51	Install redundant battery/relay supply
POTRERO 230/115KV TB 3	MARTIN (SF H) 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	0	73	528	Diverge	0	Diverge	104	0	18	50	0	0	78	Install redundant battery/relay supply
	MARTIN 115KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	52	74	218	100	117	77	108	114	25	53	6	114	79	Install redundant battery/relay supply
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	87	87	87	90	0	103	89	0	92	87	87	0	Diverge	Continue to monitor
	POT_SVC SVD=V	P1	89	88	88	90	0	103	89	0	94	87	87	0	89	Continue to monitor
	POT_SVC-POTRERO E #1 115KV	P1	89	88	88	90	0	103	89	0	94	87	87	0	89	Continue to monitor
	POT_SVC-POTRERO E #1 115KV and RUSCTYECST1 18/230KV TB 1	P6	< 100	< 100	< 100	< 100	< 100	115	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	POT_SVC-POTRERO E 115KV NO FAULT	P2	89	88	88	90	0	103	89	0	94	87	87	0	89	Continue to monitor

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
POTRERO E-TBC_POT1 #1 115KV	POTRERO D SECTION 1D & POTRERO E SECTION 1E 115KV	P2	89	87	93	92	0	109	91	0	95	87	87	0	90	Continue to monitor
	POTRERO E - 1E 115KV & POT_SVC-POTRERO E #1 LINE	P2	89	88	93	93	0	107	90	0	95	87	87	0	91	Continue to monitor
	POTRERO E 115KV SECTION 1E	P2	89	88	93	93	0	107	90	0	95	87	87	0	91	Continue to monitor
	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	88	88	85	87	0	110	89	0	92	87	87	0	91	Install redundant battery/relay supply
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and Q1552-MARTIN C #1 115KV	P3	< 100	< 100	< 100	< 100	< 100	105	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
P-X #1 115KV	POTRERO 115KV (FAILURE OF NON-REDUNDANT RELAY)	P5	62	63	75	79	43	103	75	36	43	54	42	36	66	Install redundant battery/relay supply
Q1552-MARTIN C #1 115KV	EAST GRAND 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	86	86	70	77	106	14	24	88	90	55	90	86	86	Install redundant battery/relay supply
	EST GRND 115KV (FAILURE OF NON-REDUNDANT RELAY)	P5	86	86	70	77	106	14	24	88	90	55	90	86	86	Install redundant battery/relay supply
	POTRERO (SF A) 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	86	86	70	77	102	37	21	85	90	56	90	86	86	Install redundant battery/relay supply
	POTRERO 230KV (FAILURE OF NON-REDUNDANT RELAY)	P5	86	86	70	77	102	37	21	85	90	56	90	86	86	Install redundant battery/relay supply
QUARRYRDSWST-DALY CTY #1 115KV	DALY CTY-SERRMNTE 115KV	P1	NA	74	81	91	NA	69	107	NA	28	68	NA	NA	77	Continue to monitor
	DLY CTYP 115KV SECTION 1F	P2	NA	85	94	105	NA	81	134	NA	32	82	NA	NA	88	Continue to monitor
	MARTIN C 115KV - MIDDLE BREAKER BAY 2	P2	NA	85	94	105	NA	81	132	NA	32	82	NA	NA	88	Continue to monitor
	MARTIN-DALY CITY #2 115KV	P1	NA	85	94	105	NA	81	134	NA	32	82	NA	NA	88	Continue to monitor
	MARTIN-DALY CITY #2 115KV (DALY CTY-DLY CTYP)	P2	NA	74	81	91	NA	69	107	NA	28	68	NA	NA	77	Continue to monitor
	Metcalf - San Jose B HVDC Gen and MARTIN-DALY CITY #2 115KV	P3	< 100	< 100	< 100	107	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	POT_SVC-POTRERO E #1 115KV and MARTIN-DALY CITY #2 115KV	P6	< 100	< 100	< 100	< 100	< 100	112	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	SERRAMONTE 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	74	81	91	NA	69	107	NA	28	68	NA	NA	77	Install redundant battery/relay supply
RADUM-IUKA-VALLECTS 60KV	LS PSTAS 230/60KV TB 4 and SANRAMON 230/60KV TB 1	P6	< 100	< 100	160	165	< 100	173	248	< 100	< 100	228	< 100	< 100	< 100	Continue to monitor
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	71	Diverge	29	85	77	40	108	87	Diverge	Sensitivity only
RADUM-LIVERMORE 60KV	FRICKWIND 0.69KV GEN UNIT 1 and LS PSTAS 230/60KV TB 4	P3	< 100	< 100	< 100	< 100	< 100	< 100	137	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	LAS POSITAS-NEWARK 230KV and CONTRA COSTA-LAS POSITAS 230KV	P6	180	197	188	195	135	191	243	< 100	< 100	234	115	< 100	196	Operational procedure (Reverse Power Scheme)
	LS PSTAS 230/60KV TB 4	P1	27	36	46	51	21	58	130	8	7	74	11	15	38	Continue to monitor
	LS PSTAS 230KV - SECTION 1F & 1G	P2	29	37	48	52	22	60	131	9	9	75	13	16	40	Continue to monitor
	LS PSTAS 230KV SECTION 1G	P2	27	36	46	51	21	58	130	8	7	74	11	15	38	Continue to monitor
	SAN RAMON-MORAGA 230KV and PITTSBURG-SAN RAMON 230KV	P6	271	288	278	282	252	262	294	239	< 100	301	243	239	287	Operational procedure (Reverse Power Scheme)
RAVENSWD 230/115KV TB 1	MEC CTG1 18.00KV & MEC CTG2 18.00KV & MEC STG1 18.00KV Gen Units and RAVENSWD 230/115KV TB 2	P3	119	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	100	< 100	< 100	Project: Redwood City Area 115 kV System Reinforcement
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	72	83	Diverge	67	87	34	62	88	82	Diverge	Install redundant battery/relay supply
	MONTAVIS 230KV - Section 1E & 2E	P2	101	NA	NA	NA	76	NA	NA	70	NA	NA	81	68	NA	Project: Redwood City Area 115 kV System Reinforcement
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	83	Diverge	55	87	34	47	88	82	Diverge	Install redundant battery/relay supply
	RAVENSWD 230/115KV TB 2	P1	114	70	63	67	90	67	60	84	41	54	102	80	71	Project: Redwood City Area 115 kV System Reinforcement
	RAVENSWD 230KV - MIDDLE BREAKER BAY 2	P2	119	73	67	71	93	71	66	91	42	57	106	87	73	Project: Redwood City Area 115 kV System Reinforcement
	RVNSWD D 115KV - SECTION 1D & 2D	P2	106	85	71	74	80	76	59	70	50	56	94	69	87	Project: Redwood City Area 115 kV System Reinforcement
	RVNSWD D 115KV SECTION 1D	P2	106	82	68	72	80	74	56	70	49	54	94	69	84	Project: Redwood City Area 115 kV System Reinforcement
	TESLA-METCALF 500KV and RAVENSWD 230/115KV TB 2	P6	125	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Redwood City Area 115 kV System Reinforcement
RAVENSWD 230/115KV TB 2	RAVENSWD 230/115KV TB 1 and RAVENSWD 230/115KV TB 3	P6	< 100	107	< 100	< 100	< 100	102	< 100	< 100	< 100	< 100	< 100	< 100	108	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
RAVENSWD 230/115KV TB 3	RAVENSWD 230/115KV TB 1 and RAVENSWD 230/115KV TB 2	P6	< 100	107	< 100	< 100	< 100	102	< 100	< 100	< 100	< 100	< 100	< 100	108	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
RAVENSWOOD - BAIR #1 115 KV	BAIR-RVNSWD D-LONESTAR 115KV and SAN MATEO-BELMONT 115KV	P6	112	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Redwood City Area 115 kV System Reinforcement
RAVENSWOOD 230/115 kV TB #2	RVNSWD E 115KV - SECTION 2E & 1E	P2	103	NA	NA	NA	79	NA	NA	77	NA	NA	87	73	NA	Project: Redwood City Area 115 kV System Reinforcement
	TESLA-METCALF 500KV and RAVENSWD 230/115KV TB 1	P6	105	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Redwood City Area 115 kV System Reinforcement
RAVENSWOOD-AMES #1 115KV	Newark-Ravenswood 230 KV and Tesla-Ravenswood 230 KV lines	P7	84	112	54	55	62	98	49	87	44	56	69	84	111	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
	NEWARK-RAVENSWOOD 230KV and TESLA-RAVENSWOOD 230KV	P6	< 100	112	< 100	< 100	< 100	104	< 100	< 100	< 100	< 100	< 100	< 100	112	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
	RAVENSWOOD 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	100	111	57	57	70	Diverge	49	85	49	53	81	81	112	Install redundant battery/relay supply
RAVENSWOOD-AMES #2 115KV	Newark-Ravenswood 230 KV and Tesla-Ravenswood 230 KV lines	P7	84	111	53	54	62	98	48	87	44	55	69	84	111	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
	NEWARK-RAVENSWOOD 230KV and TESLA-RAVENSWOOD 230KV	P6	< 100	112	< 100	< 100	< 100	104	< 100	< 100	< 100	< 100	< 100	< 100	112	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
	RAVENSWOOD 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	100	111	55	55	70	Diverge	48	85	49	52	80	81	112	Install redundant battery/relay supply
	RVNSWD E SECTION 1E & RVNSWD D SECTION 1D 115KV	P2	168	182	52	55	113	154	40	104	68	37	137	103	189	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
RAVENSWOOD-COOLEY LANDING #1 115KV	CLY LND 115KV - MIDDLE BREAKER BAY 2	P2	NA	99	99	103	NA	84	72	NA	35	65	NA	NA	102	Potential flow control or capacity increase project
	GATEWAY1 18/230KV TB 1 and RAVENSWOOD-COOLEY LANDING #2 115KV	P6	< 100	< 100	Diverge	111	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen and RAVENSWOOD-COOLEY LANDING #2 115KV	P3	< 100	107	111	115	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	RAVENSWOOD-COOLEY LANDING #2 115KV	P1	79	104	105	111	53	89	77	51	37	69	58	50	107	Potential flow control or capacity increase project
	Ravenswood-Palo Alto Nos. 1 & 2 115 KV lines	P7	88	108	80	85	56	92	59	53	46	55	72	52	111	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
	RVNSWD E 115KV - SECTION 1D & 1E	P2	130	169	130	136	85	138	88	73	86	90	110	74	174	Potential flow control or capacity increase project
	RVNSWD E 115KV - SECTION 2E & 1E	P2	170	212	135	142	108	178	93	99	88	93	137	98	220	Potential flow control or capacity increase project
	RVNSWD E 115KV SECTION 1E	P2	129	168	130	137	84	137	88	72	85	90	108	73	173	Potential flow control or capacity increase project
	RVNSWD E 115KV SECTION 2E	P2	80	118	101	106	50	97	66	41	50	65	63	43	121	Potential flow control or capacity increase project
	RVNSWD E SECTION 1E & RVNSWD F SECTION 1F 115KV	P2	129	NA	NA	NA	84	NA	NA	72	NA	NA	108	73	NA	Project: Redwood City Area 115 kV System Reinforcement

2026-2027 ISO Reliability Assessment - Study Results
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California ISO

Overloaded Facility	Contingency (All and Worst P6)	Category	Loading % (Baseline Scenarios)										Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
RAVENSWOOD-COOLEY LANDING #2 115KV	GATEWAY1 18/230KV TB 1 and RAVENSWOOD-COOLEY LANDING #1 115KV	P6	< 100	< 100	Diverge	111	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen and RAVENSWOOD-COOLEY LANDING #1 115KV	P3	< 100	107	111	115	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	RAVENSWOOD-COOLEY LANDING #1 115KV	P1	NA	104	105	111	NA	89	78	NA	36	69	NA	NA	107	Potential flow control or capacity increase project
	Ravenswood-Palo Alto Nos. 1 & 2 115 KV lines	P7	NA	108	80	85	NA	92	59	NA	46	55	NA	NA	111	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
	RVNSWD D - 2D 115KV & BAIR-RVNSWD D-LONESTAR LINE	P2	NA	101	103	109	NA	93	89	NA	36	76	NA	NA	103	Potential flow control or capacity increase project
	RVNSWD D 115KV - SECTION 1D & 2D	P2	NA	102	101	106	NA	88	78	NA	34	68	NA	NA	105	Potential flow control or capacity increase project
	RVNSWD D 115KV SECTION 2D	P2	NA	102	103	109	NA	93	89	NA	37	76	NA	NA	104	Potential flow control or capacity increase project
	RVNSWD D SECTION 1D & RVNSWD F SECTION 1F 115KV	P2	NA	101	100	105	NA	87	77	NA	34	67	NA	NA	104	Potential flow control or capacity increase project
	RVNSWD D SECTION 2D & RVNSWD F SECTION 2F 115KV	P2	NA	101	103	109	NA	93	89	NA	37	76	NA	NA	103	Potential flow control or capacity increase project
RAVENSWOOD-PALO ALTO #2 115KV	COOLEY LANDING-PALO ALTO 115KV and RVNSWD E-PLO ALTO #1 115KV	P6	116	125	< 100	< 100	< 100	115	< 100	< 100	< 100	< 100	114	< 100	130	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
	Ravenswood-Cooley Landing Nos. 1 & 2 115 KV lines	P7	99	123	86	90	63	102	61	59	52	62	81	58	128	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
	Ravenswood-Palo Alto No. 1 115 KV and Cooley Landing-Palo Alto 115 KV lines	P7	116	125	49	52	67	105	37	60	78	51	114	60	130	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
RINGWOODSWST-MILPITAS #1 115KV	NEWARK-MILPITAS #1 115KV and SWIFT-METCALF 115KV	P6	< 100	166	< 100	< 100	< 100	113	< 100	< 100	< 100	< 100	< 100	< 100	175	Project: South Bay Reinforcement
RVNSWD E-PLO ALTO #1 115KV	COOLEY LANDING-PALO ALTO 115KV and RAVENSWOOD-PALO ALTO #2 115KV	P6	116	125	< 100	< 100	< 100	115	< 100	< 100	< 100	< 100	114	< 100	130	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
	Ravenswood-Cooley Landing Nos. 1 & 2 115 KV lines	P7	99	123	86	90	63	102	61	59	52	62	81	58	128	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
	RVNSWD E 115KV SECTION 2E	P2	111	115	82	88	72	101	66	76	49	66	93	71	118	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
	RVNSWD E SECTION 2E & RVNSWD D SECTION 2D 115KV	P2	109	209	124	131	71	182	100	75	93	98	92	70	216	Potential flow control or capacity increase project
	RVNSWD E SECTION 2E & RVNSWD F SECTION 2F 115KV	P2	111	NA	NA	NA	72	NA	NA	76	NA	NA	93	71	NA	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
SAN JOSE A - SAN JOSE B #1 115 KV	Metcalf - El Patio No. 1 & 2 115 KV Lines	P7	124	NA	NA	NA	74	NA	NA	75	NA	NA	97	75	NA	Project: South Bay Reinforcement
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	NA	NA	NA	158	NA	NA	166	NA	NA	146	158	NA	Install redundant battery/relay supply
	METCALFD 115KV - Section 2D & 1D	P2	124	NA	NA	NA	74	NA	NA	74	NA	NA	97	75	NA	Project: South Bay Reinforcement
	METCALF-EL PATIO #1 115KV and METCALF-EL PATIO #2 115KV	P6	124	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: South Bay Reinforcement
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	NA	NA	NA	158	NA	NA	166	NA	NA	146	158	NA	Install redundant battery/relay supply
	SJB DG 115KV Section 1D	P2	120	NA	NA	NA	108	NA	NA	126	NA	NA	125	126	NA	Project: South Bay Reinforcement
	SJB DG Section 1D & SJB EF Section 1F 115KV	P2	219	NA	NA	NA	201	NA	NA	230	NA	NA	224	230	NA	Project: South Bay Reinforcement
	SJB EF - 1F 115KV & SAN JOSE B-STONE-EVERGREEN line	P2	219	NA	NA	NA	201	NA	NA	230	NA	NA	224	231	NA	Project: South Bay Reinforcement
	SJB EF 115KV Section 1F	P2	219	NA	NA	NA	201	NA	NA	231	NA	NA	224	231	NA	Project: South Bay Reinforcement
	Trimble - San Jose B & FMC - San Jose B 115 KV Lines	P7	101	NA	NA	NA	96	NA	NA	115	NA	NA	111	115	NA	Project: South Bay Reinforcement
	Trimble - San Jose B & Kifer - FMC 115 KV Lines	P7	80	NA	NA	NA	82	NA	NA	100	NA	NA	94	101	NA	Project: South Bay Reinforcement
SAN JOSE B - EVERGREEN #1 115 KV	FMC-SAN JOSE B 115KV and SAN JOSE A-SAN JOSE B 115KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	101	< 100	Sensitivity only
	METCALFE 115KV - Section 2E & 1E	P2	118	NA	NA	NA	97	NA	NA	96	NA	NA	105	96	NA	Project: LC24 Network Upgrade
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	121	NA	NA	NA	98	NA	NA	96	NA	NA	106	97	NA	Install redundant battery/relay supply
SAN JOSE B 115 KV BUS TIE	Newark - Los Esteros & Los Esteros - Metcalf 230 KV Lines	P7	100	NA	NA	NA	102	NA	NA	98	NA	NA	79	98	NA	Project: South Bay Reinforcement
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	NA	NA	NA	126	NA	NA	120	NA	NA	110	123	NA	Install redundant battery/relay supply
	SAN JOSE A-SAN JOSE B 115KV and SAN JOSE B-STONE-EVERGREEN 115KV	P6	108	< 100	< 100	< 100	116	< 100	< 100	118	< 100	< 100	112	118	< 100	Project: South Bay Reinforcement
SAN MATEO - PITTSBURG 230 KV	MARTIN 115KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	60	NA	NA	NA	42	NA	NA	34	NA	NA	50	46	NA	Install redundant battery/relay supply
SAN MATEO 230/115 kV TB #6	SANMATEO 230KV - SECTION 1D & 1E	P2	126	NA	NA	NA	112	NA	NA	117	NA	NA	127	86	NA	Project: Martin 230 kV Bus Extension
SAN MATEO 230/115 kV TB #7	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	77	90	72	76	69	103	84	78	56	68	74	60	90	Install redundant battery/relay supply
SAN MATEO-BAIR 60KV	BAIR 115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	80	90	108	117	55	66	85	50	20	61	48	50	92	Install redundant battery/relay supply
	Belmont-Bair 115 KV and San Carlos-Bair 60 KV lines	P7	81	90	108	117	56	66	86	50	20	61	48	50	92	Continue to monitor
	Metcalf - San Jose B HVDC Gen and SAN MATEO-BAIR 60KV	P3	< 100	< 100	114	126	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	469	499	144	150	334	369	85	358	278	92	400	358	495	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	441	465	87	101	331	Diverge	45	355	276	50	391	355	Diverge	Install redundant battery/relay supply
	RVNSWD E SECTION 1E & RVNSWD D SECTION 1D 115KV	P2	165	137	87	90	89	79	42	76	37	53	107	81	144	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
	SAN MATEO-BAIR 60KV	P1	81	90	108	117	56	66	86	50	20	61	48	50	92	Continue to monitor
	CLY LND 115/60KV TB 2 and CLY LND 115/60KV TB 1	P6	< 100	105	174	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	111	Operational procedure
	Metcalf - San Jose B HVDC Gen and SAN MATEO-BAIR 60KV	P3	< 100	< 100	< 100	104	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	48	54	99	106	18	55	70	31	23	41	30	28	62	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	48	54	99	106	18	55	70	31	23	41	30	28	62	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	48	54	99	106	18	55	70	31	23	41	30	28	62	Continue to monitor
	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	306	322	44	46	267	278	17	264	235	27	300	265	319	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	287	300	20	25	263	Diverge	37	261	233	10	289	260	Diverge	Install redundant battery/relay supply
	SAN MATEO-BAIR 60KV	P1	70	79	96	102	48	57	75	41	14	52	39	41	82	Continue to monitor
	San Mateo-Belmont 115 KV and San Mateo-San Carlos 60 KV lines	P7	71	80	97	103	48	57	75	41	13	52	40	41	82	Continue to monitor
SAN MATEO-BAY MEADOWS #1 115KV	GATEWAY1 18/230KV TB 1 and SAN MATEO-BAY MEADOWS #2 115KV	P6	< 100	< 100	Diverge	115	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen and SAN MATEO-BAY MEADOWS #2 115KV	P3	< 100	< 100	107	117	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	SAN MATEO-BAY MEADOWS #2 115KV	P1	97	85	105	114	62	84	125	55	38	85	64	55	89	Continue to monitor
	SANMATEO 115KV - MIDDLE BREAKER BAY 7	P2	97	85	105	115	62	84	125	55	38	85	64	55	89	Continue to monitor
SAN MATEO-BAY MEADOWS #2	MARSHLD2 230/16.5KV TB 3 and SAN MATEO-BAY MEADOWS #1 115KV	P6	< 100	< 100	Diverge	122	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen and SAN MATEO-BAY MEADOWS #1 115KV	P3	< 100	< 100	113	125	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
115KV	SAN MATEO-BAY MEADOWS #1 115KV	P1	82	90	111	121	62	84	125	58	40	90	68	58	94	Continue to monitor
	SANMATEO 115KV - MIDDLE BREAKER BAY 8	P2	82	91	111	122	62	84	125	58	40	90	68	58	94	Continue to monitor
SAN MATEO-BELMONT 115KV	RAVENSWD 230/115KV TB 1 and RAVENSWD 230/115KV TB 2	P6	168	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	100	< 100	< 100	Project: Redwood City Area 115 kV System Reinforcement
	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	359	190	93	99	279	162	70	267	105	65	293	268	191	Install redundant battery/relay supply
	RAVENSWOOD 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	112	50	39	42	70	Diverge	23	54	24	18	75	53	53	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	342	180	46	53	273	Diverge	39	260	102	48	283	260	Diverge	Install redundant battery/relay supply
	Ravenswood-Bair Nos. 1 & 2 115 KV lines	P7	112	59	69	72	77	43	52	60	18	47	67	64	61	Project: Redwood City Area 115 kV System Reinforcement
	RVNSWD D 115KV - SECTION 1D & 2D	P2	128	21	28	28	88	13	6	70	4	10	80	74	23	Project: Redwood City Area 115 kV System Reinforcement
	RVNSWD D 115KV SECTION 1D	P2	128	8	15	12	87	19	16	69	13	11	80	73	8	Project: Redwood City Area 115 kV System Reinforcement
	RVNSWD E SECTION 1E & RVNSWD D SECTION 1D 115KV	P2	178	10	13	12	114	17	15	95	10	10	116	99	12	Project: Redwood City Area 115 kV System Reinforcement
SAN MATEO-HILLSDALE JCT 60KV	JEFFERSON 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	312	323	232	307	245	323	406	223	115	130	183	229	322	Install redundant battery/relay supply
	MARTIN (SF H) 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	16	62	113	Diverge	7	Diverge	87	7	43	37	3	13	64	Install redundant battery/relay supply
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	83	100	124	134	61	108	128	70	41	61	55	62	106	Install redundant battery/relay supply
	Monta Vista-Jefferson 230 KV Lines No. 1 & 2	P7	81	100	121	131	62	107	127	69	41	61	56	65	104	Continue to monitor
	Monta Vista-Jefferson Nos. 1 & 2 230 KV lines	P7	81	100	NA	NA	62	107	NA	69	41	NA	56	65	104	Continue to monitor
	Monta Vista-Jefferson Nos. 1 & 2 230 KV lines-2	P7	NA	NA	121	131	NA	NA	127	NA	NA	61	NA	NA	NA	Continue to monitor
	MONTAVIS 230KV - Section 1E & 2E	P2	NA	113	NA	NA	NA	110	NA	NA	53	NA	NA	NA	117	Project: Monta Vista 230 kV Bus Upgrade
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	72	97	76	60	73	Diverge	34	105	43	73	81	101	Diverge	Install redundant battery/relay supply
	JEFFERSN 230/60KV TB 2 and JEFRSN_D 60/230KV TB 1	P6	< 100	< 100	228	< 100	< 100	< 100	416	< 100	< 100	128	< 100	< 100	< 100	Continue to monitor
	JEFFERSON 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	285	298	231	300	222	295	383	202	101	128	167	207	299	Install redundant battery/relay supply
	MARTIN (SF H) 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	10	72	105	Diverge	9	Diverge	110	8	38	49	14	3	76	Install redundant battery/relay supply
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	51	Diverge	116	73	30	65	55	75	Diverge	Install redundant battery/relay supply
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	87	106	132	145	64	111	144	70	38	70	56	63	111	Install redundant battery/relay supply
	Monta Vista-Jefferson 230 KV Lines No. 1 & 2	P7	86	104	130	143	66	111	143	70	38	70	56	64	108	Potential flow control or capacity increase project
	Monta Vista-Jefferson Nos. 1 & 2 230 KV lines-1	P7	NA	NA	110	124	NA	NA	123	NA	NA	48	NA	NA	NA	Continue to monitor
	Monta Vista-Jefferson Nos. 1 & 2 230 KV lines-2	P7	NA	NA	130	143	NA	NA	143	NA	NA	70	NA	NA	NA	Continue to monitor
	MONTAVIS 230KV - Section 1E & 2E	P2	NA	116	NA	NA	NA	112	NA	NA	46	NA	NA	NA	120	Project: Monta Vista 230 kV Bus Upgrade
	OX_MTN 4.16KV & OX_MTN 4.16KV & OX_MTN 4.16KV & OX_MTN 4.16KV & OX_MTN 4.16KV & OX_MTN 4.16KV & OX_MTN 4.16KV and JEFFERSON-HILLSDALE JCT 60KV	P3	< 100	< 100	< 100	< 100	< 100	< 100	105	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	38	56	57	48	47	Diverge	13	77	33	43	57	72	Diverge	Install redundant battery/relay supply
SAN MATEO-MARTIN #3 115KV	Base Case	P0	49	64	94	95	50	89	103	75	50	88	61	44	66	Continue to monitor
SAN MATEO-MARTIN #4 115KV	Base Case	P0	49	65	95	96	51	90	102	77	51	89	62	45	66	Continue to monitor
SAN MATEO-MARTIN #6 115KV	Base Case	P0	53	69	99	100	55	95	109	80	54	93	66	48	70	Continue to monitor
SAN MATEO-MARTIN 230KV	MARTIN 115KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	NA	58	106	75	NA	56	65	NA	17	52	NA	NA	61	Install redundant battery/relay supply
SAN MATEO-MARTIN 230KV (2)	EGBERTSWSTA-JEFFERSN 230KV and MILLBRAE-SAN MATEO #1 115KV	P6	< 100	< 100	< 100	< 100	< 100	< 100	109	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	MARTIN 115KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	NA	66	116	86	NA	64	74	NA	25	59	NA	NA	68	Install redundant battery/relay supply
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	Diverge	Diverge	Diverge	NA	Diverge	59	NA	36	51	NA	NA	Diverge	Install redundant battery/relay supply
SAN MATO 60/115KV TB 8	JEFFERSON 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	99	102	85	103	84	104	132	66	34	47	60	70	99	Install redundant battery/relay supply
	JEFRSN_D 60/230KV TB 1 and JEFFERSN 230/60KV TB 2	P6	< 100	< 100	< 100	< 100	< 100	< 100	132	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	112	113	52	55	97	102	46	84	68	26	96	86	110	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	91	90	37	40	90	Diverge	25	77	62	8	84	75	Diverge	Install redundant battery/relay supply
SAN RAMN-E DUBLIN-RADUM-PARKS 60KV	C.COSTAPP 230KV BUS 1&2(FAILURE OF NON-REDUNDANT RELAY)	P5	83	102	92	96	61	89	114	50	40	81	75	53	108	Install redundant battery/relay supply
	C.COSTAPPD - 1D 230KV & MARSHLD1-C.COSTAPPD #1 LINE	P2	89	109	102	106	70	100	128	54	46	90	76	57	114	Operational procedure (Reverse Power Scheme)
	C.COSTAPPD 230KV - SECTION 1D & 2D	P2	99	119	107	112	72	107	132	59	47	92	82	62	125	Operational procedure (Reverse Power Scheme)
	C.COSTAPPD 230KV SECTION 1D	P2	89	109	102	106	70	100	128	54	46	90	76	57	114	Operational procedure (Reverse Power Scheme)
	C.COSTAPPE 230KV - SECTION 1E & 2E	P2	86	109	61	64	25	70	83	40	8	68	76	44	115	Operational procedure (Reverse Power Scheme)
	Contra Costa - Las Positas 230 KV and Contra Costa-Lonetree 230 KV lines	P7	100	118	113	117	79	111	138	61	54	95	83	64	124	Operational procedure (Reverse Power Scheme)
	Contra Costa - Las Positas 230 KV and Lonetree - Cayetano 230 KV lines	P7	99	118	112	117	79	111	137	62	55	95	83	64	124	Operational procedure (Reverse Power Scheme)
	CONTRA COSTA PP 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	84	103	93	97	61	90	115	51	40	81	75	53	109	Install redundant battery/relay supply
	Contra Costa-Las Positas 230 KV and North Dublin-Vineyard 230 KV lines	P7	97	118	113	117	80	111	137	61	55	95	83	63	125	Operational procedure (Reverse Power Scheme)
	CONTRA COSTA-LAS POSITAS 230KV	P1	90	109	104	109	72	103	131	55	49	90	76	58	114	Operational procedure (Reverse Power Scheme)
	GATEWAY1 18/230KV TB 1 and LS PSTAS 230/60KV TB 4	P6	< 100	< 100	Diverge	122	< 100	116	208	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	LAS POSITAS 230-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	94	108	108	113	73	110	164	62	49	103	76	63	112	Install redundant battery/relay supply
	LIVERMORE-LAS POSITAS 60KV	P1	91	104	105	110	70	106	161	59	46	101	73	60	108	Potential mitigation in development
	LS PSTAS 230/60KV TB 4	P1	90	105	118	125	70	121	210	50	44	126	66	59	109	Potential limiting elements removal
	LS PSTAS 230KV - SECTION 1F & 1G	P2	93	108	121	127	73	125	213	53	47	128	69	61	112	Operational procedure (Reverse Power Scheme)
	LS PSTAS 230KV SECTION 1G	P2	90	105	118	125	70	121	210	50	44	126	66	59	109	Operational procedure (Reverse Power Scheme)
	MARSHLD2 230/16.5KV TB 3 and LS PSTAS 230/60KV TB 4	P6	< 100	< 100	Diverge	122	< 100	116	208	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor

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Overloaded Facility	Contingency (All and Worst P6)	Category	Loading % (Baseline Scenarios)										Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
	Metcalf - San Jose B HVDC Gen and TESLA-NEWARK #1 230KV	P3	< 100	< 100	< 100	Diverge	< 100	< 100	116	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen and TESLA-NEWARK #2 230KV	P3	< 100	< 100	< 100	Diverge	< 100	< 100	116	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	67	Diverge	112	58	31	79	69	63	Diverge	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	66	Diverge	112	58	30	75	68	62	Diverge	Install redundant battery/relay supply
	NEWARK D 115/115KV TB 1	P1	51	62	61	66	35	64	114	24	20	72	39	29	64	Continue to monitor
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	83	101	90	98	60	100	114	46	34	77	69	53	Diverge	Operational procedure (Reverse Power Scheme)
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	72	89	80	85	52	83	108	40	26	73	58	46	94	Continue to monitor
	TESLA-NEWARK #2 230KV	P1	68	84	76	81	49	79	105	37	26	71	57	44	89	Continue to monitor
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	68	85	75	81	50	83	106	40	31	72	58	46	90	Continue to monitor
SANJOSEB230 230/115KV TB 1	Base Case	P0	90	NA	NA	NA	89	NA	NA	107	NA	NA	107	107	NA	Project: San Jose B 230/115 kV Transformer Bank Addition
	GATEWAY1 18/230KV TB 1 and SANJOSEB230 230/115KV TB 6	P6	< 100	< 100	Diverge	111	< 100	< 100	101	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	81	100	103	NA	129	91	NA	54	85	NA	NA	82	Install redundant battery/relay supply
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	NA	NA	NA	94	NA	NA	94	NA	NA	94	94	NA	Install redundant battery/relay supply
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	NA	80	100	103	NA	129	91	NA	54	85	NA	NA	82	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	NA	NA	NA	95	NA	NA	95	NA	NA	95	95	NA	Install redundant battery/relay supply
	NRS-TRIMBLE #1 230KV	P1	NA	56	NA	NA	NA	100	NA	NA	97	NA	NA	NA	55	Potential flow control or capacity increase project
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and TRIMBLE-SANJOSEB230 #1 230KV	P3	< 100	< 100	< 100	< 100	< 100	185	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	SANJOSEB 115KV - Middle Breaker Bay 5	P2	NA	NA	98	102	NA	NA	89	NA	NA	88	NA	NA	NA	Potential flow control or capacity increase project
	SANJOSEB230 230/115KV TB 6	P1	NA	NA	107	111	NA	NA	100	NA	NA	97	NA	NA	NA	Potential flow control or capacity increase project
	TRIMBLE 230KV - Middle Breaker Bay 1	P2	NA	56	NA	NA	NA	100	NA	NA	97	NA	NA	NA	55	Potential flow control or capacity increase project
	TRIMBLE 230KV - Middle Breaker Bay 2	P2	NA	81	NA	NA	NA	181	NA	NA	179	NA	NA	NA	82	Project: San Jose B 230/115 kV Transformer Bank Addition
	TRIMBLE-SANJOSEB230 #1 230KV	P1	NA	81	NA	NA	NA	181	NA	NA	179	NA	NA	NA	82	Project: San Jose B 230/115 kV Transformer Bank Addition
SANJOSEB230 230/115KV TB 6	GATEWAY1 18/230KV TB 1 and SANJOSEB230 230/115KV TB 1	P6	< 100	< 100	Diverge	111	< 100	< 100	101	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	MEC CTG1 18.00KV & MEC CTG2 18.00KV & MEC STG1 18.00KV Gen Units and SANJOSEB230 230/115KV TB 1	P3	< 100	< 100	111	115	< 100	< 100	105	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	NA	81	100	103	NA	NA	91	NA	NA	77	NA	NA	82	Install redundant battery/relay supply
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	NA	80	100	103	NA	NA	91	NA	NA	77	NA	NA	82	Install redundant battery/relay supply
	SANJOSEB 115KV - Middle Breaker Bay 6	P2	NA	NA	107	110	NA	NA	98	NA	NA	88	NA	NA	NA	Potential flow control or capacity increase project
	SANJOSEB230 230/115KV TB 1	P1	NA	NA	107	111	NA	NA	100	NA	NA	88	NA	NA	NA	Potential flow control or capacity increase project
SANMATEO 115/60KV TB 3	JEFFERSON 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	95	98	82	99	80	100	129	62	31	48	56	66	95	Install redundant battery/relay supply
	JEFRSN_D 60/230KV TB 1 and JEFFERSN 230/60KV TB 2	P6	< 100	< 100	< 100	< 100	< 100	< 100	129	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	107	109	49	53	92	98	46	80	64	26	91	82	106	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	86	86	32	37	85	Diverge	25	72	58	4	79	71	Diverge	Install redundant battery/relay supply
SANMATEO-E. SHORE #2 230KV	E. SHORE 230KV - MIDDLE BREAKER BAY 4	P2	NA	87	98	103	NA	84	100	NA	72	100	NA	NA	88	Continue to monitor
	EASTSHORE-SAN MATEO 230KV	P1	NA	87	98	103	NA	84	100	NA	72	100	NA	NA	88	Continue to monitor
	GATEWAY1 18/230KV TB 1 and EASTSHORE-SAN MATEO 230KV	P6	< 100	< 100	Diverge	102	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	MEC CTG1 18.00KV & MEC CTG2 18.00KV & MEC STG1 18.00KV Gen Units and EASTSHORE-SAN MATEO 230KV	P3	< 100	< 100	104	110	< 100	< 100	121	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	82	99	92	NA	Diverge	92	NA	60	94	NA	NA	Diverge	Install redundant battery/relay supply
SANRAMON 230/60KV TB 1	LAS POSITAS 230-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	59	69	67	71	47	69	104	40	32	70	49	40	71	Install redundant battery/relay supply
	LIVERMORE-LAS POSITAS 60KV	P1	57	66	65	69	45	67	103	38	30	68	47	39	68	Continue to monitor
	LS PSTAS 230/60KV TB 4	P1	56	67	73	78	45	76	134	32	29	84	42	38	69	Continue to monitor
	LS PSTAS 230KV - SECTION 1F & 1G	P2	58	69	74	80	47	78	135	34	31	86	44	39	71	Continue to monitor
	LS PSTAS 230KV SECTION 1G	P2	56	66	73	78	45	76	134	32	29	84	42	38	69	Continue to monitor
	Metcalf - San Jose B HVDC Gen and LS PSTAS 230/60KV TB 4	P3	< 100	< 100	< 100	< 100	< 100	< 100	140	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	NEWARK D 115/115KV TB 1 and LS PSTAS 230/60KV TB 4	P6	< 100	< 100	110	118	< 100	113	260	< 100	< 100	140	< 100	< 100	< 100	Operational procedure (Reverse Power Scheme)
SANTA TERESA - EDENVALE #1 115 KV	EDENVALE - 1F 115KV & METCALF-EDENVALE #2 line	P2	NA	121	NA	NA	NA	77	NA	NA	45	NA	NA	NA	121	Potential flow control or capacity increase project
	EDENVALE 115KV Section 1F	P2	NA	NA	138	139	NA	NA	83	NA	NA	88	NA	NA	NA	Potential flow control or capacity increase project
	GATEWAY1 18/230KV TB 1 and METCALF-EDENVALE #2 115KV	P6	< 100	< 100	Diverge	150	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen and METCALF-EDENVALE #2 115KV	P3	< 100	< 100	153	157	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF-EDENVALE #2 115KV	P1	NA	124	NA	NA	NA	81	NA	NA	45	NA	NA	NA	126	Potential flow control or capacity increase project
	METCALF-EDENVALE #2 115KV (EDENVALE-BAILY J2)	P2	NA	125	NA	NA	NA	81	NA	NA	45	NA	NA	NA	127	Potential flow control or capacity increase project
	METCALF-EDENVALE #2 115KV (METCALFD-BAILY J2)	P2	NA	126	NA	NA	NA	82	NA	NA	47	NA	NA	NA	128	Potential flow control or capacity increase project
SARATOGA-VASONA 230KV	HICKS-METCALF 230KV and MONTA VISTA-COYOTE SW STA 230KV	P6	< 100	125	< 100	< 100	< 100	117	< 100	< 100	< 100	< 100	< 100	< 100	130	Project: Saratoga-Vasona 230 kV line Reinforcement
	Metcalf - San Jose B HVDC Gen and HICKS-METCALF 230KV	P3	< 100	102	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Saratoga-Vasona 230 kV line Reinforcement
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	78	113	40	42	57	106	39	53	15	29	42	51	122	Install redundant battery/relay supply
	METCALF2D - 2D 230KV & METCALF2D-METCALF1D line	P2	90	97	56	59	68	94	55	63	10	40	49	59	102	Project: Saratoga-Vasona 230 kV line Reinforcement
	METCALF2D 230KV - Section 2D & 2E	P2	93	100	59	62	69	97	58	66	10	43	51	62	105	Project: Saratoga-Vasona 230 kV line Reinforcement
	METCALF2D 230KV Section 2D	P2	NA	100	59	62	NA	97	58	NA	10	43	NA	NA	105	Project: Saratoga-Vasona 230 kV line Reinforcement
	METCALF2D Section 2D & METCALF2E Section 2E 230KV	P2	NA	101	NA	NA	NA	96	NA	NA	15	NA	NA	NA	108	Project: Saratoga-Vasona 230 kV line Reinforcement
	Metcalf-Monta Vista No. 3 & Monta Vista-Coyote Sw. Sta. 230 KV Line	P7	114	122	59	62	86	120	60	81	16	41	64	76	127	Project: Saratoga-Vasona 230 kV line Reinforcement

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
	MONTAVIS 230KV - Section 1D & 2D	P2	117	NA	NA	NA	85	NA	NA	79	NA	NA	65	75	NA	Project: Saratoga-Vasona 230 kV line Reinforcement
	MONTAVIS 230KV - Section 2E & 2D	P2	NA	96	NA	NA	NA	96	NA	NA	16	NA	NA	NA	100	Project: Saratoga-Vasona 230 kV line Reinforcement
SOBRANTE 230/115KV TB 1	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	106	100	65	69	70	139	65	81	47	49	59	79	101	Install redundant battery/relay supply
	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	94	93	73	81	66	115	73	77	41	57	57	74	93	Install redundant battery/relay supply
	TESLA-NEWARK #2 230KV and SOBRANTE 230/115KV TB 2	P6	< 100	105	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: New Sobrante 230/115 kV Transformer Bank
SOBRANTE 230/115KV TB 2	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	102	97	65	69	67	133	65	77	43	46	56	76	98	Install redundant battery/relay supply
	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	91	90	72	81	63	110	72	74	37	54	53	71	90	Install redundant battery/relay supply
	TESLA-NEWARK #2 230KV and SOBRANTE 230/115KV TB 1	P6	< 100	103	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: New Sobrante 230/115 kV Transformer Bank
SOBRANTE-G #1 115KV	CHRISTIE-SOBRANTE 115KV and SOBRANTE-G #2 115KV	P6	< 100	< 100	103	112	< 100	< 100	103	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	SOBRANTE 115KV - SECTION 2E & 2D	P2	94	82	99	107	48	62	83	70	23	68	35	66	83	Continue to monitor
SOBRANTE-G #2 115KV	CHRISTIE-SOBRANTE 115KV and SOBRANTE-G #1 115KV	P6	< 100	< 100	103	112	< 100	< 100	103	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	SOBRANTE 115KV - SECTION 1D & 2D	P2	96	89	109	118	48	63	88	72	23	112	36	68	90	Continue to monitor
SOBRANTE-GRIZZLY-CLAREMONT #1 115KV	HILLSIDE_12 12.47KV & HILLSIDE_12 12.47KV GEN UNITS and SOBRANTE-GRIZZLY-CLAREMONT #2 115KV	P3	< 100	109	124	124	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential line re-rate
	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	222	194	35	36	102	262	21	159	107	18	133	160	197	Install redundant battery/relay supply
	MORAGA 230KV - SECTION 2D & 1D	P2	108	78	35	36	57	59	21	90	38	22	78	89	67	Project: North Oakland Reinforcement Project
	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	108	105	44	46	57	104	31	90	54	29	78	89	95	Install redundant battery/relay supply
	TESLA-METCALF 500KV and SOBRANTE-GRIZZLY-CLAREMONT #2 115KV	P6	< 100	109	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: North Oakland Reinforcement Project
SOBRANTE-GRIZZLY-CLAREMONT #1 115KV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	187	154	14	15	78	246	13	126	89	11	101	127	178	Install redundant battery/relay supply
SOBRANTE-GRIZZLY-CLAREMONT #2 115KV	HILLSIDE_12 12.47KV & HILLSIDE_12 12.47KV GEN UNITS and SOBRANTE-GRIZZLY-CLAREMONT #1 115KV	P3	< 100	109	124	124	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential line re-rate
	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	262	226	31	32	117	318	17	184	122	14	152	186	235	Install redundant battery/relay supply
	MORAGA 230KV - SECTION 2D & 1D	P2	120	81	31	32	60	65	17	97	36	18	83	96	73	Project: North Oakland Reinforcement Project
	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	120	115	40	42	60	120	27	97	56	25	83	96	108	Install redundant battery/relay supply
	SOBRANTE 115KV - SECTION 1D & 2D	P2	64	78	103	103	43	35	30	58	31	37	64	57	40	Potential line re-rate
	TESLA-METCALF 500KV and SOBRANTE-GRIZZLY-CLAREMONT #1 115KV	P6	< 100	112	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: North Oakland Reinforcement Project
SOBRANTE-MORAGA 115KV	MORAGA 230KV - SECTION 2D & 1D	P2	126	57	67	68	69	58	47	101	31	74	84	99	71	Project: Moraga 230 kV Bus Upgrade
	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	126	116	129	144	69	158	113	101	64	126	84	99	131	Install redundant battery/relay supply
	SOBRANTE 230/115KV TB 1 and SOBRANTE 230/115KV TB 2	P6	< 100	104	< 100	< 100	< 100	100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: New Sobrante 230/115 kV Transformer Bank
	SOBRANTE 230KV - SECTION 2D & 1D	P2	100	103	50	44	60	84	28	83	31	20	44	79	89	Project: New Sobrante 230/115 kV Transformer Bank
SOBRANTE-NRTH TWR 115KV	PITTSBURG-MARTINEZ #2 115KV and PITTSBURG-E-WILLOWPASS #1 115KV	P6	< 100	< 100	< 100	101	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
SOBRANTE-OAKLAND-L 115KV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	NA	NA	123	129	NA	NA	147	NA	NA	104	NA	NA	NA	Install redundant battery/relay supply
	OAKLAND-C - ME 115KV & OAKLAND C-MARITIME LINE	P2	NA	NA	48	51	NA	NA	102	NA	NA	99	NA	NA	NA	Continue to monitor
SOBRANTE-R #1 115KV	GATEWAY1 18/230KV TB 1 and SOBRANTE-R #2 115KV	P6	< 100	< 100	Diverge	104	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen and SOBRANTE-R #2 115KV	P3	< 100	< 100	< 100	104	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	SOBRANTE - 2D 115KV & SOBRANTE-STANDARD OIL SW STA #1 LINE	P2	71	75	96	103	49	85	96	40	13	33	16	40	78	Continue to monitor
	SOBRANTE 115KV - SECTION 2E & 2D	P2	72	75	96	103	49	86	96	40	13	33	16	40	78	Continue to monitor
	SOBRANTE 115KV SECTION 2D	P2	71	75	96	103	49	85	96	40	13	33	16	40	78	Continue to monitor
	SOBRANTE-R #2 115KV	P1	71	75	96	103	49	85	96	40	13	33	16	40	78	Continue to monitor
SOBRANTE-R #2 115KV	GATEWAY1 18/230KV TB 1 and SOBRANTE-R #1 115KV	P6	< 100	< 100	Diverge	104	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen and SOBRANTE-R #1 115KV	P3	< 100	< 100	< 100	104	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	SOBRANTE - 1D 115KV & SOBRANTE-R #1 LINE	P2	72	76	96	103	49	86	96	40	13	33	16	40	79	Continue to monitor
	SOBRANTE - 1D 115KV & SOBRANTE-SAN PBLO-STD. OIL LINE	P2	70	75	94	101	48	84	98	40	6	39	4	40	78	Continue to monitor
	SOBRANTE 115KV - SECTION 1E & 1D	P2	NA	NA	96	103	NA	NA	99	NA	NA	39	NA	NA	NA	Continue to monitor
	SOBRANTE-R #1 115KV	P1	71	75	96	104	49	85	97	40	13	33	16	40	78	Continue to monitor
	SOBRANTE-R #1 115KV (ELCRTJ2-SOBRANTE)	P2	69	75	94	101	48	84	99	40	8	39	4	40	78	Continue to monitor
	SOBRANTE-R #1 115KV (RICHMOND-ELCRTJ2)	P2	71	75	96	104	49	85	96	40	13	33	16	40	78	Continue to monitor
ST TRESA-EDENVALE 115KV	EDENVALE - 1F 115KV & METCALF-EDENVALE #2 line	P2	NA	NA	102	104	NA	NA	56	NA	NA	45	NA	NA	NA	Potential flow control or capacity increase project
	EDENVALE 115KV Section 1F	P2	NA	NA	102	104	NA	NA	56	NA	NA	45	NA	NA	NA	Potential flow control or capacity increase project
	GATEWAY1 18/230KV TB 1 and METCALF-EDENVALE #2 115KV	P6	< 100	< 100	Diverge	117	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen and METCALF-EDENVALE #2 115KV	P3	< 100	< 100	118	123	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF-EDENVALE #2 115KV	P1	NA	NA	112	117	NA	NA	78	NA	NA	49	NA	NA	NA	Potential flow control or capacity increase project
	METCALF-EDENVALE #2 115KV (EDENVALE-BAILY J2)	P2	NA	NA	112	117	NA	NA	78	NA	NA	49	NA	NA	NA	Potential flow control or capacity increase project
	METCALF-EDENVALE #2 115KV (METCALFD-BAILY J2)	P2	NA	NA	115	120	NA	NA	81	NA	NA	51	NA	NA	NA	Potential flow control or capacity increase project
ST TRESA-METCALFD 115KV	Base Case	P0	67	88	101	104	43	75	86	37	34	66	26	37	89	Potential flow control or capacity increase project
	C.COSTAPP 230KV BUS 1&2(FAILURE OF NON-REDUNDANT RELAY)	P5	67	88	104	106	43	75	86	37	34	66	26	37	89	Install redundant battery/relay supply
	EDENVALE - 1F 115KV & METCALF-EDENVALE #2 line	P2	NA	164	NA	NA	NA	136	NA	NA	62	120	NA	NA	165	Potential flow control or capacity increase project
	EDENVALE 115KV Section 1F	P2	NA	NA	187	189	NA	NA	141	NA	NA	120	NA	NA	NA	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen	P1	67	90	106	109	43	77	86	37	34	66	26	37	94	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen and METCALF-EDENVALE #2 115KV	P3	< 100	< 100	208	213	< 100	< 100	< 100	< 100	< 100	123	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF-EDENVALE #2 115KV	P1	128	NA	NA	NA	83	NA	NA	70	NA	124	50	70	NA	Potential flow control or capacity increase project
	METCALF-EDENVALE #2 115KV (EDENVALE-BAILY J2)	P2	NA	169	NA	NA	NA	143	NA	NA	63	124	NA	NA	172	Potential flow control or capacity increase project
	METCALF-EDENVALE #2 115KV (METCALFD-BAILY J2)	P2	NA	172	NA	NA	NA	145	NA	NA	65	126	NA	NA	174	Potential flow control or capacity increase project
	METCALF-SJB MONOPOLE	P1	67	90	107	110	43	78	86	37	34	66	26	37	94	Potential flow control or capacity increase project
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	67	88	104	106	43	75	86	37	34	66	26	37	91	Install redundant battery/relay supply

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
	Newark 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	70	88	104	107	43	75	86	37	34	66	26	37	89	Install redundant battery/relay supply
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	67	91	107	112	43	79	86	37	34	66	26	37	Diverge	Potential flow control or capacity increase project
	PITTSBURG PP 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	67	88	104	108	43	75	86	37	34	66	26	37	91	Install redundant battery/relay supply
	PITTSBURG PP 230KV (FAILURE OF NON-REDUNDANT RELAY)	P5	67	88	103	106	43	75	86	37	34	66	26	37	91	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	67	88	104	106	43	Diverge	86	37	34	66	26	37	Diverge	Install redundant battery/relay supply
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	67	88	101	106	43	75	86	37	34	66	26	37	91	Potential flow control or capacity increase project
STELLING-MONTA VISTA 115KV	MARSHLD2 230/16.5KV TB 3 and MONTA VISTA-WOLFE 115KV	P6	< 100	< 100	Diverge	115	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	Metcalf - San Jose B HVDC Gen and MONTA VISTA-WOLFE 115KV	P3	< 100	< 100	107	116	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
	MNTA VSA 115KV - Middle Breaker Bay 1	P2	79	86	106	115	58	69	80	48	16	51	47	47	89	Continue to monitor
	MONTA VISTA-WOLFE 115KV	P1	NA	NA	106	115	NA	NA	79	NA	NA	51	NA	NA	NA	Continue to monitor
SWIFT-METCALF 115KV	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	108	50	48	50	73	42	36	66	2	28	60	65	54	Install redundant battery/relay supply
	MONTAVIS 230KV - Section 1E & 2E	P2	104	NA	NA	NA	69	NA	NA	60	NA	NA	57	61	NA	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
	Newark 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	151	55	67	72	86	39	43	69	11	30	81	69	57	Install redundant battery/relay supply
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	80	Diverge	35	71	10	27	74	73	Diverge	Install redundant battery/relay supply
	NEWARK E&F 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	215	68	35	37	141	51	26	119	17	21	117	119	70	Install redundant battery/relay supply
	NEWARK F-RINGWOODSWST #1 115KV and NEWARK-MILPITAS #1 115KV	P6	203	< 100	< 100	< 100	139	< 100	< 100	118	< 100	< 100	115	117	< 100	Project: Metcalf-Piercy & Swift and Newark-Dixon Landing 115 kV Upgrade
TASSAJAR-RESEARCH-NEWARK E 230KV	Metcalf - San Jose B HVDC Gen and TESLA-NEWARK #2 230KV	P3	< 100	109	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	53	Diverge	36	62	40	43	82	63	Diverge	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	53	Diverge	38	61	38	40	80	62	Diverge	Install redundant battery/relay supply
	Pittsburg-EastShore 230 KV #1 and Pittsburg-EastShore 230 KV #2 lines	P7	68	93	67	70	39	55	30	36	40	29	75	44	101	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Pittsburg-San Mateo 230 KV and Pittsburg-East Shore 230 KV lines	P7	68	93	67	70	39	55	30	36	40	29	75	44	101	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	78	98	73	77	43	59	37	42	35	39	73	48	106	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	TESLA-METCALF 500KV and TESLA-NEWARK #2 230KV	P6	< 100	119	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
TESLA-METCALF 500KV	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	NA	NA	43	Diverge	NA	72	53	NA	89	81	Diverge	Install redundant battery/relay supply
TESLA-NEWARK #1 230KV	Metcalf - San Jose B HVDC Gen and TESLA-NEWARK #2 230KV	P3	< 100	106	< 100	Diverge	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	72	Diverge	93	87	33	76	70	91	Diverge	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	70	Diverge	94	86	32	73	70	90	Diverge	Install redundant battery/relay supply
	NEWARK E 230KV - SECTION 1E & 2E	P2	74	94	75	83	49	95	78	58	28	61	58	65	102	Sensitivity only
	Tesla - Newark No.2 and Metcalf - Los Esteros 230 KV lines	P7	77	95	80	87	51	99	85	61	28	66	57	68	102	Sensitivity only
TESLA-NEWARK #2 230KV	C.COSTAPP 230KV BUS 1&2(FAILURE OF NON-REDUNDANT RELAY)	P5	104	87	79	85	61	65	61	66	13	52	64	76	92	Install redundant battery/relay supply
	C.COSTAPPD 230KV - SECTION 1D & 2D	P2	101	85	77	82	60	63	59	63	13	50	62	73	90	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	C.COSTAPPE 230KV - SECTION 1E & 2E	P2	102	86	69	74	48	58	53	60	4	47	63	70	92	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Contra Costa - Las Positas 230 KV and Contra Costa-Lonetree 230 KV lines	P7	101	84	77	83	60	63	60	64	14	50	62	74	90	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Contra Costa - Las Positas 230 KV and Lonetree - Cayetano 230 KV lines	P7	100	84	77	83	60	63	60	64	15	50	63	74	90	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Diverge	Diverge	Diverge	Diverge	88	Diverge	71	102	15	64	85	111	Diverge	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Diverge	Diverge	Diverge	Diverge	87	Diverge	72	101	13	60	83	110	Diverge	Install redundant battery/relay supply
	NEWARK D SECTION 1D & NEWARK E SECTION 1E 230KV	P2	103	89	56	60	62	67	45	68	14	39	69	79	96	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	PITTSBURG PP 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	110	95	87	96	62	71	69	69	7	57	63	83	102	Install redundant battery/relay supply
	PITTSBURG PP 230KV (FAILURE OF NON-REDUNDANT RELAY)	P5	114	94	85	91	63	70	67	73	7	55	64	88	101	Install redundant battery/relay supply
	PITTSBURG-D SECTION 1D & PITTSBURG-E SECTION 1E 230KV	P2	106	92	81	88	62	67	62	66	11	51	66	80	98	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	PITTSBURG-E 230KV - SECTION 2E & 1E	P2	104	NA	NA	NA	57	NA	NA	68	NA	NA	58	82	NA	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	TESLA-METCALF 500KV	P1	102	NA	NA	NA	54	NA	NA	68	NA	NA	70	80	NA	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	Tesla-Newark No.1 and Tesla-Ravenswood 230 KV lines	P7	111	96	84	91	65	76	68	75	16	57	72	87	102	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
TRAN230B - MARTIN 230 KV	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	105	NA	NA	NA	115	NA	NA	160	NA	NA	124	146	NA	Install redundant battery/relay supply
TRIMBLE - MONTAGUE #1 115 KV	LOS ESTEROS-TRIMBLE 115KV and TRIMBLE-SAN JOSE B 115KV	P6	< 100	< 100	< 100	< 100	117	< 100	< 100	105	< 100	< 100	< 100	104	< 100	Project: LC24 Network Upgrade
TRIMBLE - SAN JOSE B #1 115 KV	LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units and FMC-SAN JOSE B 115KV	P3	< 100	< 100	< 100	< 100	108	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: LC24 Network Upgrade
	Los Esteros - Trimble & Los Esteros - Montague 115 KV	P7	144	NA	NA	NA	175	NA	NA	157	NA	NA	96	157	NA	Project: LC24 Network Upgrade
	Los Esteros - Trimble & Montague - Trimble 115 KV Line	P7	87	NA	NA	NA	142	NA	NA	131	NA	NA	68	131	NA	Project: LC24 Network Upgrade
	LOS ESTEROS 115KV BAAH BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	144	NA	NA	NA	175	NA	NA	157	NA	NA	96	158	NA	Install redundant battery/relay supply
	LOS ESTEROS 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	148	NA	NA	NA	177	NA	NA	159	NA	NA	97	160	NA	Install redundant battery/relay supply
	LOS ESTEROS-MONTAGUE 115KV and LOS ESTEROS-TRIMBLE 115KV	P6	144	< 100	< 100	< 100	176	< 100	< 100	152	< 100	< 100	< 100	150	< 100	Project: LC24 Network Upgrade
TRIMBLE 230/115KV TB 1	NRS-TRIMBLE #1 230KV and SANJOSEB230 230/115KV TB 1	P6	< 100	< 100	< 100	< 100	< 100	110	< 100	< 100	109	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
TRIMBLE 230/115KV TB 2	NRS-TRIMBLE #1 230KV and SANJOSEB230 230/115KV TB 1	P6	< 100	< 100	< 100	< 100	< 100	110	< 100	< 100	109	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
TRIMBLE-SAN JOSE B 115KV	FMC-SAN JOSE B 115KV and TRIMBLE-SANJOSEB230 #1 230KV	P6	< 100	< 100	< 100	< 100	< 100	156	< 100	< 100	166	< 100	< 100	< 100	133	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units and TRIMBLE-SANJOSEB230 #1 230KV	P3	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	109	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and SANJOSEB230 230/115KV TB 1	P3	< 100	< 100	< 100	< 100	< 100	106	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion

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			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
TRIMBLE-SANJOSEB230 #1 230KV	SANJOSEB 115KV - Middle Breaker Bay 6	P2	NA	48	NA	NA	NA	102	NA	NA	99	NA	NA	NA	55	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	SANJOSEB230 230/115KV TB 1	P1	NA	48	NA	NA	NA	102	NA	NA	99	NA	NA	NA	55	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
	SANJOSEB230 230/115KV TB 1 and SANJOSEB230 230/115KV TB 6	P6	< 100	< 100	107	< 100	< 100	< 100	100	< 100	< 100	< 100	< 100	< 100	< 100	Continue to monitor
VASONA-METCALF 230KV	HICKS-METCALF 230KV	P1	NA	NA	99	104	NA	NA	91	NA	NA	72	NA	NA	NA	Potential flow control or capacity increase project
	Metcalf - San Jose B HVDC Gen and HICKS-METCALF 230KV	P3	< 100	< 100	109	113	< 100	< 100	100	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	METCALF2D - 2D 230KV & METCALF2D-METCALF1D line	P2	72	77	109	114	49	68	98	49	8	78	41	46	81	Potential flow control or capacity increase project
	METCALF2D 230KV - Section 2D & 2E	P2	74	79	114	120	50	70	103	50	8	83	42	48	83	Potential flow control or capacity increase project
	METCALF2D 230KV Section 2D	P2	NA	79	114	120	NA	70	103	NA	8	83	NA	NA	83	Potential flow control or capacity increase project
	METCALF2D Section 2D & METCALF2E Section 2E 230KV	P2	NA	NA	115	120	NA	NA	104	NA	NA	84	NA	NA	NA	Potential flow control or capacity increase project
	METCALFF 230KV - Middle Breaker Bay 4	P2	NA	NA	99	105	NA	NA	93	NA	NA	81	NA	NA	NA	Potential flow control or capacity increase project
	Metcalf-Monta Vista No. 3 & Monta Vista-Coyote Sw. Sta. 230 KV Line	P7	88	95	114	120	61	85	106	61	12	80	51	57	99	Potential flow control or capacity increase project
	MONTA VISTA-COYOTE SW STA 230KV and HICKS-METCALF 230KV	P6	< 100	< 100	120	< 100	< 100	< 100	113	< 100	< 100	< 100	< 100	< 100	< 100	Potential flow control or capacity increase project
	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	64	73	Diverge	Diverge	46	Diverge	Diverge	53	19	Diverge	45	47	Diverge	Install redundant battery/relay supply
WHISMAN-MONTA VISTA 115KV	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	102	64	44	45	67	63	51	65	17	46	46	63	75	Install redundant battery/relay supply
	MNTA VSA 115KV - Middle Breaker Bay 2	P2	106	83	54	57	67	76	61	66	19	56	51	65	92	Project: South Bay Reinforcement
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	103	81	44	45	69	76	51	66	13	46	48	65	92	Install redundant battery/relay supply
	NEWARK 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Diverge	Diverge	Diverge	Diverge	80	Diverge	56	81	4	49	74	83	Diverge	Install redundant battery/relay supply
	NEWARK D 230KV - SECTION 1D & 2D	P2	91	102	56	59	61	103	66	63	7	58	51	63	Diverge	Project: South Bay Reinforcement
	Newark-Ravenswood 230 KV and Tesla-Ravenswood 230 KV lines	P7	89	94	47	49	60	80	57	66	5	60	50	66	102	Sensitivity only
	RAVENSWOOD 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	105	103	55	57	66	Diverge	59	67	20	59	62	68	115	Install redundant battery/relay supply
	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and MTN VIEW-MONTA VISTA 115KV	P3	107	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Project: South Bay Reinforcement
	RVNSWD E SECTION 1E & RVNSWD D SECTION 1D 115KV	P2	99	96	49	52	62	86	52	57	19	48	59	58	106	Sensitivity only
X-Y #1 115KV	POTRERO D 115KV - MIDDLE BREAKER BAY 2	P2	NA	88	127	102	NA	84	68	NA	68	65	NA	NA	90	Continue to monitor
	P-X #1 115KV and A-X #1 115KV	P6	< 100	< 100	< 100	< 100	< 100	126	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Potential line re-rate

Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)										Voltage PU (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
ALHAMBRA 115.0 kV	SOBRANTE 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	NA	NA	0.92	0.88	NA	NA	0.97	NA	NA	1.02	NA	NA	NA	Install redundant battery/relay supply
ALMADEN 60.0 kV	Metcalf - San Jose B HVDC Gen and MONTA VISTA-LOS GATOS 60KV	P3	G-1/N-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.80	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	SAN JOSE B-STONE-EVERGREEN 115KV and EVRGRN 1-METCALFE #2 115KV	P6	N-1-1	0.87	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Project: LC24 Network Upgrades
ALMADEN 60.0 kV	Metcalf - San Jose B HVDC Gen	P1	N-1	0.91	0.92	0.90	0.90	0.96	0.91	0.98	0.99	1.02	1.02	0.97	0.99	0.89	Continue to monitor
	METCALF-SJB MONOPOLE	P1	N-1	0.91	0.92	0.89	0.90	0.96	0.91	0.98	0.98	1.01	1.02	0.97	0.98	0.88	Continue to monitor
	METCALFE 115KV - Section 2E & 1E	P2	Breaker	NA	NA	0.88	0.89	NA	NA	0.96	NA	NA	1.00	NA	NA	NA	Continue to monitor
	NEWARK D 230KV - SECTION 1D & 2D	P2	Breaker	0.93	0.93	0.90	0.90	0.97	0.91	0.99	0.98	1.02	1.02	0.97	0.98	Diverge	Continue to monitor
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.93	0.92	0.88	0.87	0.97	0.89	0.99	0.98	1.02	1.02	0.97	0.98	Diverge	Continue to monitor
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	0.90	0.89	0.87	0.88	0.95	0.89	0.96	0.96	0.99	1.00	0.94	0.96	0.87	Install redundant battery/relay supply
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	Diverge	Diverge	0.88	Diverge	0.95	0.90	0.97	1.00	0.92	0.91	Diverge	Install redundant battery/relay supply
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	0.89	0.89	0.87	0.88	0.93	0.90	0.96	0.95	0.99	1.00	0.93	0.95	0.88	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	Diverge	Diverge	0.88	Diverge	0.97	0.91	0.97	1.02	0.92	0.92	Diverge	Install redundant battery/relay supply
APP MAT 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.88	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
APP MAT 115.0 kV	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	0.89	0.91	0.90	0.91	0.96	0.89	0.99	0.97	0.98	1.01	0.96	0.97	0.89	Install redundant battery/relay supply
BAIR 60.0 kV	CLY LND 115/60KV TB 2 and CLY LND 115/60KV TB 1	P6	N-1-1	> 0.9	> 0.9	0.74	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.93	Continue to monitor
BAIR 115.0 kV	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.75	0.77	0.96	0.95	0.82	0.74	0.99	0.84	0.89	1.00	0.81	0.84	0.75	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.71	0.71	0.97	0.97	0.81	Diverge	0.98	0.84	0.89	1.00	0.79	0.83	Diverge	Install redundant battery/relay supply
BAIR 60.0 kV	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.57	0.54	0.96	0.96	0.67	0.55	1.00	0.71	0.77	1.01	0.64	0.71	0.53	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.53	0.51	0.96	0.96	0.66	Diverge	1.00	0.71	0.77	1.01	0.62	0.70	Diverge	Install redundant battery/relay supply
BAY MDWS 115.0 kV	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.97	0.98	0.89	0.90	1.02	0.98	0.99	1.02	1.02	1.02	1.01	1.02	0.96	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.97	0.98	0.89	0.90	1.02	0.98	0.99	1.02	1.02	1.02	1.01	1.02	0.96	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.97	0.98	0.89	0.90	1.02	0.98	0.99	1.02	1.02	1.02	1.01	1.02	0.96	Continue to monitor
BAYSHOR1 115.0 kV	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.97	0.99	0.89	0.91	1.03	0.99	0.99	1.03	1.03	1.03	1.01	1.02	0.97	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.97	0.98	0.87	0.88	1.03	0.99	0.99	1.03	1.03	1.03	1.01	1.03	0.96	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.97	0.98	0.87	0.88	1.03	0.99	0.99	1.03	1.03	1.03	1.01	1.03	0.96	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.97	0.98	0.87	0.88	1.03	0.99	0.99	1.03	1.03	1.03	1.01	1.03	0.96	Continue to monitor
BELMONT 115.0 kV	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.81	0.84	0.97	0.96	0.87	0.80	0.99	0.89	0.93	1.01	0.86	0.89	0.82	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.76	0.78	0.99	0.98	0.86	Diverge	0.99	0.88	0.93	1.01	0.84	0.88	Diverge	Install redundant battery/relay supply
BRITTN 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.88	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
BRITTN 115.0 kV	MONTAVIS 230KV - Section 1E & 2E	P2	Breaker	0.90	NA	NA	NA	0.96	NA	NA	0.98	NA	NA	0.96	0.98	NA	Project: Monta Vista 230 kV Bus Upgrade
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	0.89	0.91	0.90	0.90	0.96	0.89	0.99	0.97	0.98	1.01	0.95	0.97	0.89	Install redundant battery/relay supply
BURLNGME 115.0 kV	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.98	0.99	0.89	0.91	1.02	0.99	1.00	1.02	1.03	1.03	1.01	1.02	0.97	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.98	0.99	0.89	0.91	1.02	0.99	1.00	1.02	1.03	1.03	1.01	1.02	0.97	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.98	0.99	0.89	0.91	1.02	0.99	1.00	1.02	1.03	1.03	1.01	1.02	0.97	Continue to monitor
CAL MEC 230.0 kV	MEC CTG1 18.00KV & MEC CTG2 18.00KV & MEC STG1 18.00KV Gen Units and METCALF-SJB MONOPOLE	P3	G-1/N-1	> 0.9	> 0.9	> 0.9	0.89	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
CHRISTIE 115.0 kV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.94	1.00	0.99	0.99	1.00	0.86	1.03	0.99	1.02	1.04	1.01	0.99	0.99	Install redundant battery/relay supply
	SOBRANTE 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.84	0.97	0.86	0.80	0.94	0.92	0.95	0.96	1.02	1.03	0.98	0.96	0.96	Install redundant battery/relay supply
CHRISTIE 60.0 kV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.97	1.02	1.01	1.02	1.02	0.88	1.03	1.02	1.02	1.03	1.02	1.02	1.02	Install redundant battery/relay supply
	SOBRANTE 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.86	0.99	0.88	0.81	0.97	0.94	0.97	0.98	1.02	1.02	1.00	0.98	0.98	Install redundant battery/relay supply
CLARMNT 115.0 kV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.89	0.96	0.98	0.99	0.99	0.71	1.03	0.97	1.00	1.04	0.98	0.96	0.94	Install redundant battery/relay supply
CLAYTN 115.0 kV	PITTSBURG-D 230KV - SECTION 2D & 1D	P2	Breaker	0.98	1.01	0.98	0.98	1.00	1.00	1.01	0.89	1.02	1.04	0.99	0.89	1.00	Continue to monitor
	PITTSBURG-D 230KV (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.97	1.01	0.98	0.98	1.00	1.00	1.01	0.87	1.02	1.04	0.99	0.86	1.00	Install redundant battery/relay supply
CLY LND 115.0 kV	RVNSWD E SECTION 1E & RVNSWD D SECTION 1D 115KV	P2	Breaker	0.86	0.87	0.93	0.93	0.91	0.88	0.99	0.94	0.97	1.00	0.90	0.93	0.86	Project: Ames Distribution - Palo Alto 115 kV Transmission Line
	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.36	0.32	0.90	0.90	0.46	0.33	0.97	0.52	0.56	0.99	0.42	0.52	0.31	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.34	0.30	0.89	0.89	0.46	Diverge	0.96	0.52	0.56	0.98	0.41	0.51	Diverge	Install redundant battery/relay supply
CLY LNDG 60.0 kV	CLY LND 115/60KV TB 2 and CLY LND 115/60KV TB 1	P6	N-1-1	> 0.9	0.86	0.63	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.87	Operating solution. Voltage Regulation
CLY LNDG 60.0 kV	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.42	0.38	0.99	0.98	0.54	0.39	1.01	0.60	0.65	1.01	0.50	0.60	0.37	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.40	0.36	0.98	0.98	0.53	Diverge	1.02	0.59	0.65	1.01	0.48	0.59	Diverge	Install redundant battery/relay supply
DIXON LD 115.0 kV	Metcalf - San Jose B HVDC Gen and NEWARK-DIXON LANDING 115KV	P3	G-1/N-1	0.80	> 0.9	0.83	0.86	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	NEWARK-DIXON LANDING 115KV and SANJOSEB230 230/115KV TB 1	P6	N-1-1	0.80	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
DIXON LD 115.0 kV	NEWARK-DIXON LANDING 115KV	P1	N-1	0.83	0.94	0.89	0.92	0.93	0.93	0.98	0.96	1.00	1.02	0.93	0.96	0.93	Continue to monitor
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.94	0.95	0.90	0.89	0.99	0.91	0.99	1.00	1.01	1.02	0.98	1.00	Diverge	Continue to monitor
	NEWARK E SECTION 2E & NEWARK F SECTION 2F 115KV	P2	Breaker	0.83	0.94	0.89	0.92	0.93	0.93	0.98	0.95	1.00	1.02	0.93	0.96	0.93	Continue to monitor
	NEWARK F - 2F 115KV & NEWARK F-COMPONENT_SW LINE	P2	Breaker	0.83	0.94	NA	NA	0.93	0.93	NA	0.95	1.00	NA	0.93	0.96	0.93	Project: LC24 Network Upgrades
	NEWARK F - 2F 115KV & NEWARK F-LOCKHD 2-APP MAT LINE	P2	Breaker	0.83	NA	NA	NA	0.93	NA	NA	0.95	NA	NA	0.93	0.96	NA	Project: LC24 Network Upgrades
	NEWARK F - 2F 115KV & NEWARK-APPLIED MATERIALS LINE	P2	Breaker	NA	0.94	0.89	0.91	NA	0.93	0.98	NA	1.00	1.02	NA	NA	0.93	Continue to monitor
	NEWARK F - 2F 115KV & NEWARK-NUMMI LINE	P2	Breaker	0.83	0.94	0.89	0.91	0.93	0.93	0.98	0.95	1.00	1.02	0.93	0.96	0.93	Continue to monitor
	NEWARK F - 2F 115KV & NEWARK-TRIMBLE LINE	P2	Breaker	NA	NA	0.89	0.91	NA	NA	0.98	NA	NA	1.02	NA	NA	NA	Continue to monitor

Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)										Voltage PU (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
	NEWARK F 115KV SECTION 2F	P2	Bus	0.83	0.94	0.89	0.91	0.93	0.93	0.98	0.95	1.00	1.02	0.93	0.96	0.93	Continue to monitor
	Newark 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.80	0.93	0.87	0.89	0.92	0.92	0.98	0.95	1.00	1.02	0.92	0.95	0.92	Install redundant battery/relay supply
	NEWARK E&F 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.78	0.92	0.89	0.91	0.91	0.91	0.98	0.94	0.99	1.02	0.91	0.94	0.91	Install redundant battery/relay supply
	Newark - Dixon Landing & Newark - Milpitas #1 115 KV Lines	P7	DCTL	0.83	0.94	0.89	0.91	0.93	0.93	0.98	0.95	1.00	1.02	0.93	0.96	0.93	Continue to monitor
	Newark-Dixon Landing 115 KV and Newark-Milpitas No. 1 115 KV lines	P7	DCTL	0.83	0.94	0.89	0.91	0.93	0.93	0.98	0.95	1.00	1.02	0.93	0.96	0.93	Continue to monitor
DUMBARTN 115.0 kV	E. SHORE 230/115KV TB 2 and E. SHORE 230/115KV TB 1	P6	N-1-1	0.85	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
DUMBARTN 115.0 kV	EASTSHORE 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.84	1.02	0.99	0.99	0.92	0.99	1.02	0.94	1.04	1.05	0.93	0.94	0.96	Install redundant battery/relay supply
E. SHORE 230.0 kV	RUSCTYECST1 18.00KV & RUSCTYECCT2 15.00KV & RUSCTYECCT1 15.00KV GEN UNITS and EASTSHORE-SAN MATEO 230KV	P3	G-1/N-1	0.84	> 0.9	> 0.9	> 0.9	0.88	> 0.9	> 0.9	0.90	> 0.9	> 0.9	0.91	> 0.9	> 0.9	Continue to monitor
	EASTSHORE-SAN MATEO 230KV and PITTSBURG-EASTSHORE 230KV	P6	N-1-1	0.82	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.88	> 0.9	Continue to monitor
E. SHORE 230.0 kV	EASTSHORE-SAN MATEO 230KV	P1	N-1	0.97	1.00	0.99	0.99	0.99	1.00	1.00	0.99	1.02	1.01	0.99	0.88	0.99	Continue to monitor
	E. SHORE 230KV - MIDDLE BREAKER BAY 2	P2	Breaker	0.97	1.00	0.99	0.99	0.99	1.00	1.00	0.99	1.02	1.01	0.98	0.89	0.99	Continue to monitor
	SANMATEO 230KV - SECTION 2D & 1D	P2	Breaker	0.97	NA	NA	NA	0.99	NA	NA	0.99	NA	NA	0.99	0.88	NA	Continue to monitor
	SANMATEO 230KV - SECTION 2D & 2E	P2	Breaker	0.97	NA	NA	NA	0.99	NA	NA	0.99	NA	NA	0.99	0.88	NA	Continue to monitor
	SANMATEO 230KV SECTION 2D	P2	Bus	0.97	1.00	0.99	0.99	0.99	1.00	1.00	0.99	1.02	1.01	0.99	0.88	0.99	Continue to monitor
	SAN MATEO 230-115-60KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.97	0.99	Diverge	Diverge	0.99	Diverge	Diverge	0.99	1.00	Diverge	0.99	0.88	Diverge	Install redundant battery/relay supply
	Eastshore-San Mateo 230 KV #1 and Eastshore-San Mateo 230 KV #2	P7	DCTL	0.97	0.99	0.98	0.99	0.99	0.99	0.99	0.99	1.00	1.01	0.99	0.88	0.98	Continue to monitor
	Eastshore-San Mateo 230 KV and Pittsburg-San Mateo 230 KV lines	P7	DCTL	0.97	0.99	0.98	0.99	0.99	0.99	0.99	0.99	1.00	1.01	0.99	0.88	0.98	Continue to monitor
EASTSHRE 115.0 kV	E. SHORE 230/115KV TB 2 and E. SHORE 230/115KV TB 1	P6	N-1-1	0.84	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
EASTSHRE 115.0 kV	EASTSHORE 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.83	1.02	1.00	1.00	0.91	0.97	1.02	0.94	1.04	1.04	0.93	0.94	0.96	Install redundant battery/relay supply
EDENVALE 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.88	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
EDENVALE 115.0 kV	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	Diverge	Diverge	0.88	Diverge	0.94	0.90	0.95	0.99	0.94	0.91	Diverge	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	Diverge	Diverge	0.88	Diverge	0.98	0.90	0.95	1.02	0.94	0.92	Diverge	Install redundant battery/relay supply
EDES 115.0 kV	CRCKTCOG 18.00KV GEN UNIT 1 and MORAGA-SAN LEANDRO #3 115KV	P3	G-1/N-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.82	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	LS PSTAS 230/60KV TB 4 and MORAGA-SAN LEANDRO #3 115KV	P6	N-1-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.80	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
EDES 115.0 kV	MORAGA-SAN LEANDRO #1 115KV	P1	N-1	1.03	1.02	0.98	0.98	0.99	0.83	1.02	1.01	1.02	1.04	1.04	1.00	1.02	Continue to monitor
	MORAGA-SAN LEANDRO #2 115KV	P1	N-1	1.03	1.02	0.98	0.98	0.99	0.83	1.02	1.01	1.02	1.04	1.04	1.00	1.02	Continue to monitor
	MORAGA-SAN LEANDRO #3 115KV	P1	N-1	1.03	1.02	NA	NA	0.99	0.83	NA	1.00	1.01	NA	1.04	1.00	1.02	Continue to monitor
	SAN LEANDRO-OAKLND J #1 115KV	P1	N-1	1.03	1.02	NA	NA	0.96	0.83	NA	0.98	0.99	NA	1.04	0.98	1.02	Continue to monitor
	MORAGA.D SECTION 1D & MORAGA.E SECTION 1E 115KV	P2	Breaker	1.03	1.02	0.96	0.96	0.96	0.82	1.01	0.98	1.00	1.04	1.04	0.98	1.02	Continue to monitor
	MORAGA.E 115KV - SECTION 1E & 2E	P2	Breaker	1.03	1.02	0.86	0.85	NA	NA	0.97	NA	NA	1.03	1.04	NA	1.02	Continue to monitor
	MORAGA.E 115KV SECTION 1E	P2	Bus	1.03	1.02	0.96	0.96	0.96	0.82	1.01	0.98	1.00	1.04	1.04	0.98	1.02	Continue to monitor
	SN LNDRO 115KV - SECTION MD & ME	P2	Breaker	1.03	1.02	0.97	0.98	0.97	0.84	1.01	0.99	0.99	1.03	1.04	0.99	1.02	Continue to monitor
	SN LNDRO 115KV SECTION MD	P2	Bus	1.03	1.02	0.97	0.98	0.97	0.84	1.01	0.99	0.99	1.03	1.04	0.99	1.02	Continue to monitor
	SN LNDRO 115KV SECTION ME	P2	Bus	1.03	1.02	0.96	0.98	0.96	0.83	1.01	0.98	1.00	1.04	1.04	0.98	1.02	Continue to monitor
	EASTSHORE 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.82	1.01	0.98	0.98	1.00	0.95	1.01	1.01	1.02	1.04	0.92	1.00	0.94	Install redundant battery/relay supply
	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	1.03	1.02	0.94	0.96	0.94	0.41	0.99	0.92	0.97	1.03	1.04	0.92	1.01	Install redundant battery/relay supply
	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	1.03	1.02	0.96	0.97	0.98	0.86	1.01	0.98	1.00	1.04	1.04	0.98	1.01	Install redundant battery/relay supply
	SAN LEANDRO (OAK U) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	1.03	1.02	0.91	0.92	0.97	0.84	0.97	0.99	0.99	1.01	1.04	0.99	1.02	Install redundant battery/relay supply
	Moraga-San Leandro Nos. 1 & 2 115 KV lines	P7	DCTL	1.03	1.02	0.97	0.97	0.96	0.83	1.02	0.99	1.00	1.04	1.04	0.99	1.02	Continue to monitor
EGBERTSWSTA 230.0 kV	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	NA	0.98	0.89	0.91	NA	0.98	0.98	NA	1.01	1.01	NA	NA	0.97	Continue to monitor
EGBERTSWSTA 230.0 kV	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	NA	0.97	0.87	0.88	NA	0.97	0.97	NA	1.01	1.01	NA	NA	0.95	Continue to monitor
EGBERTSWSTA 230.0 kV	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	NA	0.97	0.87	0.88	NA	0.97	0.97	NA	1.01	1.01	NA	NA	0.95	Continue to monitor
EGBERTSWSTA 230.0 kV	POTRERO E 115KV SECTION 2E	P2	Bus	NA	0.97	0.87	0.88	NA	0.97	0.97	NA	1.01	1.01	NA	NA	0.95	Continue to monitor
EL CRRTO 115.0 kV	SOBRANTE-G #2 115KV and SOBRANTE-G #1 115KV	P6	N-1-1	> 0.9	> 0.9	0.89	0.88	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
EL CRRTO 115.0 kV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.94	1.00	0.98	0.99	1.01	0.84	1.03	0.99	1.02	1.04	1.00	0.99	0.99	Install redundant battery/relay supply
EL CRRTO 115.0 kV	SOBRANTE 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.80	0.94	0.78	0.70	0.93	0.86	0.91	0.94	0.99	1.01	0.95	0.94	0.93	Install redundant battery/relay supply
EL CRRTO 115.0 kV	Sobrante-G Nos. 1 & 2 115 KV lines	P7	DCTL	0.92	0.98	0.90	0.89	0.98	0.92	0.97	0.98	1.00	1.02	0.98	0.98	0.97	Continue to monitor
EL PATIO 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.85	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
EL PATIO 115.0 kV	SAN JOSE A-SAN JOSE B 115KV and SN JSE A-SANJOSEB #2 115KV	P6	N-1-1	> 0.9	> 0.9	0.87	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
EL PATIO 115.0 kV	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.97	0.96	0.90	0.89	0.99	0.92	1.00	1.00	1.02	1.02	0.99	1.00	Diverge	Continue to monitor
EL PATIO 115.0 kV	SANJOSEB 115KV - Middle Breaker Bay 4	P2	Breaker	NA	NA	0.87	0.87	NA	NA	0.95	NA	NA	1.00	NA	NA	NA	Continue to monitor
	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.96	0.99	0.89	0.91	1.02	0.98	0.98	1.02	1.01	1.01	1.00	1.01	0.97	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.95	0.97	0.86	0.87	1.01	0.97	0.97	1.00	1.01	1.01	0.99	1.00	0.95	Continue to monitor

Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)										Voltage PU (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
EMBRCDRD 230.0 kV	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.95	0.97	0.86	0.87	1.01	0.97	0.97	1.00	1.01	1.01	0.99	1.00	0.95	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.95	0.97	0.86	0.87	1.01	0.97	0.97	1.00	1.01	1.01	0.99	1.00	0.95	Continue to monitor
	MARTIN 230 KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.89	1.01	0.99	0.98	0.96	0.96	0.97	0.97	0.99	1.00	0.94	0.97	1.01	Install redundant battery/relay supply
EST GRND 115.0 kV	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.96	0.97	0.88	0.89	1.01	0.97	0.98	1.02	1.02	1.02	1.00	1.01	0.95	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.96	0.97	0.86	0.87	1.02	0.97	0.98	1.01	1.02	1.02	1.00	1.02	0.95	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.96	0.97	0.86	0.87	1.02	0.97	0.98	1.01	1.02	1.02	1.00	1.02	0.95	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.96	0.97	0.86	0.87	1.02	0.97	0.98	1.01	1.02	1.02	1.00	1.02	0.95	Continue to monitor
	MARTIN 115KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.94	0.93	0.94	0.90	0.98	0.95	0.98	0.99	0.98	0.98	0.97	0.99	0.93	Install redundant battery/relay supply
EVERGREN 60.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.86	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	SANJOSEB230 230/115KV TB 1 and TRIMBLE SANJOSEB230 #1 230KV	P6	N-1-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.90	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
EVERGREN 60.0 kV	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.96	0.95	0.91	0.90	0.99	0.92	1.01	1.00	1.02	1.03	0.99	1.00	Diverge	Continue to monitor
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	0.93	0.92	0.89	0.90	0.97	0.92	0.98	0.98	1.00	1.01	0.96	0.98	0.90	Install redundant battery/relay supply
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	0.92	0.92	0.89	0.91	0.95	0.93	0.98	0.97	1.00	1.01	0.95	0.97	0.91	Install redundant battery/relay supply
EVRGRN 1 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.85	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
EVRGRN 1 115.0 kV	METCALFE 115KV - Section 2E & 1E	P2	Breaker	NA	NA	0.90	0.91	NA	NA	0.97	NA	NA	1.00	NA	NA	NA	Continue to monitor
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.96	0.95	0.90	0.89	0.99	0.92	1.00	1.00	1.02	1.02	0.99	1.00	Diverge	Continue to monitor
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	0.94	0.93	0.89	0.90	0.97	0.92	0.97	0.98	0.99	1.00	0.97	0.98	0.91	Install redundant battery/relay supply
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	0.93	0.93	0.89	0.90	0.96	0.93	0.97	0.97	0.99	1.00	0.95	0.96	0.92	Install redundant battery/relay supply
FMC 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.86	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
FMC 115.0 kV	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.97	0.96	0.90	0.89	0.99	0.92	0.99	1.00	1.02	1.02	0.99	1.00	Diverge	Continue to monitor
GLENWOOD 60.0 kV	CLY LND 115/60KV TB 2 and CLY LND 115/60KV TB 1	P6	N-1-1	> 0.9	0.84	0.58	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.85	Operating solution. Voltage Regulation
GLENWOOD 60.0 kV	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.40	0.37	0.96	0.95	0.52	0.37	1.00	0.58	0.64	1.01	0.48	0.58	0.35	Install redundant battery/relay supply
	RAVENSWOOD 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.38	0.34	0.95	0.95	0.52	Diverge	1.01	0.58	0.64	1.01	0.47	0.57	Diverge	Install redundant battery/relay supply
GRANT 115.0 kV	E. SHORE 230/115KV TB 2 and E. SHORE 230/115KV TB 1	P6	N-1-1	0.83	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
GRANT 115.0 kV	EASTSHORE 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.82	1.02	0.99	1.00	0.91	0.97	1.01	0.93	1.04	1.04	0.92	0.93	0.95	Install redundant battery/relay supply
HICKS 230.0 kV	Metcalf - San Jose B HVDC Gen and HICKS-METCALF 230KV	P3	G-1/N-1	> 0.9	> 0.9	0.86	0.87	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	JEFFERSN-EGBERTSWSTA 230KV and HICKS-METCALF 230KV	P6	N-1-1	> 0.9	> 0.9	0.89	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
HICKS 230.0 kV	Metcalf - Hicks & Metcalf - Vasona 230 KV Lines	P7	DCTL	0.99	1.00	0.90	0.93	1.02	0.97	1.00	1.02	1.03	1.04	1.00	1.02	0.99	Continue to monitor
HLF MNBY 60.0 kV	Metcalf - San Jose B HVDC Gen and SAN MATEO-HILLSDALE JCT 60KV	P3	G-1/N-1	> 0.9	> 0.9	> 0.9	0.89	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	JEFFRSN_D 60/230KV TB 1 and JEFFERSN 230/60KV TB 2	P6	N-1-1	> 0.9	> 0.9	0.87	> 0.9	> 0.9	> 0.9	0.74	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
HLF MNBY 60.0 kV	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.99	1.02	0.89	0.89	1.03	0.98	1.01	1.03	1.05	1.05	1.03	1.02	1.00	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.99	1.02	0.89	0.89	1.03	0.98	1.01	1.03	1.05	1.05	1.03	1.02	1.00	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.99	1.02	0.89	0.89	1.03	0.98	1.01	1.03	1.05	1.05	1.03	1.02	1.00	Continue to monitor
	JEFFERSON 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.78	0.80	0.86	0.77	0.84	0.76	0.74	0.88	0.97	1.02	0.90	0.88	0.78	Install redundant battery/relay supply
HNTRS PT 115.0 kV	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.97	0.98	0.88	0.90	1.02	0.98	0.99	1.03	1.03	1.03	1.01	1.02	0.96	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.97	0.98	0.87	0.88	1.03	0.99	0.99	1.02	1.03	1.03	1.01	1.03	0.96	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.97	0.98	0.87	0.88	1.03	0.99	0.99	1.02	1.03	1.03	1.01	1.03	0.96	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.97	0.98	0.87	0.88	1.03	0.99	0.99	1.02	1.03	1.03	1.01	1.03	0.96	Continue to monitor
HUMBOLDT 115.0 kV	Q1349SPV 0.63KV GEN UNIT 1 and OLINDA-TRACY 500KV	P3	G-1/N-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.80	> 0.9	> 0.9	Continue to monitor
HUMBOLDT 60.0 kV	Q1349SPV 0.63KV GEN UNIT 1 and OLINDA-TRACY 500KV	P3	G-1/N-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.85	> 0.9	> 0.9	Continue to monitor
JARVIS 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.88	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
JEFFERSN 230.0 kV	Metcalf - San Jose B HVDC Gen and JEFFERSN-EGBERTSWSTA 230KV	P3	G-1/N-1	> 0.9	> 0.9	0.88	0.89	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	JEFFERSN-EGBERTSWSTA 230KV and POTRERO E-TBC_POT1 #1 115KV	P6	N-1-1	> 0.9	> 0.9	0.90	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
JEFFERSN 230.0 kV	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.99	1.00	0.90	0.92	1.02	0.98	1.00	1.02	1.03	1.02	1.02	1.01	0.98	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.98	1.00	0.88	0.89	1.02	0.98	1.00	1.02	1.03	1.02	1.02	1.01	0.97	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.98	1.00	0.88	0.89	1.02	0.98	1.00	1.02	1.03	1.02	1.02	1.01	0.97	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.98	1.00	0.88	0.89	1.02	0.98	1.00	1.02	1.03	1.02	1.02	1.01	0.97	Continue to monitor
JEFRSN_D 60.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.89	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	JEFFERSN 230/60KV TB 2 and JEFFERSN 230/60KV TB 1	P6	N-1-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.59	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
JEFRSN_D 60.0 kV	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.98	1.00	0.90	0.92	1.02	0.98	1.01	1.02	1.02	1.03	1.02	1.01	0.98	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.98	1.00	0.88	0.89	1.02	0.97	1.00	1.02	1.02	1.03	1.01	1.01	0.97	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.98	1.00	0.88	0.89	1.02	0.97	1.00	1.02	1.02	1.03	1.01	1.01	0.97	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.98	1.00	0.88	0.89	1.02	0.97	1.00	1.02	1.02	1.03	1.01	1.01	0.97	Continue to monitor
	JEFFERSON 230 KV BAAH BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.60	0.60	0.77	0.65	0.67	0.59	0.61	0.74	0.87	0.99	0.77	0.73	0.59	Install redundant battery/relay supply
KIRKER 115.0 kV	PITTSBURG-D 230KV - SECTION 2D & 1D	P2	Breaker	0.99	1.01	0.99	0.99	1.01	1.01	1.01	0.89	1.03	1.04	1.00	0.89	1.01	Continue to monitor
	PITTSBURG PP 230KV (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.98	1.02	0.99	0.99	1.00	1.01	1.01	0.87	1.03	1.04	1.00	0.86	1.01	Install redundant battery/relay supply

Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)										Voltage PU (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
LAKEWD-C 115.0 kV	PITTSBURG-D 230KV - SECTION 2D & 1D	P2	Breaker	0.97	1.00	0.96	0.97	0.99	0.99	1.00	0.89	1.01	1.03	0.98	0.89	0.99	Continue to monitor
	PITTSBURG PP 230KV (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.96	0.99	0.96	0.96	0.99	0.98	1.00	0.87	1.01	1.03	0.98	0.86	0.99	Install redundant battery/relay supply
LARKIN D 115.0 kV	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.96	0.97	0.88	0.89	1.02	0.98	0.99	1.03	1.03	1.02	1.01	1.02	0.95	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.97	0.98	0.87	0.88	1.03	0.98	0.99	1.02	1.03	1.03	1.01	1.03	0.96	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.97	0.98	0.87	0.88	1.03	0.98	0.99	1.02	1.03	1.03	1.01	1.03	0.96	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.97	0.98	0.87	0.88	1.03	0.98	0.99	1.02	1.03	1.03	1.01	1.03	0.96	Continue to monitor
	POTRERO (SF A) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.85	0.87	0.73	0.72	0.96	0.87	0.91	0.98	0.98	0.99	0.91	0.97	0.84	Install redundant battery/relay supply
	POTRERO 115KV (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.93	0.95	0.88	0.88	1.00	0.96	0.97	1.00	1.00	1.02	0.97	1.00	0.94	Install redundant battery/relay supply
LAWRENCE 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.88	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	LAWRENCE-MONTA VISTA 115KV and NEWARK E 230/115KV TB 11	P6	N-1-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.88	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
LAWRENCE 115.0 kV	MONTA VISTA 115KV BAAH (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	0.94	0.91	0.95	0.95	0.98	0.90	1.00	0.99	0.98	1.02	0.98	0.99	0.89	Install redundant battery/relay supply
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	0.93	0.90	0.92	0.92	0.98	0.88	1.00	0.99	0.97	1.01	0.98	0.99	0.87	Install redundant battery/relay supply
LIVERMRE 60.0 kV	FRICKWIND 0.69KV GEN UNIT 1 and LS PSTAS 230/60KV TB 4	P3	G-1/N-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.87	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	SANRAMON 230/60KV TB 1 and LS PSTAS 230/60KV TB 4	P6	N-1-1	0.83	0.87	0.58	0.57	> 0.9	> 0.9	0.40	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.89	Operating solution. Voltage Regulation
LIVERMRE 60.0 kV	LS PSTAS 230/60KV TB 4	P1	N-1	0.96	0.98	0.92	0.92	1.00	0.94	0.89	1.01	1.01	0.99	0.99	1.01	0.97	Continue to monitor
	LS PSTAS 230KV - SECTION 1F & 1G	P2	Breaker	0.96	0.98	0.91	0.92	1.00	0.94	0.88	1.01	1.01	0.99	0.99	1.01	0.97	Continue to monitor
	LS PSTAS 230KV SECTION 1G	P2	Bus	0.96	0.98	0.92	0.92	1.00	0.94	0.89	1.01	1.01	0.99	0.99	1.01	0.97	Continue to monitor
LLAGAS 115.0 kV	GROYPKR2 13.80KV Gen Unit 1 and METCALF-MORGAN HILL 115KV	P3	G-1/N-1	> 0.9	> 0.9	> 0.9	> 0.9	0.83	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	METCALF-MORGAN HILL 115KV and LLAGAS-GILROY F-GILROYENG-GILROYPK	P6	N-1-1	0.70	> 0.9	> 0.9	> 0.9	0.83	> 0.9	> 0.9	0.88	> 0.9	> 0.9	> 0.9	0.92	> 0.9	Continue to monitor
LLAGAS 115.0 kV	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	Diverge	Diverge	0.90	Diverge	0.97	0.89	0.94	1.01	0.97	0.93	Diverge	Install redundant battery/relay supply
	METCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	Diverge	Diverge	0.90	Diverge	0.99	0.89	0.94	1.02	0.97	0.93	Diverge	Install redundant battery/relay supply
LOCKHD 1 115.0 kV	Metcalf - San Jose B HVDC Gen and DE ANZA SS-LOCKHD 2 115KV	P3	G-1/N-1	> 0.9	> 0.9	0.85	0.89	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	NEWARK E 230/115KV TB 11 and DE ANZA SS-LOCKHD 2 115KV	P6	N-1-1	> 0.9	> 0.9	0.88	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
LOCKHD 1 115.0 kV	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.96	0.94	0.90	0.90	0.98	0.91	0.99	1.00	1.00	1.01	0.98	1.00	Diverge	Continue to monitor
	MONTA VISTA 230-115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	0.94	0.91	0.92	0.92	0.98	0.88	0.99	0.99	0.98	1.01	0.98	0.99	0.88	Install redundant battery/relay supply
LOS GATS 60.0 kV	Metcalf - San Jose B HVDC Gen and MONTA VISTA-LOS GATOS 60KV	P3	G-1/N-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.73	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
LPOSTAS 60.0 kV	FRICKWIND 0.69KV GEN UNIT 1 and LS PSTAS 230/60KV TB 4	P3	G-1/N-1	> 0.9	> 0.9	0.90	> 0.9	> 0.9	> 0.9	0.86	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	SANRAMON 230/60KV TB 1 and LS PSTAS 230/60KV TB 4	P6	N-1-1	0.83	0.87	0.58	0.57	> 0.9	> 0.9	0.40	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.89	Operating solution. Voltage Regulation
LPOSTAS 60.0 kV	LS PSTAS 230/60KV TB 4	P1	N-1	0.96	0.98	0.91	0.92	1.00	0.94	0.88	1.01	1.01	0.99	0.99	1.01	0.97	Continue to monitor
	LS PSTAS 230KV - SECTION 1F & 1G	P2	Breaker	0.96	0.98	0.91	0.92	1.00	0.94	0.88	1.01	1.01	0.99	0.99	1.01	0.97	Continue to monitor
	LS PSTAS 230KV SECTION 1G	P2	Bus	0.96	0.98	0.91	0.92	1.00	0.94	0.88	1.01	1.01	0.99	0.99	1.01	0.97	Continue to monitor
LS ESTRS 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.87	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
LS PSTAS 230.0 kV	Metcalf - San Jose B HVDC Gen and CONTRA COSTA-LAS POSITAS 230KV	P3	G-1/N-1	> 0.9	> 0.9	0.90	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
MARTIN C 115.0 kV	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.97	0.99	0.89	0.91	1.03	0.99	0.99	1.03	1.03	1.03	1.01	1.02	0.97	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.97	0.99	0.88	0.89	1.03	0.99	0.99	1.02	1.03	1.03	1.01	1.03	0.96	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.97	0.99	0.88	0.89	1.03	0.99	0.99	1.02	1.03	1.03	1.01	1.03	0.96	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.97	0.99	0.88	0.89	1.03	0.99	0.99	1.02	1.03	1.03	1.01	1.03	0.96	Continue to monitor
MARTIN C 230.0 kV	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.97	0.98	0.89	0.91	1.02	0.98	0.98	1.02	1.01	1.01	1.00	1.01	0.96	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.96	0.97	0.87	0.88	1.01	0.97	0.97	1.01	1.01	1.01	0.99	1.01	0.95	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.96	0.97	0.87	0.88	1.01	0.97	0.97	1.01	1.01	1.01	0.99	1.01	0.95	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.96	0.97	0.87	0.88	1.01	0.97	0.97	1.01	1.01	1.01	0.99	1.01	0.95	Continue to monitor
MARTNZ D 115.0 kV	SOBRANTE 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.95	1.00	0.92	0.89	1.00	0.99	0.97	1.00	1.03	1.02	1.01	1.00	1.00	Install redundant battery/relay supply
MCKEE 115.0 kV	Metcalf - San Jose B HVDC Gen and PIERCY-METCALF 115KV	P3	G-1/N-1	> 0.9	> 0.9	0.82	0.83	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	NEWARK-DIXON LANDING 115KV and SANJOSEB230 230/115KV TB 1	P6	N-1-1	0.83	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
MCKEE 115.0 kV	NEWARK-DIXON LANDING 115KV	P1	N-1	0.86	0.97	0.92	0.93	0.95	0.96	1.00	0.97	1.01	1.03	0.95	0.97	0.96	Project: LC24 Network Upgrades
	PIERCY-METCALF 115KV	P1	N-1	0.89	NA	NA	NA	0.96	NA	NA	0.98	NA	NA	0.96	0.98	NA	Project: LC24 Network Upgrades
	METCALFD Section 2D & METCALFE Section 2E 115KV	P2	Breaker	NA	NA	0.88	0.89	NA	NA	0.96	NA	NA	1.00	NA	NA	NA	Continue to monitor
	METCALFE - 2E 115KV & METCALFE-METCALFE line	P2	Breaker	0.89	NA	NA	NA	0.96	NA	NA	0.98	NA	NA	0.95	0.98	NA	Project: LC24 Network Upgrades
	METCALFE 115KV - Section 2E & 1E	P2	Breaker	NA	NA	0.85	0.86	NA	NA	0.96	NA	NA	1.00	NA	NA	NA	Continue to monitor
	METCALFE 115KV Section 2E	P2	Bus	NA	NA	0.88	0.89	NA	NA	0.96	NA	NA	1.00	NA	NA	NA	Continue to monitor
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.94	0.96	0.90	0.89	0.98	0.92	1.00	1.00	1.02	1.03	0.98	1.00	Diverge	Continue to monitor
	NEWARK E SECTION 2E & NEWARK F SECTION 2F 115KV	P2	Breaker	0.86	0.97	0.92	0.94	0.95	0.96	1.00	0.97	1.01	1.03	0.94	0.97	0.96	Project: LC24 Network Upgrades
	NEWARK F - 2F 115KV & NEWARK F-COMPONENT_SW LINE	P2	Breaker	0.86	0.96	NA	NA	0.95	0.96	NA	0.97	1.01	NA	0.94	0.97	0.96	Project: LC24 Network Upgrades
	NEWARK F - 2F 115KV & NEWARK F-LOCKHD 2-APP MAT LINE	P2	Breaker	0.86	NA	NA	NA	0.95	NA	NA	0.97	NA	NA	0.94	0.97	NA	Project: LC24 Network Upgrades
	NEWARK F - 2F 115KV & NEWARK-NUMMI LINE	P2	Breaker	0.86	0.96	0.92	0.93	0.95	0.96	1.00	0.97	1.01	1.03	0.94	0.97	0.96	Project: LC24 Network Upgrades
	NEWARK F 115KV SECTION 2F	P2	Bus	0.86	0.96	0.92	0.93	0.95	0.96	1.00	0.97	1.01	1.03	0.94	0.97	0.96	Project: LC24 Network Upgrades
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	0.87	0.90	0.85	0.86	0.96	0.90	0.96	0.98	0.99	1.00	0.95	0.97	0.88	Install redundant battery/relay supply
	METCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	0.87	0.90	0.85	0.86	0.96	0.91	0.96	0.98	0.99	1.00	0.94	0.97	0.88	Install redundant battery/relay supply
	Newark 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.84	0.96	0.90	0.91	0.94	0.95	0.99	0.96	1.01	1.03	0.94	0.96	0.95	Install redundant battery/relay supply
	NEWARK E&F 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.82	0.95	0.92	0.93	0.93	0.94	1.00	0.95	1.01	1.03	0.93	0.96	0.94	Install redundant battery/relay supply
	Newark - Dixon Landing & Newark - Milpitas #1 115 KV Lines	P7	DCTL	0.86	0.97	0.92	0.93	0.95	0.96	1.00	0.97	1.01	1.03	0.95	0.97	0.96	Project: LC24 Network Upgrades
	Newark-Dixon Landing 115 KV and Newark-Milpitas No. 1 115 KV lines	P7	DCTL	0.86	0.96	0.92	0.93	0.95	0.95	1.00	0.97	1.01	1.03	0.95	0.97	0.96	Project: LC24 Network Upgrades

Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)										Voltage PU (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
	Swift - Metcalf & Piercy - Metcalf 115 KV Lines	P7	DCTL	0.88	0.92	0.87	0.88	0.96	0.92	0.96	0.98	0.99	1.00	0.95	0.98	0.90	Continue to monitor
MEDW LNE 115.0 kV	PITTSBURG-D 230KV - SECTION 2D & 1D	P2	Breaker	0.97	1.00	0.96	0.97	0.99	0.99	1.01	0.89	1.01	1.03	0.98	0.88	0.99	Continue to monitor
	PITTSBURG PP 230KV (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.96	1.00	0.96	0.96	0.99	0.98	1.00	0.87	1.01	1.03	0.98	0.86	0.99	Install redundant battery/relay supply
MENLO 60.0 kV	CLY LND 115/60KV TB 2 and CLY LND 115/60KV TB 1	P6	N-1-1	> 0.9	0.84	0.57	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.85	Operating solution. Voltage Regulation
MENLO 60.0 kV	RAVENSWOOD 115 (FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.40	0.36	0.95	0.94	0.51	0.37	1.00	0.57	0.64	1.01	0.48	0.57	0.35	Install redundant battery/relay supply
	RAVENSWOOD 230/115KV BAT (FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.37	0.34	0.94	0.94	0.51	Diverge	1.01	0.57	0.64	1.01	0.46	0.56	Diverge	Install redundant battery/relay supply
METCALFD 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.90	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
METCALFD 115.0 kV	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	Diverge	Diverge	0.89	Diverge	0.95	0.90	0.96	1.00	0.94	0.92	Diverge	Install redundant battery/relay supply
	METCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	Diverge	Diverge	0.89	Diverge	0.98	0.91	0.96	1.02	0.94	0.92	Diverge	Install redundant battery/relay supply
MILLBRAE 115.0 kV	MILLBRAE-SAN MATEO #1 115KV and MARTIN-MILLBRAE #1 115KV	P6	N-1-1	0.88	0.84	0.84	> 0.9	> 0.9	> 0.9	0.43	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.88	Operating solution. Voltage Regulation
MILLBRAE 115.0 kV	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.97	0.98	0.90	0.91	1.02	0.98	0.99	1.03	1.03	1.02	1.01	1.02	0.97	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.97	0.98	0.88	0.89	1.02	0.98	0.99	1.02	1.03	1.02	1.01	1.02	0.96	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.97	0.98	0.88	0.89	1.02	0.98	0.99	1.02	1.03	1.02	1.01	1.02	0.96	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.97	0.98	0.88	0.89	1.02	0.98	0.99	1.02	1.03	1.02	1.01	1.02	0.96	Continue to monitor
MILPITAS 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.85	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	NEWARK F-RINGWOODSWST #1 115KV and NEWARK-MILPITAS #1 115KV	P6	N-1-1	0.72	0.89	> 0.9	> 0.9	0.84	> 0.9	> 0.9	0.88	> 0.9	> 0.9	0.91	0.92	0.92	Project: Tesla - Trimble - Metcalf 230 kV corridor expansion
MILPITAS 115.0 kV	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.94	0.94	0.90	0.88	0.98	0.90	0.99	0.99	1.01	1.02	0.98	0.99	Diverge	Continue to monitor
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	0.93	0.92	0.91	0.92	0.98	0.92	0.99	0.99	1.00	1.01	0.98	0.99	0.90	Install redundant battery/relay supply
	Newark 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.81	0.92	0.86	0.83	0.92	0.92	0.98	0.95	1.00	1.02	0.92	0.95	0.91	Install redundant battery/relay supply
	NEWARK E&F 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.68	0.88	0.95	0.96	0.83	0.88	1.00	0.87	0.98	1.02	0.86	0.87	0.87	Install redundant battery/relay supply
MISSON 115.0 kV	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.96	0.98	0.88	0.89	1.02	0.97	0.98	1.03	1.03	1.02	1.01	1.02	0.96	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.97	0.98	0.87	0.88	1.03	0.98	0.99	1.02	1.03	1.03	1.01	1.02	0.96	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.97	0.98	0.87	0.88	1.03	0.98	0.99	1.02	1.03	1.03	1.01	1.02	0.96	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.97	0.98	0.87	0.88	1.03	0.98	0.99	1.02	1.03	1.03	1.01	1.02	0.96	Continue to monitor
MONTAGUE 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.85	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	LOS ESTEROS-TRIMBLE 115KV and SWIFT-METCALF 115KV	P6	N-1-1	> 0.9	> 0.9	0.87	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
MONTAGUE 115.0 kV	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.96	0.96	0.90	0.89	0.98	0.93	0.99	1.00	1.02	1.02	0.99	1.00	Diverge	Continue to monitor
MONTAVIS 230.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV &	P3	G-1/N-1	> 0.9	> 0.9	0.86	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	MANNING - METCALF 500 KV and POTRERO E-TBC_POT1 #1 115KV	P6	N-1-1	> 0.9	> 0.9	0.89	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
MONTAVIS 230.0 kV	METCALF-SJB MONOPOLE	P1	N-1	0.99	0.99	0.90	0.90	1.02	0.96	0.99	1.02	1.03	1.02	1.02	1.02	0.95	Continue to monitor
	MONTAVIS 230KV Section 1D	P2	Bus	0.96	0.97	0.88	0.88	1.00	0.95	0.98	1.00	1.01	1.01	1.00	1.01	0.95	Continue to monitor
	NEWARK D 230KV - SECTION 1D & 2D	P2	Breaker	0.98	0.99	0.90	0.89	1.01	0.94	0.99	1.01	1.04	1.03	1.01	1.01	Diverge	Continue to monitor
	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.97	0.98	0.89	0.89	1.01	0.93	1.00	1.02	1.04	1.03	1.01	1.02	Diverge	Continue to monitor
	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.99	1.01	0.89	0.92	1.02	0.98	1.00	1.02	1.04	1.03	1.02	1.02	0.99	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.99	1.00	0.89	0.90	1.02	0.98	1.00	1.02	1.04	1.03	1.02	1.02	0.98	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.99	1.00	0.89	0.90	1.02	0.98	1.00	1.02	1.04	1.03	1.02	1.02	0.98	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.99	1.00	0.89	0.90	1.02	0.98	1.00	1.02	1.04	1.03	1.02	1.02	0.98	Continue to monitor
MORAGA 230.0 kV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	NA	0.90	0.92	0.97	NA	0.58	0.95	NA	0.94	0.99	NA	NA	0.87	Install redundant battery/relay supply
	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	NA	0.95	0.93	0.98	NA	0.87	0.98	NA	0.97	0.99	NA	NA	0.94	Install redundant battery/relay supply
MORGN J1 115.0 kV	METCALF-MORGAN HILL 115KV and LLAGAS-GILROY F-GILROYENG-GILROYPK 115KV	P6	N-1-1	0.84	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
MORGN J1 115.0 kV	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	Diverge	Diverge	0.90	Diverge	NA	0.90	NA	NA	0.95	0.92	Diverge	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	Diverge	Diverge	0.89	Diverge	NA	0.90	NA	NA	0.95	0.93	Diverge	Install redundant battery/relay supply
MT EDEN 115.0 kV	E. SHORE 230/115KV TB 2 and E. SHORE 230/115KV TB 1	P6	N-1-1	0.84	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
MT EDEN 115.0 kV	EASTSHORE 230KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.83	NA	NA	NA	0.91	0.97	1.01	0.93	1.04	1.04	0.93	0.93	0.96	Install redundant battery/relay supply
NEWARK 60.0 kV	LS PSTAS 230/60KV TB 4 and NEWARK D 115/115KV TB 1	P6	N-1-1	0.89	> 0.9	0.80	0.81	> 0.9	> 0.9	0.50	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
NEWARK D 230.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.90	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
NORTECH 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.87	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
OAKLAND-C 115.0 kV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.86	0.95	0.96	0.98	0.98	0.65	1.00	0.95	0.99	1.03	0.97	0.95	0.93	Install redundant battery/relay supply
OAKLAND-D 115.0 kV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.88	0.96	0.98	0.99	0.98	0.69	1.03	0.96	1.00	1.04	0.98	0.96	0.94	Install redundant battery/relay supply
OAKLAND-J 115.0 kV	CRCKTCOG 18.00KV GEN UNIT 1 and MORAGA-SAN LEANDRO #3 115KV	P3	G-1/N-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.83	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	LS PSTAS 230/60KV TB 4 and MORAGA-SAN LEANDRO #3 115KV	P6	N-1-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.80	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	MORAGA-SAN LEANDRO #1 115KV	P1	N-1	0.97	0.99	0.98	0.99	1.00	0.83	1.02	1.01	1.02	1.04	1.00	1.01	0.95	Continue to monitor
	MORAGA-SAN LEANDRO #2 115KV	P1	N-1	0.97	0.99	0.98	0.99	1.00	0.83	1.02	1.01	1.02	1.04	0.99	1.01	0.98	Continue to monitor
	MORAGA-SAN LEANDRO #3 115KV	P1	N-1	0.96	0.96	NA	NA	0.99	0.83	NA	1.00	1.02	NA	0.99	1.00	0.95	Continue to monitor
	SAN LEANDRO-OAKLND J #1 115KV	P1	N-1	0.94	0.96	NA	NA	0.97	0.83	NA	0.99	0.99	NA	0.98	0.98	0.95	Continue to monitor
	MORAGA.D SECTION 1D & MORAGA.E SECTION 1E 115KV	P2	Breaker	0.94	0.96	0.96	0.97	0.97	0.83	1.01	0.98	1.00	1.04	0.98	0.98	0.95	Continue to monitor

Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)										Voltage PU (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
OAKLAND-J 115.0 kV	MORAGA-E 115KV - SECTION 1E & 2E	P2	Breaker	NA	NA	0.86	0.85	NA	NA	0.97	NA	NA	1.03	NA	NA	NA	Continue to monitor
	MORAGA-E 115KV SECTION 1E	P2	Bus	0.94	0.96	0.96	0.97	0.97	0.83	1.01	0.98	1.00	1.04	0.98	0.98	0.95	Continue to monitor
	SN LNDRO 115KV - SECTION MD & ME	P2	Breaker	0.95	0.96	0.97	0.98	0.97	0.84	1.01	0.99	0.99	1.03	0.99	0.99	0.95	Continue to monitor
	SN LNDRO 115KV SECTION MD	P2	Bus	0.95	0.96	0.97	0.98	0.97	0.84	1.01	0.99	0.99	1.03	0.99	0.99	0.95	Continue to monitor
	SN LNDRO 115KV SECTION ME	P2	Bus	0.94	0.96	0.96	0.98	0.97	0.84	1.01	0.99	1.00	1.04	0.98	0.98	0.95	Continue to monitor
	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.80	0.91	0.94	0.96	0.94	0.42	0.99	0.92	0.97	1.03	0.94	0.92	0.88	Install redundant battery/relay supply
	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.93	0.97	0.96	0.97	0.98	0.86	1.01	0.98	1.00	1.04	0.98	0.98	0.96	Install redundant battery/relay supply
	SAN LEANDRO (OAK U) 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.95	0.96	0.91	0.92	0.97	0.84	0.97	0.99	0.99	1.02	0.99	0.99	0.95	Install redundant battery/relay supply
	Moraga-San Leandro Nos. 1 & 2 115 KV lines	P7	DCTL	0.94	0.96	0.97	0.97	0.97	0.83	1.02	0.99	1.00	1.04	0.98	0.99	0.95	Continue to monitor
OAKLAND-X 115.0 kV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.86	0.95	0.96	0.98	0.97	0.63	1.00	0.95	0.99	1.03	0.97	0.94	0.92	Install redundant battery/relay supply
OLEUM 115.0 kV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.96	1.01	1.00	1.00	1.01	0.88	1.03	1.00	1.03	1.04	1.02	0.99	1.00	Install redundant battery/relay supply
	SOBRANTE 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.86	0.97	0.87	0.81	0.96	0.93	0.96	0.97	1.02	1.03	0.99	0.97	0.97	Install redundant battery/relay supply
PACIFICA 60.0 kV	MILLBRAE-SAN MATEO #1 115KV and MARTIN-MILLBRAE #1 115KV	P6	N-1-1	> 0.9	> 0.9	0.90	> 0.9	> 0.9	> 0.9	0.53	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
PACIFICA 60.0 kV	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.99	0.99	0.89	0.90	1.02	0.99	0.99	1.02	1.03	1.03	1.02	1.02	0.98	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.99	0.99	0.89	0.90	1.02	0.99	0.99	1.02	1.03	1.03	1.02	1.02	0.98	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.99	0.99	0.89	0.90	1.02	0.99	0.99	1.02	1.03	1.03	1.02	1.02	0.98	Continue to monitor
PIERCY 115.0 kV	Metcalf - San Jose B HVDC Gen and PIERCY-METCALF 115KV	P3	G-1/N-1	> 0.9	> 0.9	0.81	0.82	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	NEWARK E 230/115KV TB 1 AND PIERCY-METCALF 115KV	P6	N-1-1	> 0.9	> 0.9	0.84	0.85	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	PIERCY-METCALF 115KV	P1	N-1	0.88	NA	NA	NA	0.96	NA	NA	0.98	NA	NA	0.95	0.98	NA	Project: LC24 Network Upgrades
	METCALFD Section 2D & METCALFE	P2	Breaker	NA	NA	0.87	0.88	NA	NA	0.96	NA	NA	1.00	NA	NA	NA	Continue to monitor
	METCALFE - 2E 115KV & METCALFE-METCALFE line	P2	Breaker	0.88	NA	NA	NA	0.96	NA	NA	0.98	NA	NA	0.95	0.98	NA	Project: LC24 Network Upgrades
	METCALFE 115KV - Section 2E & 1E	P2	Breaker	NA	NA	0.84	0.85	NA	NA	0.96	NA	NA	1.00	NA	NA	NA	Continue to monitor
	METCALFE 115KV Section 2E	P2	Bus	NA	NA	0.87	0.88	NA	NA	0.96	NA	NA	1.00	NA	NA	NA	Continue to monitor
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	0.86	0.90	0.84	0.85	0.95	0.89	0.96	0.97	0.99	1.00	0.94	0.97	0.87	Install redundant battery/relay supply
	METCALF 500-230KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	Diverge	Diverge	0.90	Diverge	0.95	0.91	0.96	1.00	0.94	0.92	Diverge	Install redundant battery/relay supply
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	0.86	0.90	0.84	0.85	0.95	0.90	0.96	0.97	0.99	1.00	0.94	0.97	0.88	Install redundant battery/relay supply
	MTCALF 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	Diverge	Diverge	Diverge	Diverge	0.90	Diverge	0.98	0.92	0.96	1.02	0.94	0.93	Diverge	Install redundant battery/relay supply
	NEWARK E&F 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.89	0.98	0.95	0.95	0.97	0.97	1.01	0.98	1.02	1.03	0.97	0.99	0.97	Install redundant battery/relay supply
	Swift - Metcalf & Piercy - Metcalf 115 KV Lines	P7	DCTL	0.87	0.92	0.86	0.87	0.95	0.91	0.96	0.97	0.99	1.00	0.95	0.97	0.90	Continue to monitor
PITTSBURG-D 115.0 kV	PITTSBURG-D 230KV - SECTION 2D & 1D	P2	Breaker	0.99	1.02	0.99	1.00	1.01	1.01	1.02	0.89	1.03	1.04	1.00	0.89	1.02	Continue to monitor
	PITTSBURG PP 230KV (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.99	1.02	1.00	1.00	1.01	1.01	1.01	0.88	1.03	1.04	1.00	0.87	1.02	Install redundant battery/relay supply
POTRERO 230.0 kV	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.96	0.99	0.89	0.91	1.01	0.98	0.98	1.01	1.01	1.01	1.00	1.01	0.97	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.95	0.97	0.86	0.87	1.00	0.97	0.97	1.00	1.01	1.01	0.99	1.00	0.95	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.95	0.97	0.86	0.87	1.00	0.97	0.97	1.00	1.01	1.01	0.99	1.00	0.95	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.95	0.97	0.86	0.87	1.00	0.97	0.97	1.00	1.01	1.01	0.99	1.00	0.95	Continue to monitor
	MARTIN 230 KV BAAH (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.89	1.01	0.99	0.98	0.96	0.96	0.97	0.97	0.99	1.00	0.94	0.97	1.01	Install redundant battery/relay supply
POTRERO D 115.0 kV	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.97	0.98	0.88	0.90	1.02	0.98	0.99	1.03	1.03	1.03	1.01	1.02	0.96	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.97	0.98	0.87	0.88	1.03	0.99	0.99	1.03	1.03	1.03	1.01	1.03	0.96	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.97	0.98	0.87	0.88	1.03	0.99	0.99	1.03	1.03	1.03	1.01	1.03	0.96	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.97	0.98	0.87	0.88	1.03	0.99	0.99	1.03	1.03	1.03	1.01	1.03	0.96	Continue to monitor
RADUM 60.0 kV	FRICKWIND 0.69KV GEN UNIT 1 and LS PSTAS 230/60KV TB 4	P3	G-1/N-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.88	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	SANRAMON 230/60KV TB 1 and LS PSTAS 230/60KV TB 4	P6	N-1-1	0.83	0.86	0.58	0.57	> 0.9	> 0.9	0.40	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.88	Operating solution. Voltage Regulation
RADUM 60.0 kV	LS PSTAS 230/60KV TB 4	P1	N-1	0.96	0.98	0.92	0.93	1.00	0.95	0.90	1.01	1.01	1.00	0.99	1.01	0.97	Continue to monitor
	LS PSTAS 230KV - SECTION 1F & 1G	P2	Breaker	0.96	0.98	0.92	0.93	1.00	0.95	0.90	1.01	1.01	1.00	0.99	1.00	0.97	Continue to monitor
	LS PSTAS 230KV SECTION 1G	P2	Bus	0.96	0.98	0.92	0.93	1.00	0.95	0.90	1.01	1.01	1.00	0.99	1.01	0.97	Continue to monitor
RICHMOND 115.0 kV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.94	0.99	0.98	0.99	1.01	0.83	1.03	0.99	1.02	1.04	1.01	0.99	0.98	Install redundant battery/relay supply
SAN PBLO 115.0 kV	LS PSTAS 230/60KV TB 4 and SOBRANTE-STANDARD OIL SW STA #1 115KV	P6	N-1-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.88	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
SAN PBLO 115.0 kV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.93	0.98	0.98	0.98	0.98	0.82	0.99	0.98	0.99	1.01	0.98	0.97	0.97	Install redundant battery/relay supply
SANJOSEB 115.0 kV	Metcalf - San Jose B HVDC Gen and SANJOSEB230 230/115KV TB 1 and	P3	G-1/N-1	> 0.9	> 0.9	0.86	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	SANJOSEB230 230/115KV TB 1 and	P6	N-1-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.90	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
SANJOSEB 115.0 kV	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.97	0.96	0.90	0.89	0.99	0.92	1.00	1.00	1.02	1.02	0.99	1.00	Diverge	Continue to monitor
SANRAMON 230.0 kV	PITTSBURG PP 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.93	0.95	0.89	0.92	0.97	0.92	0.97	0.98	0.99	1.00	0.96	0.98	0.93	Install redundant battery/relay supply
	PITTSBURG PP 230KV (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.91	0.95	0.90	0.94	0.97	0.93	0.97	0.96	0.99	1.01	0.96	0.95	0.93	Install redundant battery/relay supply
SARATOGA 230.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.86	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	MANNING - METCALF 500 KV and POTRERO E-TBC_POT1 #1 115KV	P6	N-1-1	> 0.9	> 0.9	0.89	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
SARATOGA 230.0 kV	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.97	0.98	0.90	0.89	1.01	0.94	1.00	1.02	1.03	1.02	1.01	1.02	Diverge	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.99	1.00	0.90	0.91	1.02	0.98	1.00	1.02	1.03	1.02	1.01	1.02	0.98	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.99	1.00	0.90	0.91	1.02	0.98	1.00	1.02	1.03	1.02	1.01	1.02	0.98	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.99	1.00	0.90	0.91	1.02	0.98	1.00	1.02	1.03	1.02	1.01	1.02	0.98	Continue to monitor
SERRMNTE 115.0 kV	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.97	0.98	0.88	0.90	1.02	0.98	0.98	1.03	1.03	1.02	1.01	1.02	0.96	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.97	0.98	0.87	0.88	1.03	0.98	0.99	1.02	1.03	1.03	1.01	1.02	0.96	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.97	0.98	0.87	0.88	1.03	0.98	0.99	1.02	1.03	1.03	1.01	1.02	0.96	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.97	0.98	0.87	0.88	1.03	0.98	0.99	1.02	1.03	1.03	1.01	1.02	0.96	Continue to monitor
SFIA 115.0 kV	POTRERO D SECTION 2D & POTRERO E SECTION 2E 115KV	P2	Breaker	0.97	0.98	0.89	0.91	1.02	0.98	0.99	1.02	1.03	1.02	1.01	1.02	0.97	Continue to monitor
	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.97	0.98	0.88	0.89	1.02	0.98	0.99	1.02	1.03	1.03	1.01	1.02	0.96	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.97	0.98	0.88	0.89	1.02	0.98	0.99	1.02	1.03	1.03	1.01	1.02	0.96	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.97	0.98	0.88	0.89	1.02	0.98	0.99	1.02	1.03	1.03	1.01	1.02	0.96	Continue to monitor
SN JSE A 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.86	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor

Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)										Voltage PU (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
	SN JSE A-SANJOSEB #2 115KV and SAN JOSE A-SAN JOSE B 115KV	P6	N-1-1	> 0.9	> 0.9	0.86	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
SN JSE A 115.0 kV	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.97	0.96	0.90	0.89	0.99	0.92	1.00	1.00	1.02	1.02	0.99	1.00	Diverge	Continue to monitor
	SANJOSEB 115KV - Middle Breaker Bay 4	P2	Breaker	NA	NA	0.86	0.86	NA	NA	0.95	NA	NA	0.99	NA	NA	NA	Continue to monitor
	SN JSE A 115KV Section 1F	P2	Bus	NA	NA	0.89	0.90	NA	NA	0.98	NA	NA	1.01	NA	NA	NA	Continue to monitor
SN LNDRO 115.0 kV	MORAGA-E 115KV - SECTION 1E & 2E	P2	Breaker	NA	NA	0.89	0.88	NA	NA	0.98	NA	NA	1.04	NA	NA	NA	Continue to monitor
	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.81	0.92	0.95	0.97	0.94	0.58	1.00	0.93	0.97	1.04	0.94	0.92	0.89	Install redundant battery/relay supply
	MORAGA 230KV BUS #1 &2(FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.94	0.97	0.97	0.98	0.98	0.88	1.02	0.98	1.00	1.05	0.98	0.98	0.96	Install redundant battery/relay supply
SNTH LNE 60.0 kV	MILLBRAE-SAN MATEO #1 115KV and MARTIN-MILLBRAE #1 115KV	P6	N-1-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.54	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
SNTH LNE 60.0 kV	POTRERO E - 2E 115KV & POTRERO E-TBC_POT1 #1 LINE	P2	Breaker	0.99	1.00	0.89	0.90	1.02	0.99	1.00	1.02	1.03	1.03	1.02	1.02	0.99	Continue to monitor
	POTRERO E 115KV - SECTION 2E & 1E	P2	Breaker	0.99	1.00	0.89	0.90	1.02	0.99	1.00	1.02	1.03	1.03	1.02	1.02	0.99	Continue to monitor
	POTRERO E 115KV SECTION 2E	P2	Bus	0.99	1.00	0.89	0.90	1.02	0.99	1.00	1.02	1.03	1.03	1.02	1.02	0.99	Continue to monitor
SOBRANTE 115.0 kV	MORAGA 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.95	1.00	0.99	1.00	1.01	0.84	1.03	1.00	1.02	1.04	1.01	0.99	0.99	Install redundant battery/relay supply
SOBRANTE 230.0 kV	SOBRANTE 230-115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	NA	NA	0.89	0.90	NA	NA	0.97	NA	NA	1.04	NA	NA	NA	Install redundant battery/relay supply
ST TRESA 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.88	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
ST TRESA 115.0 kV	METCALF 500-230KV BATT(FAILURE OF	P5	Non-Redundant	Diverge	Diverge	Diverge	Diverge	0.88	Diverge	0.94	0.90	0.95	0.99	0.94	0.91	Diverge	Install redundant battery/relay supply
	METCALF 230KV BUS (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant	Diverge	Diverge	Diverge	Diverge	0.88	Diverge	0.98	0.90	0.95	1.01	0.94	0.92	Diverge	Install redundant battery/relay supply
STELLING 115.0 kV	MONTAVIS 230KV - Section 1E & 2E	P2	Breaker	0.90	NA	NA	NA	0.96	NA	NA	0.98	NA	NA	0.96	0.98	NA	Project: Monta Vista 230 kV Bus Upgrade
STONE 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV &	P3	G-1/N-1	> 0.9	> 0.9	0.85	0.90	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	SANJOSEB230 230/115KV TB 1 and TRIMBLE-SANJOSEB230 #1 230KV	P6	N-1-1	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.90	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	METCALFE 115KV - Section 2E & 1E	P2	Breaker	NA	NA	0.89	0.90	NA	NA	0.97	NA	NA	1.00	NA	NA	NA	Continue to monitor
	NEWARK D SECTION 2D & NEWARK E	P2	Breaker	0.96	0.95	0.90	0.89	0.99	0.91	0.99	1.00	1.02	1.02	0.99	1.00	Diverge	Continue to monitor
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	0.93	0.92	0.88	0.89	0.97	0.92	0.97	0.98	0.99	1.00	0.96	0.98	0.91	Install redundant battery/relay supply
	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	0.92	0.93	0.88	0.89	0.95	0.92	0.97	0.96	0.99	1.00	0.95	0.96	0.91	Install redundant battery/relay supply
SWIFT 115.0 kV	Metcalf - San Jose B HVDC Gen and SWIFT-METCALF 115KV	P3	G-1/N-1	> 0.9	> 0.9	0.85	0.86	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	RINGWOODSWST-MILPITAS #1 115KV	P6	N-1-1	> 0.9	> 0.9	0.79	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	METCALFE 115KV - Section 2E & 1E	P2	Breaker	NA	NA	0.88	0.88	NA	NA	0.98	NA	NA	1.01	NA	NA	NA	Continue to monitor
	NEWARK D SECTION 2D & NEWARK E	P2	Breaker	0.95	0.96	0.91	0.90	0.99	0.93	1.01	1.00	1.03	1.03	0.99	1.00	Diverge	Continue to monitor
	METCALF 115KV BATT(FAILURE OF NON-REDUNDENT BATT)	P5	Non-Redundant Battery/Relay	0.90	0.90	0.87	0.88	0.96	0.90	0.98	0.98	0.99	1.01	0.96	0.97	0.88	Install redundant battery/relay supply
SWIFT 115.0 kV	MTCALF 115KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Battery/Relay	0.90	0.90	0.87	0.88	0.96	0.91	0.98	0.98	0.99	1.01	0.95	0.97	0.88	Install redundant battery/relay supply
	Newark 115 KV (FAILURE OF NON-REDUNDANT RELAY)	P5	Non-Redundant Battery/Relay	0.87	0.97	0.91	0.90	0.95	0.96	1.00	0.97	1.02	1.03	0.95	0.98	0.96	Install redundant battery/relay supply
	NEWARK E&F 115KV BATT(FAILURE OF NON-REDUNDANT BATT)	P5	Non-Redundant Battery/Relay	0.78	0.95	0.96	0.96	0.90	0.95	1.01	0.93	1.01	1.03	0.92	0.93	0.94	Install redundant battery/relay supply
	Swift - Metcalf & Piercy - Metcalf 115 KV Lines	P7	DCTL	0.91	0.92	0.90	0.90	0.96	0.92	0.98	0.98	0.99	1.01	0.96	0.98	0.90	Continue to monitor
TRIMBLE 115.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.86	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
TRIMBLE 115.0 kV	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.96	0.96	0.90	0.89	0.98	0.93	1.00	0.99	1.02	1.02	0.99	0.99	Diverge	Continue to monitor
VALLECTS 60.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV &	P3	G-1/N-1	> 0.9	> 0.9	0.89	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	SANRAMON 230/60KV TB 1 and LS PSTAS 230/60KV TB 4	P6	N-1-1	0.87	0.90	0.66	0.65	> 0.9	> 0.9	0.51	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	0.92	Operating solution. Voltage Regulation
VASONA 230.0 kV	Metcalf - San Jose B HVDC Gen and LECEFST1 13.80KV & LECEFGT1 13.80KV & LECEFGT2 13.80KV & LECEFGT3 13.80KV & LECEFGT4 13.80KV Gen Units	P3	G-1/N-1	> 0.9	> 0.9	0.87	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
	MANNING - METCALF 500 KV and POTRERO E-TBC_POT1 #1 115KV	P6	N-1-1	> 0.9	> 0.9	0.90	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	> 0.9	Continue to monitor
VASONA 230.0 kV	NEWARK D SECTION 2D & NEWARK E SECTION 2E 230KV	P2	Breaker	0.97	0.98	0.91	0.90	1.00	0.94	0.99	1.02	1.03	1.02	1.01	1.02	Diverge	Continue to monitor
WOLFE 115.0 kV	MONTAVIS 230KV - Section 1E & 2E	P2	Breaker	0.90	NA	NA	NA	0.96	NA	NA	0.98	NA	NA	0.96	0.98	NA	Project: Monta Vista 230 kV Bus Upgrade

Substation	Contingency	Category	Category Description	Post Cont. Voltage Deviation % (Baseline Scenarios)										Post Cont. Voltage Deviation % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2031 Spring Off-Peak	2036 Summer-Off Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	
DIXON LD 115.0 kV	NEWARK-DIXON LANDING 115KV	P1	N-1	15	< 8	8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	Continue to monitor
E. SHORE 230.0 kV	EASTSHORE-SAN MATEO 230KV	P1	N-1	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	11	< 8	Sensitivity only
EDES 115.0 kV	MORAGA-SAN LEANDRO #1 115KV	P1	N-1	< 8	< 8	< 8	< 8	< 8	13	< 8	< 8	< 8	< 8	< 8	< 8	< 8	System adjustments or voltage support if needed
	MORAGA-SAN LEANDRO #2 115KV	P1	N-1	< 8	< 8	< 8	< 8	< 8	13	< 8	< 8	< 8	< 8	< 8	< 8	< 8	System adjustments or voltage support if needed
	MORAGA-SAN LEANDRO #3 115KV	P1	N-1	< 8	< 8	NA	NA	< 8	13	NA	< 8	< 8	NA	< 8	< 8	< 8	System adjustments or voltage support if needed
	SAN LEANDRO-OAKLND J #1 115KV	P1	N-1	< 8	< 8	NA	NA	< 8	13	NA	< 8	< 8	NA	< 8	< 8	< 8	System adjustments or voltage support if needed
LIVERMRE 60.0 kV	LS PSTAS 230/60KV TB 4	P1	N-1	< 8	< 8	< 8	< 8	< 8	< 8	11	< 8	< 8	< 8	< 8	< 8	< 8	Continue to monitor
LPOSTAS 60.0 kV	LS PSTAS 230/60KV TB 4	P1	N-1	< 8	< 8	< 8	< 8	< 8	< 8	12	< 8	< 8	< 8	< 8	< 8	< 8	Continue to monitor
MCKEE 115.0 kV	NEWARK-DIXON LANDING 115KV	P1	N-1	11	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	< 8	Project: LC24 Network Upgrades
	PIERCY-METCALF 115KV	P1	N-1	8	NA	NA	NA	< 8	NA	NA	< 8	NA	NA	< 8	< 8	NA	Project: LC24 Network Upgrades
OAKLAND-J 115.0 kV	MORAGA-SAN LEANDRO #1 115KV	P1	N-1	< 8	< 8	< 8	< 8	< 8	12	< 8	< 8	< 8	< 8	< 8	< 8	< 8	System adjustments or voltage support if needed
	MORAGA-SAN LEANDRO #2 115KV	P1	N-1	< 8	< 8	< 8	< 8	< 8	12	< 8	< 8	< 8	< 8	< 8	< 8	< 8	System adjustments or voltage support if needed
	MORAGA-SAN LEANDRO #3 115KV	P1	N-1	< 8	< 8	NA	NA	< 8	12	NA	< 8	< 8	NA	< 8	< 8	< 8	System adjustments or voltage support if needed
	SAN LEANDRO-OAKLND J #1 115KV	P1	N-1	< 8	< 8	NA	NA	< 8	12	NA	< 8	< 8	NA	< 8	< 8	< 8	System adjustments or voltage support if needed
PIERCY 115.0 kV	PIERCY-METCALF 115KV	P1	N-1	11	NA	NA	NA	< 8	NA	NA	< 8	NA	NA	< 8	< 8	NA	Project: LC24 Network Upgrades
RADUM 60.0 kV	LS PSTAS 230/60KV TB 4	P1	N-1	< 8	< 8	< 8	< 8	< 8	< 8	9	< 8	< 8	< 8	< 8	< 8	< 8	Continue to monitor

Contingency	Category	Category Description	Transient Stability Performance						Potential Mitigation Solutions
			Baseline Scenarios				Sensitivity Scenarios		
			2028 Spring Off-Peak	2031 Summer Peak	2036 Summer Peak	2036 Summer-Off Peak	2028 Spring OP Sensitivity	2031 SP High CEC Forecast	
P1-2 - Line LS ESTRS to METCALF2D 230 kV ckt 1	P1	N-1	Potential WECC/NERC criteria violation	NA	NA	NA	Potential WECC/NERC criteria violation	NA	Under review with PTO
P1-2 - Line TESLA E to NEWARK D 230 kV ckt 1	P1	N-1	No issues	NA	NA	NA	No issues	NA	No issues
P1-2 - Line METCALF to CAL MEC 230 kV ckt 4	P1	N-1	NA	No issues	Pending	Pending	NA	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P1-2 - Line TESLA C to PPASSJCT to NEWARK E 230 kV ckt 2	P1	N-1	NA	No issues	Pending	Pending	NA	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P1-3_RVW-230-115	P1	N-1	Potential WECC/NERC criteria violation	No issues	Pending	Pending	Potential WECC/NERC criteria violation	No issues	Future projects in the Fresno area
P1-3 - Tran MORAGA 230-115 kV bk 1	P1	N-1	Potential WECC/NERC criteria violation	NA	NA	NA	Potential WECC/NERC criteria violation	NA	Future projects in the Fresno area
P1-3 - Tran NEWARK D 230 kV-NEWARK E 115 kV bk 7	P1	N-1	NA	No issues	NA	NA	NA	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P1-3 - Tran SOBRANTE 230-115 kV bk 2	P1	N-1	NA	NA	Pending	Pending	NA	NA	No issues identified in the near-term. The long-term scenarios are still pending.
P1-5 - DC line TransBay Cable (Pittsburg-Potrero) fault at TBC_PTB1 230	P1	N-1	No issues	No issues	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P2-1 - Line LS ESTRS to METCALF2D 230 kV ckt 1	P2	Bus/Breaker	No issues	No issues	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P2-1 - Line NEWARK E to NWK DIST 230 kV ckt 1	P2	Bus/Breaker	No issues	No issues	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P2-3 - Internal fault at non-Bus-tie Breaker 940 at NWK DIST 230 kV (Newark-Los Esteros)	P2	Bus/Breaker	Potential WECC/NERC criteria violation	Potential WECC/NERC criteria violation	Pending	Pending	Potential WECC/NERC criteria violation	Potential WECC/NERC criteria violation	Under review with PTO
P2-3_RVW-230-CB282	P2	Bus/Breaker	No issues	No issues	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P2-4 - Internal fault at Bus-tie Breaker 312 at METCALF 230 kV (Sec 1D and 1E)	P2	Bus/Breaker	No issues	No issues	NA	NA	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P2-4 - Internal fault at Bus-tie Breaker 202 at MONTAVIS 230 kV	P2	Bus/Breaker	NA	NA	Pending	Pending	NA	NA	No issues identified in the near-term. The long-term scenarios are still pending.
P3-2_RUS-1-4_NWK-RVW-230	P3	N-1-1	No issues	NA	NA	NA	No issues	NA	No issues identified in the near-term. The long-term scenarios are still pending.
P3-3 - Gen AGNEWCOGEN 13.8 kV unit 1 and Tran METCALF 500-230 kV bk 13	P3	N-1-1	No issues	NA	NA	NA	No issues	NA	No issues identified in the near-term. The long-term scenarios are still pending.
P3-4 - Gen CRCKTCOG 18 kV unit 1 and NEWARK E 230 kV SVC id v	P3	N-1-1	No issues	NA	NA	NA	No issues	NA	No issues identified in the near-term. The long-term scenarios are still pending.
P3-2_RUS-1-4_ESH-SMT-230	P3	N-1-1	NA	No issues	Pending	Pending	NA	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P3-3 - Gen LECEF 13.8 kV (5 units) and Tran METCALF 500-230 kV bk 13	P3	N-1-1	NA	No issues	NA	NA	NA	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P3-4 - Gen LMEC (3 units) and SVD MONTAVIS 230 kV id v	P3	N-1-1	NA	No issues	NA	NA	NA	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P3-3 - Gen CAL MEC (3 units) and Tran METCALF 500-230 kV bk 13	P3	N-1-1	NA	NA	Pending	Pending	NA	NA	No issues identified in the near-term. The long-term scenarios are still pending.
P3-4 - Gen DEC PTSG (4 units) and NEWARK E 230 kV SVC id v	P3	N-1-1	NA	NA	Pending	Pending	NA	NA	No issues identified in the near-term. The long-term scenarios are still pending.
P3-5_OXMT-1-4_TRBY_DC	P3	N-1-1	No issues	No issues	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P4-2 - Stuck Breaker 210 protecting Line TESLA E to NEWARK D 230 kV ckt 1	P4	Stuck Breaker	No issues	No issues	Pending	Pending	No issues	Potential WECC/NERC criteria violation	Sensitivity only
P4-2 - Stuck Breaker Metcalf 382 protecting Line METCALF to CAL MEC 230 kV ckt 4 (Sec 2E)	P4	Stuck Breaker	No issues	No issues	Pending	Pending	Potential WECC/NERC criteria violation	No issues	Sensitivity only
P4-3 - Stuck 115 kV Breaker 372 protecting Tran SOBRANTE 230-115 kV bk 1	P4	Stuck Breaker	No issues	No issues	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P4-5 - Stuck non-Bus-tie Breaker 410 protecting Substation Bus C.COSTAPPD 230 kV Section D	P4	Stuck Breaker	Potential WECC/NERC criteria violation	Potential WECC/NERC criteria violation	Pending	Pending	Potential WECC/NERC criteria violation	Potential WECC/NERC criteria violation	Under review with PTO
P4-5_SMT-230-D_SMT-CB222s	P4	Stuck Breaker	No issues	No issues	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P4-6 - Stuck Bus-tie Breaker 202 protecting Substation Bus MONTAVIS 230 kV Bus 1	P4	Stuck Breaker	Potential WECC/NERC criteria violation	No issues	Pending	Pending	Potential WECC/NERC criteria violation	No issues	Future project in the Fresno area
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	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P5-2c - Failure of non-redundant DC battery supplying Metcalf 230 kV Bus for remote SLG fault on Metcalf to Hicks 230 kV CKT 1 (All Metcalf 230 kV elements clear remotely)	P5	Non-Redundant Battery/Relay	No issues	No issues	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P5-4 - Failure of non-redundant relay protecting SVD MONTAVIS 230 kV id r	P5	Non-Redundant Battery/Relay	Potential WECC/NERC criteria violation	Potential WECC/NERC criteria violation	Pending	Pending	Potential WECC/NERC criteria violation	Potential WECC/NERC criteria violation	Install redundant battery/relay supply
P5-5a - Failure of non-redundant relay protecting Substation Bus C.COSTAPPD 230 kV (ALL 230 kV elements clear remotely)	P5	Non-Redundant Battery/Relay	Potential WECC/NERC criteria violation	Potential WECC/NERC criteria violation	Pending	Pending	Potential WECC/NERC criteria violation	Potential WECC/NERC criteria violation	Install redundant battery/relay supply
P5-5a_E. SHORE_230_DC	P5	Non-Redundant Battery/Relay	Potential WECC/NERC criteria violation	Potential WECC/NERC criteria violation	Pending	Pending	Potential WECC/NERC criteria violation	Potential WECC/NERC criteria violation	Install redundant battery/relay supply
P5-5b- Failure of non-redundant DC battery supplying CONTRA COSTA 230, 115 and 60KV Buses	P5	Non-Redundant Battery/Relay	No issues	No issues	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P5-5c - Failure of non-redundant Station DC Battery Supply San Jose A 115kV Batt	P5	Non-Redundant Battery/Relay	No issues	No issues	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P5-5c - Failure of non-redundant Station DC Battery Supplying Newark E&F 115kV buses	P5	Non-Redundant Battery/Relay	Potential WECC/NERC criteria violation	Potential WECC/NERC criteria violation	Pending	Pending	Potential WECC/NERC criteria violation	Potential WECC/NERC criteria violation	Install redundant battery/relay supply
P5-5c_BAY_115_DC	P5	Non-Redundant Battery/Relay	No issues	No issues	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
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	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P6-3 - Fault on SVD LS ESTRS 230 kV id r with Loss of Line NWK DIST - LS ESTRS 230 kV ckt 1	P6	N-1-1	No issues	No issues	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
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	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
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	Pending	Pending	No issues	No issues	No issues identified in the near-term. The long-term scenarios are still pending.
P7-1_RF_TES-RVW-230_NWK-RVW-230	P7	DCTL	Potential WECC/NERC criteria violation	No issues	Pending	Pending	Potential WECC/NERC criteria violation	No issues	Future project in the Fresno area
P7-1_RS - Fault on Line Tesla - Newark* 230 kV ckt 2 and Line Newark Dist* - Los Esteros 230 kV ckt 1 (HSR Success)	P7	DCTL	Potential WECC/NERC criteria violation	No issues	Pending	Pending	Potential WECC/NERC criteria violation	No issues	Future project in the Fresno area

Worst Contingency	Category	Category Description	Amount of Load Drop (MW)														Potential Mitigation Solutions
			2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2036 Summer-Off Peak	2036 Winter Off-Peak	2041 Greater Bay area Summer Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	

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

Substation	Load Served (MW)															Potential Mitigation Solutions
	2026 Summer Peak	2028 Summer Peak	2031 Summer Peak	2036 Summer Peak	2041 Summer Peak	2028 Winter Peak	2031 Winter Peak	2041 Winter Peak	2028 Spring Off-Peak	2036 Summer-Off Peak	2036 Winter Off-Peak	2041 Greater Bay area Summer Peak	2028 SP Heavy Renewable & Min Gas Gen	2028 OP Sensitivity	2031 SP High CEC Forecast	

No single source substation with more than 100 MW