

Study Area: PG&E Central Valley

Thermal Overloads



Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)					Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	
Vaca-Plainfield 60 kV line (32088 32090)	Base Case	P0	N-0	122	115	111	72	19	117	60	11	System Upgrade/ Preferred Resources/Operating Solution as needed
Vaca-Plainfield 60 kV line (32082 32090)	Base Case	P0	N-0	130	122	116	72	20	124	62	13	
Vaca-Plainfield 60 kV line (32082 32092)	Base Case	P0	N-0	131	121	116	72	19	123	62	13	
Weber - Morman Jct. 60 kV Line (33650 33646)	Base Case	P0	N-0	118	119	121	<100	<100	120	<100	<100	System Upgrade/ Preferred Resources/Operating Solution as needed
Rio Oso - Lockeford 230 kV Line (30330 30482)	LOCKFORD 230kV - Ring R3 & R4	P2-3	Non-Bus Tie Breaker Fault	108	<100	<100	36	<100	<100	66	32	- Lockeford - Lodi 230 kV Project - Expected ISD: Dec. 2025 - Short term: Action Plan
	LOCKFORD 230kV - Ring R3 & R2	P2-3	Non-Bus Tie Breaker Fault	108	<100	<100	36	<100	<100	66	32	- Lockeford - Lodi 230 kV Project - Expected ISD: Dec. 2025 - Short term: Action Plan
	LOCKFORD 230/60kV TB 2 & LOCKEFORD-BELLOTA 230kV	P6	N-1-1	108	<100	<100	<100	<100	<100	<100	<100	- Lockeford - Lodi 230 kV Project - Expected ISD: Dec. 2025 - Short term: Action Plan
	LOCKFORD 230/60kV TB 3 & LOCKEFORD-BELLOTA 230kV	P6	N-1-1	108	<100	<100	<100	<100	<100	<100	<100	- Lockeford - Lodi 230 kV Project - Expected ISD: Dec. 2025 - Short term: Action Plan
Woodland - Davis 115 kV Line (31962 31970)	BRIGHTN 115KV SECTION ME	P2-2	Bus Fault	110	68	74	67	1	69	85	17	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan
	BRIGHTON 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	139	80	92	77	3	81	98	21	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan
	RIO OSO-BRIGHTON 230KV & BRIGHTON-BELLOTA 230KV	P6	N-1-1	142	<100	<100	<100	<100	<100	<100	<100	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan
	Rio Oso-Brighton 230 kV Line & Rio Oso-Lockeford 230 kV Line	P7	DCTL	102	73	82	45	13	73	59	19	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan
Woodland - Davis 115 kV Line (31962 36593)	BRIGHTN 115KV SECTION ME	P2-2	Bus Fault	107	67	72	65	15	67	82	29	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan
	BRIGHTON 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	136	78	90	75	15	79	95	33	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan

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				2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	
	RIO OSO-BRIGHTON 230KV & BRIGHTON-BELLOTA 230KV	P6	N-1-1	139	<100	<100	<100	<100	<100	<100	<100	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan
Woodland - Davis 115 kV Line (36593 31990)	BRIGHTON 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	110	78	90	75	11	79	77	40	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan
	RIO OSO-BRIGHTON 230KV & BRIGHTON-BELLOTA 230KV	P6	N-1-1	112	<100	<100	<100	<100	<100	<100	<100	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan
West Sacramento - Brighton 115 kV Line (31978 31984)	RIO OSO 115kV - Section 2D & 1D	P2-4	Bus Tie Breaker Fault	103	101	98	78	4	102	64	28	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan
Brighton - Davis 115 kV Line (31984 31983)	BRIGHTN-W.SCRMNO 115KV	P1	N-1	108	87	88	77	11	88	47	38	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan
	RIO OSO 115kV - Section 2D & 1D	P2-4	Bus Tie Breaker Fault	145	142	131	110	6	144	88	34	SPS recommended in 2017-2018 TPP
	W.SCRMNO - DE 115KV & BRIGHTN-W.SCRMNO LINE	P2-3	Non-Bus Tie Breaker Fault	119	103	108	86	12	105	54	37	
	RIO OSO 115 KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	133	133	116	103	5	134	83	33	
	WOODLAND-DAVIS 115KV & WEST SACRAMENTO-DAVIS 115KV	P6	N-1-1	<100	138	178	107	<100	139	<100	<100	
	Rio Oso-West Sacramento 115 kV Line & West Sacramento-Brighton 115 kV Line	P7	DCTL	119	103	108	45	11	103	26	22	
Brighton - Davis 115 kV Line (31983 31993)	BRIGHTN-W.SCRMNO 115KV	P1	N-1	108	87	88	78	11	88	47	39	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan
	RIO OSO 115kV - Section 2D & 1D	P2-4	Bus Tie Breaker Fault	145	142	131	110	6	144	88	35	SPS recommended in 2017-2018 TPP
	RIO OSO 115 KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	133	133	116	103	4	134	83	33	
	Rio Oso-West Sacramento 115 kV Line & West Sacramento-Brighton 115 kV Line	P7	DCTL	120	103	108	46	11	103	26	23	
	RIO OSO 115kV - Section 2D & 1D	P2-4	Bus Tie Breaker Fault	122	120	110	93	3	121	74	29	

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				2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	
Brighton - Davis 115 kV Line (31993 32001)	RIO OSO 115 KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	112	112	98	86	2	113	69	28	
	WOODLAND-DAVIS 115KV & WEST SACRAMENTO-DAVIS 115KV	P6	N-1-1	118	116	151	<100	<100	117	<100	<100	
	Rio Oso-West Sacramento 115 kV Line & West Sacramento-Brighton 115 kV Line	P7	DCTL	101	86	90	45	7	87	25	24	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan
Rio Oso 230/115 kV Bank No. 1 (32214 30330)	BRIGHTN - ME 115KV & BRIGHTON-DAVIS LINE	P2-3	Non-Bus Tie Breaker Fault	112	<100	<100	30	<100	<100	68	5	- Rio Oso Transformer Upgrade Project - Expected ISD: Jun. 2024 - Short term: Action Plan
Rio Oso 230/115 kV Bank No. 1 (32214 30330)	FREC 13.80kV Gen Unit 1 & RIO OSO-BRIGHTON 230KV	P3	N-G-1	100	<100	<100	<100	<100	<100	<100	<100	- Rio Oso Transformer Upgrade Project - Expected ISD: Jun. 2024 - Short term: Action Plan
Rio Oso 230/115 kV Bank No. 1 (32214 30330)	BRIGHTON 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	103	46	53	33	12	46	79	6	- Rio Oso Transformer Upgrade Project - Expected ISD: Jun. 2024 - Short term: Action Plan
Rio Oso 230/115 kV Bank No. 1 (32214 30330)	BRIGHTON 230/115KV TB 9 & BRIGHTON 230/115KV TB 10	P6	N-1-1	121	<100	<100	<100	<100	<100	<100	<100	- Rio Oso Transformer Upgrade Project - Expected ISD: Jun. 2024 - Short term: Action Plan
Rio Oso 230/115 kV Bank No. 1 (32214 30330)	Rio Oso-Atlantic 230 kV Line & Rio Oso-Gold Hill 230 kV Line	P7	DCTL	125	48	65	82	13	49	52	14	- Rio Oso Transformer Upgrade Project - Expected ISD: Jun. 2024 - Short term: Action Plan
Rio Oso 230/115 kV Bank No. 1 (32214 30330)	Rio Oso-Brighton 230 kV Line & Rio Oso-Lockeford 230 kV Line	P7	DCTL	113	43	54	82	12	43	52	14	- Rio Oso Transformer Upgrade Project - Expected ISD: Jun. 2024 - Short term: Action Plan
Rio Oso 230/115 kV Bank No. 2 (32214 30330)	Rio Oso-Atlantic 230 kV Line & Rio Oso-Gold Hill 230 kV Line	P7	DCTL	105	48	65	82	13	49	36	14	- Rio Oso Transformer Upgrade Project - Expected ISD: Jun. 2024 - Short term: Action Plan
Rio Oso - West Sacramento 115 kV Line (32214 31986)	BRIGHTN 115KV - SECTION ME & MD	P2-4	Bus Tie Breaker Fault	100	79	84	77	6	79	76	30	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan
	BRIGHTON 230KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	102	91	103	87	9	92	84	33	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan
	BRIGHTON 230/115KV TB 9 & BRIGHTON 230/115KV TB 10	P6	N-1-1	121	<100	101	<100	<100	<100	<100	<100	- Rio Oso Transformer Upgrade and SVC Projects - Expected ISD: Jun. 2024 - Short term: Action Plan

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				2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	
Vaca 115/60 kV transformer #5 (32088 31998)	VACA-DIX 115/60KV TB 9	P1	N-1	108	44	46	31	5	45	64	14	- Vaca Davis Area Reinforcement Project - Expected ISD: Dec. 2025 - Short term: Action Plan
Dixon-Vaca #2 60 kV (32100 32101)	VACA-DXN-DIXON-J1-TRAVIS 60KV MOAS OPENED ON TRAVIS_TRAVISJT	P1	N-1	124	52	57	37	5	52	75	12	- Vaca Davis Area Reinforcement Project - Expected ISD: Dec. 2025 - Short term: Action Plan
Table Mountain-Pease 60 kV Line (Peachton-Gridley) (32326 32332)	PEASE 115 KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	131	126	42	24	39	125	6	6	- East Marysville 115/60 kV Transformer Project - Expected ISD: Dec. 2025 - Short term: Action Plan
Table Mountain-Pease 60 kV Line (Peachton-Gridley) (32326 32334)	PEASE 115 KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	130	125	41	25	38	124	5	7	
Table Mountain-Pease 60 kV Line (Peachton-Gridley) (38054 32334)	PEASE 115 KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	107	102	17	40	44	100	7	8	
Tesla - Salado - Manteca 115 kV Line (33514 33970)	KASSON 115kV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	191	179	69	37	68	181	158	14	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
	SCHULTE SW STA-LAMMERS 115kV & SCHULTE SW STA-KASSON-MANTECA 115kV	P6	N-1-1	215	234	<100	<100	<100	234	157	<100	
	TESLA-SCHULTE SW STA #2 115KV & TESLA-SCHULTE SW STA #1 115KV	P7	DCTL	119	105	20	23	49	116	61	10	
Bellota-Riverbank-Melones 115 kV Line (33562 33950)	KASSON - 1D 115kV & SCHULTE SW STA-KASSON-MANTECA line	P2-3	Non-Bus Tie Breaker Fault	105	<100	<100	31	<100	<100	102	38	
	BELLOTA 230kV - Section 1E & 2E	P2-4	Bus Tie Breaker Fault	96	109	86	87	16	108	76	31	- Lockeford - Lodi Area 230 kV Project - Expected ISD: Dec. 2025 - Short term: Action Plan
	KASSON 115kV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	104	87	38	31	73	90	102	42	
	SCHULTE SW STA-LAMMERS 115kV & SCHULTE SW STA-KASSON-MANTECA 115kV	P6	N-1-1	118	123	<100	<100	<100	125	<100	<100	
Lockeford - Industrial 60 kV Line (33724 38060)	LOCKFORD 230kV - Ring R3 & R4	P2-3	Non-Bus Tie Breaker Fault	104	<100	<100	40	<100	<100	66	36	- Lockeford - Lodi Area 230 kV Project - Expected ISD: Dec. 2025 - Short term: Action Plan
	LOCKFORD 230kV - Ring R3 & R2	P2-3	Non-Bus Tie Breaker Fault	104	<100	<100	40	<100	<100	67	36	
	LOCKEFORD-LODI #2 60kV (LOCKEFRD-VICTOR)	P2-1	Line Section w/o Fault	103	<100	<100	63	<100	<100	95	55	
	LOCKEFRD-INDUSTRL 60kV & LODI-INDUSTRIAL 60kV	P6	N-1-1	141	<100	<100	<100	<100	<100	141	<100	
Lockeford - Lodi 60 kV Line No. 2 (33735 38060)	LOCKEFORD-INDUSTRIAL 60kV & LODI-INDUSTRIAL 60kV	P6	N-1-1	141	<100	<100	<100	<100	<100	141	<100	
Lodi - Industrial 60 kV Line (38060 33728)	LOCKEFORD-INDUSTRIAL 60kV & LOCKEFRD-INDUSTRL 60kV	P6	N-1-1	176	<100	<100	102	<100	<100	174	102	

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				2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	
Cortina 230/115/60 kV Transformer No. 1 (32056 30451)	CORTINA 230/115KV TB 4	P1	N-1	138	110	103	73	100	117	43	48	Existing operating procedure
Poe-Rio Oso 230 kV Line (30280 30330)	Brighton-Bellota 230 kV Line & Rio Oso-Lockeford 230 kV Line	P7	DCTL	72	91	96	23	7	91	222	171	Sensitivity only
	GOLD HILL-EIGHT MILE ROAD 230KV & GOLD HILL-LODI STIG 230KV	P7	DCTL	71	91	96	23	7	91	222	171	Sensitivity only
	Rio Oso-Brighton 230 kV Line & Rio Oso-Lockeford 230 kV Line	P7	DCTL	71	91	95	23	7	91	222	171	Sensitivity only
Rio Oso - Atlantic 230 kV Line No. 1 (30330 30335)	RIO OSO-GOLD HILL 230kV	P1	N-1	80	79	105	21	14	79	66	17	Continue to monitor future forecast
	GOLDHILL - 2D 230kV & MIDDLE FORK-GOLD HILL line	P2-3	Non-Bus Tie Breaker Fault	99	97	114	39	15	97	81	29	Continue to monitor future forecast
	GOLDHILL 230kV Section 2D	P2-2	Bus Fault	99	97	114	39	15	97	81	29	Continue to monitor future forecast
Rio Oso - Brighton 230 kV Line (30330 30348)	RIO OSO 115kV - Section 2D & 1D	P2-4	Bus Tie Breaker Fault	111	109	109	76	18	110	104	41	Under Review
	RIO OSO 115 KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Relay	108	106	106	74	18	107	102	41	Under Review
Vaca - Lambie 230 kV Line (30460 30 30)	BDLSWSTA 230KV - MIDDLE BREAKER BAY 2	P2-3	Non-Bus Tie Breaker Fault	<100	91	102	<100	26	91	<100	<100	Continue to monitor future forecast
Rio Oso - Woodland 115 kV No. 2 (31964 31968)	WEST SACRAMENTO-DAVIS 115KV & RIO OSO-WOODLAND #1 115KV	P6	N-1-1	<100	<100	110	<100	<100	<100	<100	<100	Continue to monitor future forecast
Rio Oso - Woodland 115 kV No. 1 (31965 31966)	WEST SACRAMENTO-DAVIS 115KV & RIO OSO-WOODLAND #2 115KV	P6	N-1-1	<100	<100	102	<100	<100	<100	<100	<100	Continue to monitor future forecast
Rio Oso - Woodland 115 kV No. 2 (31968 31970)	WEST SACRAMENTO-DAVIS 115KV & RIO OSO-WOODLAND #1 115KV	P6	N-1-1	<100	<100	102	<100	<100	<100	<100	<100	Continue to monitor future forecast
West Sacramento - Davis 115 kV Line (31980 31986)	BRIGHTON-DAVIS 115KV MOAS OPENED ON HOWARDJCT3_BRKRJCT & WOODLAND-DAVIS 115KV	P6	N-1-1	<100	<100	110	<100	<100	<100	<100	<100	Continue to monitor future forecast
West Sacramento - Davis 115 kV Line (31980 31990)	BRIGHTON-DAVIS 115KV MOAS OPENED ON HOWARDJCT3_BRKRJCT & WOODLAND-DAVIS 115KV	P6	N-1-1	<100	<100	108	<100	<100	<100	<100	<100	Continue to monitor future forecast
Brighton - Davis 115 kV Line (32001 31990)	WOODLAND-DAVIS 115KV & WEST SACRAMENTO-DAVIS 115KV	P6	N-1-1	<100	<100	122	<100	<100	<100	<100	<100	Continue to monitor future forecast
Vaca - Suisun - Jameson 115 kV Line (31998 31997)	VACA-VACAVILLE-JAMESON-NORTH TOWER 115KV MOAS OPENED ON HALE J1_HALE & VACA-SUISUN 115KV MOAS OPENED ON VACA-DIX_WEC (2)	P6	N-1-1	<100	<100	116	<100	<100	103	<100	<100	Continue to monitor future forecast
Placer - Gold Hill 115 kV Line No. 2 (32018 32231)	PLACER-GOLD HILL #1 115kV & DRUM-HIGGINS 115kV MOAS OPENED on CHCGO PK_HIGGINS	P6	N-1-1	<100	<100	113	<100	<100	<100	<100	<100	Continue to monitor future forecast
Dixon-Vaca #1 60 kV (32100 32105)	DIXON-VACA #2 60KV	P1	N-1	114	106	116	39	25	108	67	8	Under Review



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Dixon-Vaca #2 60 kV (32101 32109)	DIXON-VACA #1 60KV (VACA-DXN-VACA-JT1)	P2-1	Line Section w/o Fault	<100	101	107	<100	27	101	<100	<100	Continue to monitor future forecast
Dixon-Vaca #2 60 kV (32109 32094)	DIXON-VACA #1 60KV (VACA-DXN-VACA-JT1)	P2-1	Line Section w/o Fault	96	100	106	59	27	102	63	33	Continue to monitor future forecast
Rio Oso - Woodland 115 kV No. 2 (32214 31964)	RIO OSO-BRIGHTON 230KV & RIO OSO-WOODLAND #1 115KV	P6	N-1-1	<100	<100	111	<100	<100	<100	<100	<100	Continue to monitor future forecast
Rio Oso - Woodland 115 kV No. 1 (32214 31965)	RIO OSO-BRIGHTON 230KV & RIO OSO-WOODLAND #2 115KV	P6	N-1-1	<100	<100	100	<100	<100	<100	<100	<100	Continue to monitor future forecast
Drum - Rio Oso 115 kV No. 1 Line (32214 32225)	RIO OSO-DRUM-BRUNSWCK 115kV & DRUM-HIGGINS 115kV MOAS OPENED on CHCGO PK_HIGGINS	P6	N-1-1	135	197	189	<100	<100	197	<100	244	Under Review
Drum - Higgins 115 kV Line (32218 32220)	GOLDHILL 115kV - Section 1F & 2F	P2-4	Bus Tie Breaker Fault	183	279	260	60	44	279	61	61	Under Review
	GOLDHILL - 2D 230kV & MIDDLE FORK-GOLD HILL line	P2-3	Non-Bus Tie Breaker Fault	98	93	110	16	12	93	60	27	Continue to monitor future forecast
	GOLDHILL 230kV Section 2D	P2-2	Bus Fault	98	93	110	16	12	93	60	27	Continue to monitor future forecast
	GOLD HILL 115 KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	123	123	179	37	31	127	41	58	Under Review
	Placer-Gold Hill No. 1 115 kV Line and Placer-Gold Hill No. 2 115 kV Line	P7	DCTL	123	123	186	26	31	127	35	19	Under Review
	Rio Oso-Atlantic 230 kV Line & Rio Oso-Gold Hill 230 kV Line	P7	DCTL	<100	98	124	26	9	98	35	19	Continue to monitor future forecast
Drum - Higgins 115 kV Line (32220 32224)	GOLDHILL 115kV - Section 1F & 2F	P2-4	Bus Tie Breaker Fault	114	169	158	44	24	169	44	20	Under Review
	GOLD HILL 115 KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	80	80	113	29	17	82	32	18	Continue to monitor future forecast
	Placer-Gold Hill No. 1 115 kV Line and Placer-Gold Hill No. 2 115 kV Line	P7	DCTL	80	80	116	8	17	82	56	35	Continue to monitor future forecast
Drum - Higgins 115 kV Line (32224 32232)	GOLDHILL 115kV - Section 1F & 2F	P2-4	Bus Tie Breaker Fault	128	198	181	67	24	198	60	8	Under Review
	GOLD HILL 115 KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	93	104	133	52	17	106	48	9	Under Review
	PLACER-GOLD HILL #1 115kV & PLACER-GOLD HILL #2 115kV	P6	N-1-1	<100	<100	112	<100	<100	<100	<100	<100	Continue to monitor future forecast
	Placer-Gold Hill No. 1 115 kV Line and Placer-Gold Hill No. 2 115 kV Line	P7	DCTL	93	104	137	42	17	106	83	74	Continue to monitor future forecast
	Atlantic-Gold Hill 230 kV Line & Rio Oso-Gold Hill 230 kV Line	P7	DCTL	78	88	101	42	3	88	83	74	Continue to monitor future forecast

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				2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	
Drum - Rio Oso 115 kV No. 1 Line (32218 32222)	RIO OSO-DRUM-BRUNSWCK 115kV & DRUM-HIGGINS 115kV MOAS OPENED on CHCGO PK_HIGGINS	P6	N-1-1	175	241	230	<100	<100	240	<100	<100	Under Review
Drum - Rio Oso 115 kV No. 1 Line (32225 32222)	RIO OSO-DRUM-BRUNSWCK 115kV & DRUM-HIGGINS 115kV MOAS OPENED on CHCGO PK_HIGGINS	P6	N-1-1	209	268	260	<100	<100	268	120	<100	Under Review
Drum 115/60 kV Transformer No. 1 (32218 32242)	RIO OSO-DRUM-BRUNSWCK 115kV & DRUM-HIGGINS 115kV MOAS OPENED on CHCGO PK_HIGGINS	P6	N-1-1	153	156	158	<100	<100	154	<100	173	Under Review
Placer - Bell 115 kV Line (32228 32238)	GOLDHILL 115kV - Section 1F & 2F	P2-4	Bus Tie Breaker Fault	115	185	164	59	27	184	49	9	Under Review
	GOLD HILL 115 KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	70	84	109	38	18	86	32	6	Under Review
	Placer-Gold Hill No. 1 115 kV Line and Placer-Gold Hill No. 2 115 kV Line	P7	DCTL	70	84	113	5	18	86	38	59	Continue to monitor future forecast
Higgins - Bell 115 kV Line (32232 32238)	GOLDHILL 115kV - Section 1F & 2F	P2-4	Bus Tie Breaker Fault	123	190	172	64	26	189	55	7	Under Review
	GOLD HILL 115 KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	84	96	124	47	17	98	40	7	Continue to monitor future forecast
	PLACER-GOLD HILL #1 115kV & PLACER-GOLD HILL #2 115kV	P6	N-1-1	<100	<100	102	<100	<100	<100	<100	<100	Continue to monitor future forecast
	Placer-Gold Hill No. 1 115 kV Line and Placer-Gold Hill No. 2 115 kV Line	P7	DCTL	84	96	128	22	17	98	60	67	Continue to monitor future forecast
Eldorado - Missouri Flat 115 kV No. 1 Line (32250 32482)	MISSOURI FLAT-GOLD HILL #1 115kV (SHPRING1-CLRKSVLT)	P2-1	Line Section w/o Fault	94	92	102	56	23	93	43	10	Continue to monitor future forecast
	MISSOURI FLAT-GOLD HILL #1 115kV (GOLDHILL-CPM TAP)	P2-1	Line Section w/o Fault	94	91	101	56	23	93	43	10	Continue to monitor future forecast
Eldorado - Missouri Flat 115 kV No. 2 Line (32250 32481)	MISSOURI FLAT-GOLD HILL #1 115kV (SHPRING1-CLRKSVLT)	P2-1	Line Section w/o Fault	94	99	107	49	27	101	33	11	Continue to monitor future forecast
	MISSOURI FLAT-GOLD HILL #1 115kV (GOLDHILL-CPM TAP)	P2-1	Line Section w/o Fault	93	99	107	49	28	101	33	11	Continue to monitor future forecast
Eldorado - Missouri Flat 115 kV No. 2 Line (32481 32257)	MISSOURI FLAT-GOLD HILL #1 115kV (SHPRING1-CLRKSVLT)	P2-1	Line Section w/o Fault	94	99	107	49	27	101	33	11	Continue to monitor future forecast
	MISSOURI FLAT-GOLD HILL #1 115kV (GOLDHILL-CPM TAP)	P2-1	Line Section w/o Fault	93	99	107	49	28	101	33	11	Continue to monitor future forecast
Colgate - Smartville 60 kV Line No. 2 (32308 32313)	RIO OSO-WOODLAND #2 115KV & COLGATE-SMARTVILLE #1 60kV MOAS OPENED on COLGATE_NRRWS1TP	P6	N-1-1	<100	<100	103	<100	<100	<100	<100	<100	Continue to monitor future forecast
Smartville - Nicolaus 60 kV No. 1 Line	RIO OSO 230kV - Section 2D & 1D	P2-4	Bus Tie Breaker Fault	38	37	NConv	103	12	37	37	53	Under Review

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**Thermal Overloads**



Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)					Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	
(Smartville - Wheatland) (32314 32349)	RIO OSO 230 KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	37	37	NConv	112	10	37	37	52	Under Review
Masysville-Plumas 60 kV Line (32320 32344)	PEASE-MARYSVILLE-HARTER 60kV	P1	N-1	104	105	<100	35	14	105	60	15	Disable Automatics
	E.MRYSVE-MRYSVLLE #1 60kV	P1	N-1	<100	<100	121	<100	<100	<100	<100	<100	Under Review
Pease - Marysville - Harter 60 kV Line (32332 32333)	RIO OSO-NICOLAUS 115kV & PALERMO-NICOLAUS 115kV MOAS OPENED on PALERMO_E.MRY J2	P6	N-1-1	<100	<100	123	<100	<100	<100	<100	<100	Continue to monitor future forecast
Pease - Marysville - Harter 60 kV Line (32333 32325)	PEASE 115 KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	<100	<100	117	24	<100	<100	<100	13	Continue to monitor future forecast
Nicolaus - Marysville 60 kV Line (Plumas-East Nicolaus) (32342 32344)	E.MRYSVE-MRYSVLLE #1 60kV	P1	N-1	<100	<100	191	<100	<100	<100	<100	<100	Continue to monitor future forecast
	PEASE-MARYSVILLE-HARTER 60kV	P1	N-1	167	168	<100	29	25	170	76	22	Disable Automatics
Lincoln - Pleasant Grove 115 kV Line (32356 32398)	RIO OSO-ATLANTIC 230kV & ATLANTIC-GOLD HILL 230kV	P6	N-1-1	<100	<100	119	<100	<100	<100	<100	<100	Continue to monitor future forecast
	Rio Oso-Atlantic 230 kV Line & Rio Oso-Gold Hill 230 kV Line	P7	DCTL	64	81	115	4	12	81	25	14	Continue to monitor future forecast
Lincoln - Pleasant Grove 115 kV Line (32356 32404)	ATLANTIC-GOLD HILL 230kV & RIO OSO-ATLANTIC 230kV	P6	N-1-1	128	121	145	<100	<100	122	<100	<100	Operating Procedure
	Rio Oso-Atlantic 230 kV Line & Rio Oso-Gold Hill 230 kV Line	P7	DCTL	91	109	146	33	19	110	46	17	Continue to monitor future forecast
Lincoln - Pleasant Grove 115 kV Line (32398 32408)	ATLANTIC-GOLD HILL 230kV & RIO OSO-ATLANTIC 230kV	P6	N-1-1	111	105	127	<100	<100	105	<100	<100	Operating Procedure
	Rio Oso-Atlantic 230 kV Line & Rio Oso-Gold Hill 230 kV Line	P7	DCTL	75	93	128	6	15	93	47	35	Continue to monitor future forecast
RIO OSO-SPI JCT 115 kV (32214 32404)	ATLANTIC-GOLD HILL 230kV & RIO OSO-ATLANTIC 230kV	P6	N-1-1	125	119	141	<100	<100	120	<100	<100	Operating Procedure
RIO OSO-SPI JCT 115 kV (32214 32404)	Rio Oso-Atlantic 230 kV Line & Rio Oso-Gold Hill 230 kV Line	P7	DCTL	90	107	144	40	19	108	40	10	Continue to monitor future forecast
Spaulding - Summit 60 kV Line (32365 30993)	BRNSWALT 115kV - Ring R5 & R6	P2-3	Non-Bus Tie Breaker Fault	101	102	104	46	12	99	56	120	Continue to monitor future forecast
	BRNSWALT 115kV - Ring R7 & R6	P2-3	Non-Bus Tie Breaker Fault	101	102	104	46	12	99	56	120	Continue to monitor future forecast
64109 SUMMIT 3 60.0 30993 SUMMIT 60.0 1 1	BRNSWALT 115kV - Ring R5 & R6	P2-3	Non-Bus Tie Breaker Fault	<100	99	103	43	12	95	<100	117	Continue to monitor future forecast
	BRNSWALT 115kV - Ring R7 & R6	P2-3	Non-Bus Tie Breaker Fault	<100	99	103	43	12	95	<100	117	Continue to monitor future forecast
Drum - Grass Valley - Weimar 60 kV Line (32367 32369)	ROLLINSF 6.60kV Gen Unit 1 & COLGATE-GRASS VALLEY 60kV	P3	N-G-1	<100	<100	100	<100	<100	<100	<100	<100	Continue to monitor future forecast



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Thermal Overloads



Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)					Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	
Drum - Grass Valley - Weimar 60 kV Line (32374 32376)	ROLLINSF 6.60kV Gen Unit 1 & COLGATE-GRASS VALLEY 60kV	P3	N-G-1	108	106	114	<100	<100	109	<100	<100	Disable Automatics
Drum - Grass Valley - Weimar 60 kV Line (32376 32367)	ROLLINSF 6.60kV Gen Unit 1 & COLGATE-GRASS VALLEY 60kV	P3	N-G-1	102	101	110	<100	<100	103	<100	<100	Disable Automatics
Drum 115/60 kV Transformer No. 1 (32374 32242)	RIO OSO-DRUM-BRUNSWCK 115kV & DRUM-HIGGINS 115kV MOAS OPENED on CHCGO PK_HIGGINS	P6	N-1-1	102	104	106	<100	<100	102	<100	121	Disable Automatics
BRDSLY J-SPRNG GJ 115 kV (33902 33912)	BELLOTA 230kV - Section 1E & 2E	P2-4	Bus Tie Breaker Fault	98	86	104	<100	30	87	<100	71	SPS recommended in 2019-2020 TPP
	BELLOTA 230/115kV TB 1 & BELLOTA 230/115kV TB 2	P6	N-1-1	<100	<100	102	<100	<100	<100	<100	<100	Continue to monitor future forecast
Spring Gap-MI-WUK 115 kV Line (33912 33914)	Base Case	P0	N-0	100	100	100	<100	54	100	<100	89	Continue to monitor future forecast
	BELLOTA 230kV - Section 1E & 2E	P2-4	Bus Tie Breaker Fault	124	109	130	<100	49	110	<100	78	SPS recommended in 2019-2020 TPP
	KASSON 115kV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	104	94	90	<100	47	94	<100	78	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
	BELLOTA 230/115kV TB 1 & BELLOTA 230/115kV TB 2	P6	N-1-1	122	110	<100	<100	<100	110	<100	<100	SPS recommended in 2019-2020 TPP
MI-WUK-FBERBORD 115 kV (33914 33917)	BELLOTA 230kV - Section 1E & 2E	P2-4	Bus Tie Breaker Fault	115	102	121	9	50	102	<100	74	SPS recommended in 2019-2020 TPP
	BELLOTA 230/115kV TB 1 & BELLOTA 230/115kV TB 2	P6	N-1-1	112	102	119	<100	<100	102	<100	<100	SPS recommended in 2019-2020 TPP
CURTISS-MI-WUK 115 kV (33916 33917)	BELLOTA 230kV - Section 1E & 2E	P2-4	Bus Tie Breaker Fault	116	104	122	6	52	105	8	77	SPS recommended in 2019-2020 TPP
	BELLOTA 230/115kV TB 1 & BELLOTA 230/115kV TB 2	P6	N-1-1	114	104	120	<100	<100	104	<100	<100	SPS recommended in 2019-2020 TPP
Stanislaus-Melones-Manteca 115 kV Line No. 1 (33932 33500)	KASSON - 1D 115kV & SCHULTE SW STA-KASSON-MANTECA line	P2-3	Non-Bus Tie Breaker Fault	149	140	<100	33	36	142	91	25	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
	BELLOTA 230kV - Section 1E & 2E	P2-4	Bus Tie Breaker Fault	102	103	123	191	100	102	133	38	SPS recommended in 2019-2020 TPP
	KASSON 115kV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	148	139	63	34	13	142	91	21	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
	BELLOTA 230/115kV TB 1 & BELLOTA 230/115kV TB 2	P6	N-1-1	101	102	122	<100	<100	103	<100	<100	SPS recommended in 2019-2020 TPP
Bellota-Riverbank-Melones 115 kV Line (33932 33934)	KASSON - 1D 115kV & SCHULTE SW STA-KASSON-MANTECA line	P2-3	Non-Bus Tie Breaker Fault	155	125	<100	23	39	129	134	41	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
	BELLOTA 230kV - Section 1E & 2E	P2-4	Bus Tie Breaker Fault	145	175	132	163	49	173	130	28	SPS recommended in 2019-2020 TPP

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Thermal Overloads



Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)					Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	
(33932-33934)	KASSON 115kV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	154	124	55	22	71	128	134	46	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
	BELLOTA 230/115kV TB 1 & BELLOTA 230/115kV TB 2	P6	N-1-1	145	174	134	100	<100	174	<100	<100	SPS recommended in 2019-2020 TPP
Stanislaus - Melones Sw 115 kV Line (33932 33936)	KASSON - 1D 115kV & SCHULTE SW STA-KASSON-MANTECA line	P2-3	Non-Bus Tie Breaker Fault	146	137	<100	33	33	140	88	26	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
	BELLOTA 230kV - Section 1E & 2E	P2-4	Bus Tie Breaker Fault	100	100	119	199	97	100	131	39	SPS recommended in 2019-2020 TPP
	STANISLS 13.80kV Gen Unit 1 & MANTECA-RIPON 115kV	P3	N-G-1	101	104	107	<100	<100	107	<100	<100	Continue to monitor future forecast
	KASSON 115kV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	145	137	60	34	9	139	88	22	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
	BELLOTA 230/115kV TB 1 & BELLOTA 230/115kV TB 2	P6	N-1-1	<100	<100	117	100	<100	101	<100	<100	SPS recommended in 2019-2020 TPP
Stanislaus - Melones Sw 115 kV Line (33936 33947)	KASSON - 1D 115kV & SCHULTE SW STA-KASSON-MANTECA line	P2-3	Non-Bus Tie Breaker Fault	155	149	<100	14	56	152	68	59	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
	BELLOTA 230kV - Section 1E & 2E	P2-4	Bus Tie Breaker Fault	60	50	96	129	105	50	104	69	SPS recommended in 2019-2020 TPP
	KASSON 115kV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	154	149	83	14	37	151	68	56	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
	TESLA-SCHULTE SW STA #2 115KV & TESLA-SCHULTE SW STA #1 115KV	P7	DCTL	105	96	54	2	46	102	14	39	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
Riverbank Jct - Manteca 115 kV Line (33947 33951)	MANTECA-RIPON 115kV	P1	N-1	109	120	117	56	23	121	67	13	Operating Procedure
	KASSON - 1D 115kV & SCHULTE SW STA-KASSON-MANTECA line	P2-3	Non-Bus Tie Breaker Fault	149	143	<100	13	53	145	65	56	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
	RPNJ2-RIPON 115kV No Fault	P2-1	Line Section w/o Fault	108	120	117	56	23	121	67	13	Under Review
	RIPON-MANTECA 115kV (RPNJ2-MANTECA)	P2-1	Line Section w/o Fault	108	119	117	56	22	121	67	13	Under Review
	MANTECA 115kV - Ring R4 & R5	P2-3	Non-Bus Tie Breaker Fault	107	<100	117	56	<100	<100	66	13	Under Review
	BELLOTA 230kV - Section 1E & 2E	P2-4	Bus Tie Breaker Fault	57	46	91	123	100	46	99	65	SPS recommended in 2019-2020 TPP

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Thermal Overloads



Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)					Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	
	MANTECA 115kV - Ring R6 & R5	P2-3	Non-Bus Tie Breaker Fault	<100	120	117	<100	22	121	<100	<100	Under Review
	KASSON 115kV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	148	143	80	13	35	145	66	53	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
Bellota-Riverbank-Melones 115 kV Line (33950 33934)	BELLOTA 230kV - Section 1E & 2E	P2-4	Bus Tie Breaker Fault	187	213	172	163	33	212	130	46	SPS recommended in 2019-2020 TPP
	KASSON - 1D 115kV & SCHULTE SW STA-KASSON-MANTECA line	P2-3	Non-Bus Tie Breaker Fault	126	95	<100	22	62	100	134	57	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
	KASSON 115kV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	125	95	36	22	94	99	134	62	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
	BELLOTA 230/115kV TB 1 & BELLOTA 230/115kV TB 2	P6	N-1-1	186	213	174	107	<100	212	<100	<100	SPS recommended in 2019-2020 TPP
	BELLOTA 230kV - Section 1E & 2E	P2-4	Bus Tie Breaker Fault	91	104	87	77	17	104	55	16	SPS recommended in 2019-2020 TPP
Tesla - Salado - Manteca 115 kV Line (33959 33970)	KASSON - 1D 115kV & SCHULTE SW STA-KASSON-MANTECA line	P2-3	Non-Bus Tie Breaker Fault	174	158	<100	44	49	160	128	23	- Vierra Looping in Project - Expected ISD: Dec. 2026 - Short term: Action Plan
	KASSON 115kV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	173	157	72	44	86	159	128	29	
	SCHULTE SW STA-LAMMERS 115kV & SCHULTE SW STA-KASSON-MANTECA 115kV	P6	N-1-1	197	204	<100	<100	<100	205	138	<100	
	TESLA-SCHULTE SW STA #2 115KV & TESLA-SCHULTE SW STA #1 115KV	P7	DCTL	118	99	32	27	70	110	27	25	
Tesla - Salado 115 kV Line No. 1 (33962 33964)	KASSON - 1D 115kV & SCHULTE SW STA-KASSON-MANTECA line	P2-3	Non-Bus Tie Breaker Fault	124	108	<100	27	33	109	95	2	
	KASSON 115kV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	124	107	58	27	57	109	95	6	
	LAMMERS-KASSON 115kV & SCHULTE SW STA-KASSON-MANTECA 115kV	P6	N-1-1	128	127	<100	<100	<100	128	<100	<100	
Tesla - Salado - Manteca 115 kV Line (33965 33964)	KASSON - 1D 115kV & SCHULTE SW STA-KASSON-MANTECA line	P2-3	Non-Bus Tie Breaker Fault	113	110	<100	11	28	112	116	34	
	KASSON 115kV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	113	110	34	11	6	111	116	30	
	TESLA-SALADO #1 115kV (TCHRT_T1-MDSTO CN)	P2-1	Line Section w/o Fault	Cont not found	4	Cont not found	Cont not found	105	5	Cont not found	Cont not found	

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Thermal Overloads



Overloaded Facility	Contingency (All and Worst P6)	Category	Category Description	Loading % (Baseline Scenarios)					Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	
Tesla - Salado - Manteca 115 kV Line (33970 33965)	KASSON - 1D 115kV & SCHULTE SW STA-KASSON-MANTECA line	P2-3	Non-Bus Tie Breaker Fault	121	117	<100	12	30	119	123	36	
	KASSON 115kV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	120	117	37	12	7	119	123	32	
	SCHULTE SW STA-LAMMERS 115kV & SCHULTE SW STA-KASSON-MANTECA 115kV	P6	N-1-1	127	152	<100	<100	<100	152	<100	<100	
Q539SS-MEDLIN J 60 kV (34009 34016)	SALADO-NEWMAN #2 60kV MOAS OPENED on CRWS LDG_CRWS LDJ	P1	N-1	<100	95	104	<100	27	97	<100	<100	Existing operating procedure
	SALADO-NEWMAN #2 60kV (PATTERSN-CRWS LDJ)	P2-1	Line Section w/o Fault	102	103	113	66	29	107	41	16	
	SALADO-NEWMAN #2 60kV (SALADO-PATTERSN)	P2-1	Line Section w/o Fault	102	103	113	66	28	107	41	16	
	SALADO-NEWMAN #2 60kV (CRWS LDJ-GUSTN JT)	P2-1	Line Section w/o Fault	93	95	104	61	27	97	37	15	
	SALADO-NEWMAN #2 60kV (GUSTN JT-NEWMAN)	P2-1	Line Section w/o Fault	93	95	104	61	27	97	37	15	
	SALADO-CROW CREEK SW STA 60kV (SALADO-STNSLSRP)	P2-1	Line Section w/o Fault	47	106	49	35	80	106	94	73	Under Review
Crow Creek Sw St-Newman 60 kV Line (34014 34018)	SALADO-CROW CREEK SW STA 60kV (SALADO-STNSLSRP)	P2-1	Line Section w/o Fault	14	83	12	14	106	82	90	88	Under Review
Lawrence Lab 115 kV Tap #1 (37649 33574)	TESLA D 230kV - Section 1D & 2D	P2-4	Bus Tie Breaker Fault	180	151	92	114	273	169	153	197	Under Review
	TESLA D 230kV Section 2D	P2-2	Bus Fault	36	31	15	28	100	37	33	103	Sensitivity only
	TESLA 230kV BUS D (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	180	151	92	114	274	168	153	197	Under Review
NA	TESLA 115kV - Section 2D & 1D	P2-4	Bus Tie Breaker Fault	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	System Upgrade/ Preferred Resources/Operating Solution as needed
NA	GOLD HILL 230 KV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Under Review
NA	GOLDHILL 230kV - Section 2D & 1D	P2-4	Bus Tie Breaker Fault	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Under Review
NA	GOLDHILL 230/115kV TB 1 & GOLDHILL 230/115kV TB 2	P6	N-1-1	Diverge	Diverge	<100	Diverge	<100	Diverge	<100	<100	- Gold Hill 230/115 kV Transformer Additoin Project - Expected ISD: Dec. 2026 - Short term: Action Plan
NA	TESLA 115kV BUS (FAILURE OF NON-REDUNDENT RELAY)	P5-5	Non-Redundant Relay	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	Diverge	System Upgrade/ Preferred Resources/Operating Solution as needed