



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	
Benton-Deschutes 60 kV Line (31576 31570)	COTTONWOOD 115KV BUS 1/BUS 2 (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Relay	67.2	NConv	NConv	NConv	NConv	73.24	NConv	NConv	Install Redundant Relay
Benton-Deschutes 60 kV Line (31576 31570)	COTTONWOOD 230KV BUS SECTION E/G (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Relay	179.04	147.86	159.55	43.6	116.19	154.84	13.37	80.51	Install Redundant Relay
Caribou - Table Mountain 230KV (31690 30255)	TBL MT D 230KV SECTION 1D	P2-2	Bus Fault	NConv	NConv	NConv	NConv	1.24	NConv	NConv	NConv	Modify Caribou RAS
	CARIBOU-TABLE MTN 230KV [4440] (BELDENTP-TBL MT D)	P2-1	Line Section w/o Fault	NConv	NConv	NConv	NConv	1.24	NConv	NConv	NConv	Modify Caribou RAS
	TBL MT D 230KV SECTION 1D	P2-2	Bus Fault	NConv	NConv	NConv	NConv	1.24	NConv	NConv	NConv	Modify Caribou RAS
	TBL MT D - 1D 230KV & IDLE LINE - NO DATA LINE	P2-3	Non-Bus Tie Breaker Fault	NConv	NConv	NConv	NConv	1.24	NConv	NConv	NConv	Modify Caribou RAS
	TBL MT D SECTION 1D & TBL MT E SECTION 1E 230KV	P2-4	Bus Tie Breaker Fault	NConv	NConv	NConv	NConv	1.24	NConv	NConv	NConv	Modify Caribou RAS
	TBL MT D 230KV - SECTION 1D & 2D	P2-4	Bus Tie Breaker Fault	NConv	NConv	NConv	NConv	1.24	NConv	NConv	NConv	Modify Caribou RAS
Caribou-Plumas Jct 60 kV Line (31677 31689)	TBL MT D 230KV - SECTION 1D & 2D	P2-4	Bus Tie Breaker Fault	NConv	NConv	NConv	NConv	13.1	NConv	NConv	NConv	Modify Caribou RAS
	CARIBOU-TABLE MTN 230KV [4440] (BELDENTP-TBL MT D)	P2-1	Line Section w/o Fault	NConv	NConv	NConv	NConv	15.55	NConv	NConv	NConv	Modify Caribou RAS
	TBL MT D 230KV SECTION 1D	P2-2	Bus Fault	NConv	NConv	NConv	NConv	15.55	NConv	NConv	NConv	Modify Caribou RAS
	TBL MT D SECTION 1D & TBL MT E SECTION 1E 230KV	P2-4	Bus Tie Breaker Fault	NConv	NConv	NConv	NConv	16.87	NConv	NConv	NConv	Modify Caribou RAS
	TBL MT D 230KV - SECTION 1D & 2D	P2-4	Bus Tie Breaker Fault	NConv	NConv	NConv	NConv	15.54	NConv	NConv	NConv	Modify Caribou RAS
Cascade No.1 115/60/13.8 kV Transformer (31468 31797)	COTTONWOOD 230KV BUS SECTION E/G (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Relay	103.26	61.15	74.19	12.7	21.11	77.47	12.61	12.38	Cascade 115/60 kV No. 2 Transformer Project - Dec 2025
Cascade-Cottonwood 115 kV Line (31459 31469)	COTTONWOOD 230KV BUS SECTION E/G (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Relay	113.08	117.48	125.86	28.58	51.82	119.45	57.05	40.52	Install Redundant Relay
Cascade-Deschutes 60 kV Line (31578 31592)	COTWD_F2 SECTION 2F & COTWD_E2 SECTION 2E 230KV	P2-4	Bus Tie Breaker Fault	23.71	<100	<101	86.53	73.35	90.95	153.66	193.19	Sensitivity - gen redispatch
	COTTONWOOD 230KV BUS SECTION E/G (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Relay	266.18	229.99	242.4	55.61	188.54	241.93	38.36	141.31	Install Redundant Relay
	CASCADE-COTTONWOOD 115KV [1240]	P1	N-1	57.33	73.21	58.51	93.09	93.72	70.38	83.35	100.35	Sensitivity - gen redispatch
	COTWD_E2 230/60KV TB 2 & COTWD_E 230/60KV TB 3	P6	N-1-1	133.41	147.8	158.32	<100	116.57	131.57176	<100	<100	Action plan
Cottonwood-Benton No.1 60 kV Line (31570 31572)	COTTONWOOD 230KV BUS SECTION E/G (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Relay	103.12	88.17	96.79	31.91	60.03	91.88	3.41	35.75	Install Redundant Relay
Keswick-Cascade 60 kV Line (31564 31566)	COTTONWOOD 115KV BUS 1/BUS 2 (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Relay	87.95	NConv	NConv	NConv	NConv	37.02	NConv	NConv	Install Redundant Relay
Palermo-Pease 115 kV Line (31482 31506)	TBL MT D - 1D 230KV & TBL MT D- TBL MT E 230KV	P2-3	Non-Bus Tie Breaker Fault	NConv	NConv	NConv	NConv	13.86	NConv	NConv	NConv	Modify Caribou RAS



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	
Round Mountain - Cottonwood #1 230kV (37545 30 30)	ROUND MOUNTAIN 230KV BUS 1 & 2 SEC. E (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Relay	142.15	137.13	133.61	75.98	44.64	137.14	157.19	76.45	Install Redundant Relay
Sycamore Creek-Notre Dame-Table Mountain 115 kV Line (31497 31498)	BUTTE-SYCAMORE CREEK 115KV [1190] (CHICOTP2-BUTTE)	P2-1	Line Section w/o Fault	96.16	97.46	104.85	44.56	23.78	98.47	50.15	13.15	Table Mountain SPS recommended in 2017-2018 TPP
	BUTTE 115KV SECTION MD	P2-2	Bus Fault	96.6	97.93	105.14	44.62	23.75	98.95	50.33	13.16	Table Mountain SPS recommended in 2017-2018 TPP
	BUTTE - MD 115KV & TABLE MTN-BUTTE #1 LINE	P2-3	Non-Bus Tie Breaker Fault	122.23	122.19	133.74	58.25	26.91	123.65	69.25	25.74	Table Mountain SPS recommended in 2017-2018 TPP
Table Mountain - Palermo 230kV (30300 30 30)	TBL MT D- TBL MT E 230KV & TABLE MTN-RIO OSO 230KV [5700]	P6	N-1-1	93.28	<100	NConv	<100	<100	93.28	NConv	98.51	Generation redispatch
Table Mountain No.3 230/115 kV Transformer (31504 30303)	TBL MT D - 1D 230KV & TBL MT D- TBL MT E 230KV	P2-3	Non-Bus Tie Breaker Fault	NConv	NConv	NConv	NConv	70.99	NConv	NConv	NConv	Modify Caribou RAS
Table Mountain-Butte No.1 115 kV Line (31500 31501)	Sycamore Creek-Notre Dame-Table Mountain and Table Mountain-Butte No.2 115 kV Lines	P7	DCTL	101.75	104.65	116.22	63.5	20.6	105.92	53.98	16.56	Table Mountain SPS recommended in 2017-2018 TPP
Table Mountain-Paradise 115 kV Line (31478 31494)	TBLE MTN 115KV SECTION 1D	P2-2	Bus Fault	87.22	90.68	100.79	34.58	16.46	91.94	50.29	11.7	Long term issue - continue to monitor
Trinity - Cottonwood 115kV (31522 31466)	COTTONWOOD 230KV BUS SECTION E/G (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Relay	<100	117.25	124.83	19.52	73.79	118.09	<100	34.51	Install Redundant Relay
Trinity-Keswick 60 kV Line (31556 31564)	COTTONWOOD 115KV BUS 1/BUS 2 (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Relay	90.2	NConv	NConv	NConv	NConv	38.06	NConv	NConv	Install Redundant Relay

Study Area: PG&E North Valley

High/Low Voltages



Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)					Voltage PU (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	
MTN GATE 60kV	COTTONWOOD 115KV BUS 1/BUS 2 (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Relay	0.89	NConv	NConv	0.96	0.98	0.91	0.97	0.98	Install Redundant Relay
STLLWATR 60kV		P5	Non-Redundant Relay	0.92	NConv	NConv	0.58	NConv	0.94	0.46	0.57	Install Redundant Relay
RED BLFF 60kV	COTTONWOOD 230KV BUS SECTION E/G (FAILURE OF NON-REDUNDENT RELAY)	P5	Non-Redundant Relay	0.88	0.94	0.83	1.01	1.07	0.93	1.01	1.04	Install Redundant Relay
VINA 60kV	COTTONWOOD-RED BLUFF 60KV [6660] MOAS OPENED ON RED B JT_RED BLFF	P1	N-1	NA	0.96	0.89	0.99	1.07	0.96	1.00	1.05	Long term issue - continue to monitor
ANTLER 60kV	COTWDPGE 115KV - SECTION 2D & 1D	P2-4	Bus Tie Breaker Fault	0.89	>0.9	>0.9	>0.9	>0.9	>0.9	0.98	>0.9	Cottonwood 115 kV Bus Sectionalizing Breaker Dec, 2025
MTN GATE 60kV		P2-4	Bus Tie Breaker Fault	0.89	>0.9	>0.9	>0.9	>0.9	>0.9	0.98	>0.9	Cottonwood 115 kV Bus Sectionalizing Breaker Dec, 2025
EST QNCY 60kV	SPIQUINCY 13.80KV GEN UNIT 1 & IDLE LINE - NO DATA 230KV [9999]	P3	N-G-1	>0.9	>0.9	0.90	>0.9	>0.9	>0.9	>0.9	>0.9	Long term issue - continue to monitor
ANDERSON 60kV	COTWD_E2 230/60KV TB 2 & COTWD_E 230/60KV TB 3	P6	N-1-1	>0.9	>0.9	0.88	>0.9	>0.9	>0.9	>0.9	>0.9	Long term issue - continue to monitor
BIG BAR 60kV	HUMBOLDT-TRINITY 115KV [1820] & BRIDGEVILLE-COTTONWOOD 115KV [1110]	P6	N-1-1	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	0.90	>0.9	Long term issue - continue to monitor
BIG BAR 60kV	HUMBOLDT-TRINITY 115KV [1820] & KESWICK-CASCADE 60KV [7260] MOAS OPENED ON CASCADE_STLLWATR	P6	N-1-1	0.80	0.80	0.81	>0.9	>0.9	0.78	>0.9	>0.9	Non-BES
BIG MDWS 60kV	TABLE MT-VACA-DIX 500kV & TABLE MT 500/230KV TB 1	P6	N-1-1	>0.9	>0.9	0.89	>0.9	>0.9	>0.9	>0.9	>0.9	Long term issue - continue to monitor
CHESTER 60kV	TABLE MT-TESLA 500kV & TABLE MT 500/230KV TB 1	P6	N-1-1	>0.9	>0.9	0.84	>0.9	>0.9	>0.9	>0.9	>0.9	Long term issue - continue to monitor
CLMN FSH 60kV	COTWD_E 230/60KV TB 3 & COTWD_E2 230/60KV TB 2	P6	N-1-1	>0.9	>0.9	0.88	>0.9	>0.9	>0.9	>0.9	>0.9	Long term issue - continue to monitor
CR CANAL 60kV	CASCADE 115/60KV TB 1 & TYLER SVD=V	P6	N-1-1	>0.9	>0.9	0.90	>0.9	>0.9	>0.9	>0.9	>0.9	Non-BES
DESCHUTS 60kV	KILARC-DESCHUTES 60KV [7300] & CASCADE-BENTON-DESCHUTES 60KV [6310]	P6	N-1-1	0.89	0.87	0.87	>0.9	>0.9	0.88	>0.9	>0.9	Non-BES
DIRYVLE 60kV	COTTONWOOD-RED BLUFF 60KV [6660] MOAS OPENED ON COTTONWD_RED B JT & COLEMAN-COTTONWOOD 60KV [6430]	P6	N-1-1	0.87	>0.9	0.90	>0.9	>0.9	>0.9	>0.9	>0.9	Non-BES
EST QNCY 60kV	SPIQUINCY 13.80KV GEN UNIT 1 & IDLE LINE - NO DATA 230KV [9999]	P6	N-1-1	>0.9	>0.9	0.90	>0.9	>0.9	>0.9	>0.9	>0.9	Long term issue - continue to monitor
FRNCHGLH 60kV	HUMBOLDT-TRINITY 115KV [1820] & KESWICK-CASCADE 60KV [7260] MOAS OPENED ON CASCADE_STLLWATR	P6	N-1-1	0.69	0.64	0.65	>0.9	>0.9	0.62	>0.9	>0.9	Non-BES
GANSNER 60kV	TABLE MT-VACA-DIX 500kV & TABLE MT 500/230KV TB 1	P6	N-1-1			0.90	>0.9	>0.9	>0.9	>0.9	>0.9	Long term issue - continue to monitor
GERBER 60kV	COTWD_E 230/60KV TB 3 & COTWD_E2 230/60KV TB 2	P6	N-1-1	0.88	0.88	0.80	>0.9	>0.9	0.88	>0.9	>0.9	Operation Solution
GIRVAN 60kV	COTWD_E2 230/60KV TB 2 & COTWD_E 230/60KV TB 3	P6	N-1-1	>0.9	>0.9	0.90	>0.9	>0.9	>0.9	>0.9	>0.9	Long term issue - continue to monitor
GROUSCRK 60kV	TRINITY 115/60KV TB 1 & KESWICK-CASCADE 60KV [7260] MOAS OPENED ON CASCADE_STLLWATR	P6	N-1-1	0.87	0.88	0.88	>0.9	>0.9	0.87	>0.9	>0.9	Non-BES
GRYS FLT 60kV	TABLE MT-VACA-DIX 500kV & TABLE MT 500/230KV TB 1	P6	N-1-1	>0.9	>0.9	0.90	>0.9	>0.9	>0.9	>0.9	>0.9	Non-BES
HMLTN BR 60kV	TABLE MT-TESLA 500kV & TABLE MT 500/230KV TB 1	P6	N-1-1	>0.9	>0.9	0.87	>0.9	>0.9	>0.9	>0.9	>0.9	Non-BES

Study Area: PG&E North Valley

High/Low Voltages



Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)					Voltage PU (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	
HYAMPOM 60kV	HUMBOLDT-TRINITY 115KV [1820] & KESWICK-CASCADE 60KV [7260] MOAS OPENED ON CASCADE_STLLWATR	P6	N-1-1	0.86	0.88	0.88	>0.9	>0.9	0.87	>0.9	>0.9	Non-BES
LPSPI 60kV	COTWD_E2 230/60KV TB 2 & COTWD_E 230/60KV TB 3	P6	N-1-1	0.90	>0.9	0.81	>0.9	>0.9	0.90	>0.9	>0.9	Operation Solution
LS MLNSJ 60kV	COTTONWOOD-RED BLUFF 60KV [6660] MOAS OPENED ON COTTONWD_RED B JT & COLEMAN-COTTONWOOD 60KV [6430]	P6	N-1-1	0.86	>0.9	0.88	>0.9	>0.9	>0.9	>0.9	>0.9	Non-BES
RASN JNT 60kV	CASCADE 115/60KV TB 1 & TYLER SVD=V	P6	N-1-1	>0.9	>0.9	0.90	>0.9	>0.9	>0.9	>0.9	>0.9	Long term issue - continue to monitor
RED BLFF 60kV	COTTONWOOD-RED BLUFF 60KV [6660] MOAS OPENED ON COTTONWD_RED B JT & COLEMAN-COTTONWOOD 60KV [6430]	P6	N-1-1	0.89	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	Non-BES
RED BLFF 60kV	COTTONWOOD-RED BLUFF 60KV [6660] MOAS OPENED ON COTTONWD_RED B JT & COLEMAN-RED BLUFF 60KV [6440]	P6	N-1-1	>0.9	0.90	0.81	>0.9	>0.9	0.90	>0.9	>0.9	Non-BES
SPANSHCK 60kV	TABLE MT-VACA-DIX 500kV & TABLE MT 500/230KV TB 1	P6	N-1-1	>0.9	>0.9	0.90	>0.9	>0.9	>0.9	>0.9	>0.9	Long term issue - continue to monitor
STLLWATR 60kV	KESWICK-CASCADE 60KV [7260] MOAS OPENED ON CASCADE_STLLWATR & HUMBOLDT-TRINITY 115KV [1820]	P6	N-1-1	0.70	0.55	0.57	0.88		0.54	0.89	>0.9	Non-BES
SYCAMORE 115kV	SYCAMORE CREEK-NOTRE DAME-TABLE MTN 115KV [4314] & TABLE MTN-BUTTE #1 115KV [3910]	P6	N-1-1	>0.9	>0.9	0.89	>0.9	>0.9	>0.9	>0.9	>0.9	Long term issue - continue to monitor
TYLER 60kV	CASCADE 115/60KV TB 1 & TYLER SVD=V	P6	N-1-1	>0.9	>0.9	0.90	>0.9	>0.9	>0.9	>0.9	>0.9	Long term issue - continue to monitor
VINA 60kV	COTTONWOOD-RED BLUFF 60KV [6660] MOAS OPENED ON COTTONWD_RED B JT & COLEMAN-COTTONWOOD 60KV [6430]	P6	N-1-1	0.85	>0.9	0.87	>0.9	>0.9	>0.9	>0.9	>0.9	Non-BES
VINA 60kV	COTWD_E2 230/60KV TB 2 & COTWD_E 230/60KV TB 3	P6	N-1-1	>0.9	>0.9	0.79	>0.9	>0.9	>0.9	>0.9	>0.9	Long term issue - continue to monitor
VOLTA 60kV	COTTONWOOD-RED BLUFF 60KV [6660] MOAS OPENED ON COTTONWD_RED B JT & COLEMAN-COTTONWOOD 60KV [6430]	P6	N-1-1	0.90	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	>0.9	Non-BES

Study Area: PG&E North Valley

Voltage Deviation



Substation	Contingency (All and Worst P6)	Category	Category Description	Post Cont. Voltage Deviation % (Baseline Scenarios)					Post Cont. Voltage Deviation % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				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	
CR CANAL 60kV	NEO REDB 13.80KV GEN UNIT 1	P1	G-1	9	9	11	9	<8	<8	<8	<8	Tyler 60 kV Shunt Capacitor
RASN JNT 60kV	NEO REDB 13.80KV GEN UNIT 1	P1	G-1	9	9	11	9	<8	<8	<8	<8	Tyler 60 kV Shunt Capacitor
TYLER 60kV	NEO REDB 13.80KV GEN UNIT 1	P1	G-1	9	9	11	9	<8	<8	<8	<8	Tyler 60 kV Shunt Capacitor
CR CANAL 60kV	NEO REDB 13.80KV GEN UNIT 1 & TYLER SVD=V	P3	N-G-1	<8	<8	11	<8	<8	<8	<8	<8	Long term issue, keep monitoring
RASN JNT 60kV	NEO REDB 13.80KV GEN UNIT 1 & TYLER SVD=V	P3	N-G-1	<8	<8	11	<8	<8	<8	<8	<8	Long term issue, keep monitoring
TYLER 60kV	NEO REDB 13.80KV GEN UNIT 1 & TYLER SVD=V	P3	N-G-1	<8	<8	11	<8	<8	<8	<8	<8	Long term issue, keep monitoring
RED BLFF 60kV	COTTONWOOD-RED BLUFF 60KV [6660] MOAS OPENED ON RED B JT_RED BLFF	P1	N-1	<8	<8	9	<8	9	<8	<8	<8	Operational Switching
RED BLFF 60kV	VOLTA1-2 9.11KV GEN UNIT 1 & COTTONWOOD-RED BLUFF 60KV [6660] MOAS OPENED ON RED B JT_RED BLFF	P3	N-G-1	<8	<8	9	<8	<8	<8	<8	<8	Long term issue, keep monitoring

Study Area: PG&E North Valley

Transient Stability



Contingency	Category	Category Description	Transient Stability Performance						Potential Mitigation Solutions
			Baseline Scenarios				Sensitivity Scenarios		
			2023 Spring Off-Peak	2026 Summer Peak	2031 Summer Peak	2031 Spring Off-Peak	2026 SP High CEC Forecast	2023 OP Heavy Renewable & Min Gas Gen	
In accordance with TPL-001-4- Requirement R2.6, this area relies on the past studies from the 2019-20 Transmission Planning Process for transient stability studies:									
http://www.caiso.com/Documents/AppendixC-BoardApprovedt2019-2020TransmissionPlan.pdf									

Study Area: PG&E North Valley



Single Contingency Load Drop

Worst Contingency	Category	Category Description	Amount of Load Drop (MW)												Potential Mitigation Solutions
			2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Winter Peak	2026 Winter Peak	2031 Winter Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2031 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	

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

Study Area: PG&E North Valley



Single Source Substation with more than 100 MW Load

Substation	Load Served (MW)												Potential Mitigation Solutions
	2023 Summer Peak	2026 Summer Peak	2031 Summer Peak	2023 Winter Peak	2026 Winter Peak	2031 Winter Peak	2023 Spring Off-Peak	2026 Spring Off-Peak	2031 Spring Off-Peak	2026 SP High CEC Forecast	2023 SP Heavy Renewable & Min Gas Gen	2023 OP Heavy Renewable & Min Gas Gen	

No single source substation with more than 100 MW