

APPENDIX F: Contingencies on the ISO System that may Impact Adjacent Systems

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2019-2020 ISO Transmission Planning Process
Contingencies on the ISO System which may impact Adjacent Systems

Study Area: PG&E Bulk

Contingency files: PGE Bulk Contingency Files.zip

Contingency file location: Market Participant Portal ->Transmission Planning ->2019/2020 ISO Transmission Planning Process ->Contingency Files

No	Contingency	Category Description	Description of SPS (if any)	Contingency Name
1	P1_2-22.swt	N-1	shunt capacitor insertion on Table Mtn and/or Malin if low voltages	Captain Jack- Olinda 500 kV, flow North to South
2	P1_2-22_off_pk.swt	N-1		Captain Jack- Olinda 500 kV, flow South to North
3	P_EXT-1.swt	G-2	FACRI if low voltages	2 Diablo Canyon units
4	P6_1_1-5.swt	N-2	NW generation drop, insertion of shunt capacitors, removal of reactors	Malin-Round Mtn 500 kV # 1 &2, several RAS options, no RAS off-peak
5	P6_1_1-5_2024.swt	N-2		
6	P6_1_1-5_2029.swt	N-2		
7	P6_1_1-5_off_pk.swt	N-2		
8	P1_2-20.swt	N-1	shunt capacitor insertion if low	Malin-Round Mtn 500 kV # 1
9	P1_2-21.swt	N-1	voltages	Malin-Round Mtn 500 kV # 2
10	P6_1_1-27.swt	N-2		500 kV double line outage north of Los Banos, several RAS options, no RAS on peak
11	P6_1_1-27_off_pk.swt	N-2	load and generation tripping	
12	P6_1_1-37_noRAS.swt	N-2		500 kV double line outage south of Los Banos, RAS for south to north flow
13	P6_1_1-37_sn	N-2	load and generation tripping	
14	P6_1_1-48.swt	N-2		500 kV double outage North of Midway, RAS for south to north flow
15	P6_1_1-46_sn.swt	N-2	load and generation tripping	
16	NESE.swt	system separation	load and generation tripping, opening ties	Northeast/Southeast system separation
17	PaloVerde-g2-OL-MA-RAS.swt	G-2	load tripping in Arizona	outage of 2 Palo Verde units
18	PaloVerde-g2-OL-MA-RAS_sn.swt	G-2	no load tripping	
19	P7_2-0.swt	DC bi-pole	generation tripping, shunt capacitors insertion	PDCI bi-pole outage with several RAS options
20	P7_2-0_2021.swt			
21	P7_2-0_2024.swt			
22	P7_2-0_2029.swt			
23	P7_2-0_noRAS.swt			
24	P6_1_1-0.swt	N-2	generation tripping, shunt capacitors insertion	Round Mtn-Table Mtn 500 kV # 1&2, several RAS options
25	P6_1_1-0_2024.swt	N-2		
26	P6_1_1-0_2029.swt	N-2		
27	P6_1_1-0_LS.swt	N-2		
28	P6_1_1-0_off_pk.swt	N-2		
29	P6_1_1-11.swt	N-2	generation tripping, shunt capacitors insertion	500 kV double line outage south of Table Mtn, several RAS options
30	P6_1_1-11_2024.swt	N-2		
31	P6_1_1-11_2029.swt	N-2		

Contingencies on the ISO System which may impact Adjacent Systems

Study Area: PG&E Bulk

Contingency files: PGE Bulk Contingency Files.zip

Contingency file location: Market Participant Portal ->Transmission Planning ->2019/2020 ISO Transmission Planning Process ->Contingency Files

No	Contingency	Category Description	Description of SPS (if any)	Contingency Name
32	P6_1_1-11_off_pk.swt	N-2		
33	P6_1_1-12.swt	N-2	generation tripping, shunt capacitors insertion	500 kV double line outage north of Tesla, several RAS options
34	P6_1_1-12_2024.swt	N-2		
35	P6_1_1-12_2029.swt	N-2		
36	P6_1_1-12_off_pk.swt	N-2		

2019-2020 ISO Transmission Planning Process

Contingencies on the ISO System which may impact Adjacent Systems

Study Area: **PG&E North Coast & North Bay**

Contingency files: See contingency list

Contingency file location: Market Participant Portal ->Transmission Planning ->2019/2020 ISO Transmission Planning Process ->Contingency Files>PGE NCNB Contingency Files

No	Contingency	Category Description	Description of SPS (if any)
1	NCNB-P1-2021.otg	N-1	
2	NCNB-P1-2024.otg	N-1	
3	NCNB-P1-2029.otg	N-1	
4	NCNB-P2-2021.otg	Bus/Brkr	
5	NCNB-P2-2024.otg	Bus/Brkr	
6	NCNB-P2-2029.otg	Bus/Brkr	
7	NCNB-P5-2021.otg	Non-redundent Relay	
8	NCNB-P5-2024.otg	Non-redundent Relay	
9	NCNB-P5-2029.otg	Non-redundent Relay	
10	NCNB-P7-2021.otg	DCTL	
11	NCNB-P7-2024.otg	DCTL	
12	NCNB-P7-2029.otg	DCTL	

2019-2020 ISO Transmission Planning Process

Contingencies on the ISO System which may impact Adjacent Systems

Study Area: PG&E North Valley

Contingency files: See Contingency List

Contingency file location: Market Participant Portal ->Transmission Planning ->2019/2020 ISO Transmission Planning Process ->Contingency Files>PGE NVLY Contingency Files.zip

No	Contingency	Category Description	Description of SPS (if any)
1	NVLY_P1_2021_M.otg	N-1	
2	NVLY_P1_2024_M.otg	N-1	
3	NVLY_P1_2029_M.otg	N-1	
4	NVLY_P2_2021_M.otg	Bus/Brkr	
5	NVLY_P2_2024_M.otg	Bus/Brkr	
6	NVLY_P2_2029_M.otg	Bus/Brkr	
7	NVLY_P5_2021_M.otg	Non-redundent Relay	
8	NVLY_P5_2024_M.otg	Non-redundent Relay	
9	NVLY_P5_2029_M.otg	Non-redundent Relay	
10	NVLY_P7_2021_M.otg	DCTL	
11	NVLY_P7_2024_M.otg	DCTL	
12	NVLY_P7_2029_M.otg	DCTL	

2019-2020 ISO Transmission Planning Process

Contingencies on the ISO System which may impact Adjacent Systems

Study Area: PG&E Greater Bay Area

Contingency files: See contingency list

Contingency file location: Market Participant Portal ->Transmission Planning ->2019/2020 ISO Transmission Planning Process ->Contingency Files>PGE GBA Contingency Files

No	Contingency	Category Description	Description of SPS (if any)
1	GBA-P1-2021_M.otg	N-1	
2	GBA-P1-2024_M.otg	N-1	
3	GBA-P1-2029_M.otg	N-1	
4	GBA-P2-2021_M.otg	Bus/Brkr	
5	GBA-P2-2024_M.otg	Bus/Brkr	
6	GBA-P2-2029_M.otg	Bus/Brkr	
7	GBA-P5-2021_M.otg	Non-redundent Relay	
8	GBA-P5-2024_M.otg	Non-redundent Relay	
9	GBA-P5-2029_M.otg	Non-redundent Relay	
10	GBA-P7-2021_M.otg	DCTL	
11	GBA-P7-2024_M.otg	DCTL	
12	GBA-P7-2029_M.otg	DCTL	

**2019-2020 ISO Transmission Planning Process
Contingencies on the ISO System which may impact Adjacent Systems**

Study Area: PG&E Greater Fresno

Contingency files: See contingency list

Contingency file location: Market Participant Portal ->Transmission Planning ->2019/2020 ISO Transmission Planning Process ->Contingency Files>PGE SJVL Contingency Files

No	Contingency	Category Description	Description of SPS (if any)
1	GFA-P1-2021.otg	N-1	
2	GFA-P1-2024.otg	N-1	
3	GFA-P1-2029.otg	N-1	
4	GFA-P2-2021.otg	Bus/Brkr	
5	GFA-P2-2024.otg	Bus/Brkr	
6	GFA-P2-2029.otg	Bus/Brkr	
7	GFA-P5-2021.otg	Non-redundent Relay	
8	GFA-P5-2024.otg	Non-redundent Relay	
9	GFA-P5-2029.otg	Non-redundent Relay	
10	GFA-P7-2021.otg	DCTL	
11	GFA-P7-2024.otg	DCTL	
12	GFA-P7-2029.otg	DCTL	

2019-2020 ISO Transmission Planning Process
Contingencies on the ISO System which may impact Adjacent Systems
Study Area: **Consolidated Southern CA**

Contingency file location: *Market Participant Portal ->Transmission Planning ->2019/2020 ISO Transmission Planning Process ->Contingency Files>*

No	Contingency	Category Description	Description of RAS if Applicable	Potentially Affected Adjacent Area
	Steady State Contingencies (OTG Format)			
1	line "PALOVRDE 500.00" "PV_CLRVR_11 500.00" "1" 1 0 line "PV_CLRVR_11 500.00" "PV_CLRVR_12 500.00" "1" 1 0 line "PV_CLRVR_12 500.00" "COLRIVER 500.00" "1" 1 0	P1		Area 26, Area 21, Area 14
2	line_100041 "Line ELDORDO 500.0 to LUGO 500.0 Circuit 1" line 24042 29240 "1" 1 0 line 29240 29241 "1" 1 0 line 29241 29242 "1" 1 0 line 29242 29243 "1" 1 0 line 29243 24086 "1" 1 0	P1	Lugo-Victorville RAS	Area 26
3	line "N.GILA 500.00" "IMPRLVLY 500.00" "1" 1 0	P1		Area 21, Area 14
4	line "ECO 500.00" "MIGUEL 500.00" "1" 1 0	P1	TL23040 IV 500 kV N-1 RAS	Area 20, Area 21
5	line "OCOTILLO 500.00" "SUNCREST 500.00" "1" 1 0	P1	TL23040 IV 500 kV N-1 RAS	Area 20, Area 21
6	line "OTAYMESA 230.00" "TJI-230 230.00" "1" 1 0	P1		Area 20
7	line "IV PFC 230.00" "ROA-230 230.00" "1" 1 0	P1		Area 20
8	line "OTAYMESA 230.00" "MLMS3TAP 230.00" "1" 1 0 line "MIGUEL 230.00" "MLMS3TAP 230.00" "1" 1 0 line "BAY BLVD 230.00" "MLMS3TAP 230.00" "1" 1 0	P1	RAS tripping Otay Mesay and/or Pio Pico generation	Area 20
9	line "MIGUEL 230.00" "MIGUEL 500.00" "2" 1 0	P1	Miguel Banks RAS shedding gen in the greater IV area	Area 20
10	tran "ELDORDO 500.00" "ELDORDO 230.00" "3" 0 "ELDOR 3T 13.80"	P1		Area 26
11	tran "ELDORDO 500.00" "ELDORDO 230.00" "4" 0 "ELDOR 4T 13.80"	P1		Area 26
12	tran "ELDORDO 500.00" "ELDORDO2 230.00" "5" 0 "ELDOR 5T 13.80"	P1	Ivanpah RAS	Area 26
13	line "LUGO 500.00" "LGO_MOHVE_11 500.00" "1" 1 0 line "LGO_MOHVE_11 500.00" "LGO_MOHVE_12 500.00" "1" 1 0 line "LGO_MOHVE_12 500.00" "LGO_MOHVE_13 500.00" "1" 1 0 line "LGO_MOHVE_13 500.00" "LGO_MOHVE_14 500.00" "1" 1 0 line "LGO_MOHVE_14 500.00" "MOHAVE 500.00" "1" 1 0	P1		Area 26

Contingencies on the ISO System which may impact Adjacent Systems

Study Area: **Consolidated Southern CA**

Contingency file location: **Market Participant Portal ->Transmission Planning ->2019/2020 ISO Transmission Planning Process ->Contingency Files>**

No	Contingency	Category Description	Description of RAS if Applicable	Potentially Affected Adjacent Area
14	line "MOHAVE 500.00" "ELDORDO 500.00" "1" 1 0	P1		Area 26
15	line "PISGAH 230.00" "CIMAT1 230.00" "1" 1 0 line "CIMAT1 230.00" "ELDORDO 230.00" "1" 1 0	P1		Area 26
16	line "PISGAH 230.00" "CIMAT2 230.00" "2" 1 0 line "CIMAT2 230.00" "ELDORDO 230.00" "2" 1 0	P1		Area 26
17	line "ELDORDO2 230.00" "BOB SS 230.00" "1" 1 0	P1		Area 26, Area 18
18	line "PISGAH 230.00" "LUGO 230.00" "1" 1 0	P1		Area 26
19	line "PISGAH 230.00" "CALCITE 230.00" "1" 1 0	P1		Area 26
20	line "CALCITE 230.00" "LUGO 230.00" "1" 1 0	P1		Area 26
21	line "TAP645 55.00" "NEVBD502 55.00" "1" 1 0	P1		Area 18
22	line "CONTROL 115.00" "INYO 115.00" "1" 1 0	P1		Area 26
23	line "CONTROL 115.00" "INYOKERN 115.00" "1" 1 0	P1	Bishop RAS - trips Bishop area generation	Area 26
24	line "INYOKERN 115.00" "KRAMER 115.00" "1" 1 0	P1		Area 26
25	line "TAP701 115.00" "KRAMER 115.00" "1" 1 0 line "TAP701 115.00" "INYOKERN 115.00" "1" 1 0 line "RANDSBRG 115.00" "TAP701 115.00" "1" 1 0	P1		Area 26
26	line "CONTROL 115.00" "TAP710 115.00" "1" 1 0 line "TAP710 115.00" "INYOKERN 115.00" "1" 1 0 line "COSO 115.00" "TAP710 115.00" "1" 1 0	P1	Bishop RAS - trips Bishop area generation	Area 26
27	line "NWEST 230.00" "DESERT VIEW 230.00" "1" 1 0	P1		Area 18
28	line "BOB SS 230.00" "MEAD S 230.00" "1" 1 0	P1		Area 19, Area 26, Area 24, Area 18
29	line "AMARGOSA 138.00" "SANDY 138.00" "1" 1 0	P1		Area 18
30	line "GAMEBIRD 138.00" "PAHRUMP 138.00" "1" 1 0	P1	VEA's UVLS scheme	Area 18
31	isol "INNOVATION 138.00"	P1		Area 18
32	line "JACKASSF 138.00" "MERCYSW 138.00" "1" 1 0	P1		Area 18
33	line "CONTROL 115.00" "INYO 115.00" "1" 1 0 line "CONTROL 115.00" "TAP704 115.00" "1" 1 0 line "CONTROL 115.00" "INYOKERN 115.00" "1" 1 0 tran "CONTROL 115.00" "CONTROL 55.00" "3" 0 " 0.00" line "CONTROL 115.00" "OXBOW B 115.00" "1" 1 0	P2		Area 26
34	line "CONTROL 115.00" "INYO 115.00" "1" 1 0 line "CONTROL 115.00" "CSA DIAB 115.00" "1" 1 0 line "CONTROL 115.00" "TAP710 115.00" "1" 1 0 tran "CONTROL 115.00" "CONTROL 55.00" "1" 0 " 0.00" tran "CONTROL 115.00" "BSPHYD34 2.20" "1" 0 " 0.00" gen "BSPHYD34 2.20" "34" 0	P2		Area 26

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No	Contingency	Category Description	Description of RAS if Applicable	Potentially Affected Adjacent Area
35	gen "IV GEN1 STG 21.00" "1" 0 gen "IV GEN1 CTG2 18.00" "1" 0 gen "IV GEN1 CTG3 18.00" "1" 0 line "N.GILA 500.00" "IMPRLVLY 500.00" "1" 1 0	P3		Area 21, Area 14
36	gen "OTAYMST1 16.00" "1" 0 gen "OTAYMGT1 18.00" "1" 0 gen "OTAYMGT2 18.00" "1" 0 line "ECO 500.00" "MIGUEL 500.00" "1" 1 0 gen "MIGUEL A 17.50" "1" 0 gen "MIGUEL B 17.50" "1" 0	P3	TL23040 IV 500 kV N-1 RAS	Area 20
37	line "VISTA 138.00" "PAHRUMP 138.00" "1" 1 0 line "PAHRUMP 138.00" "GAMEBIRD 138.00" "1" 1 0	P4	VEA's UVLS scheme	Area 18
38	tran "PAHRUMP 230.00" "PAHRUMP 138.00" "1" 0 -1 line "PAHRUMP 138.00" "GAMEBIRD 138.00" "1" 1 0	P4	VEA's UVLS scheme	Area 18
39	tran "PAHRUMP 230.00" "PAHRUMP 138.00" "1" 0 -1 line "PAHRUMP 230.00" "BOB SS 230.00" "1" 1 0	P4	VEA's UVLS scheme	Area 18
40	line "ELDORDO 500.0" "LUGO 500.0" "1" 1 0 line "PALOVRDE 500.00" "COLRIVER 500.00" "1" 1 0	P6	Lugo-Victorville RAS	Area 26
41	line "PALOVRDE 500.00" "PV_CLRVR_11 500.00" "1" 1 0 line "PV_CLRVR_11 500.00" "PV_CLRVR_12 500.00" "1" 1 0 line "PV_CLRVR_12 500.00" "COLRIVER 500.00" "1" 1 0 line "N.GILA 500.00" "IMPRLVLY 500.00" "1" 1 0	P6		Area 26, Area 21, Area 14
42	line "MOHAVE 500.0" "ELDORDO 500.0" "1" 1 0 line "MOHAVE 500.0" "LUGO 500.0" "1" 1 0	P6	NVE RAS	Area 18
43	line "ECO 500.00" "MIGUEL 500.00" "1" 1 0 gen "MIGUEL A 17.50" "1" 0 gen "MIGUEL B 17.50" "1" 0 line "SYCAMORE TP1 230.00" "SYCAMORE 230.00" "1" 1 0 line "SUNCREST TP1 230.00" "SYCAMORE TP1 230.00" "1" 1 0 line "SUNCREST TP1 230.00" "SYCAMORE TP1" "2" 1 0 line "SUNCREST 230.00" "SUNCREST TP1 230.00" "1" 1 0	P6	Suncrest-Sycamore 230 kV Gen Drop RAS	Area 20, Area 21
44	line "N.GILA 500.00" "IMPRLVLY 500.00" "1" 1 0 line "IMPRLVLY 230.00" "ELCENTSW 230.00" "1" 1 0	P6		Area 21, Area 14
45	line "ECO 500.00" "MIGUEL 500.00" "1" 1 0 gen "MIGUEL A 17.50" "1" 0 gen "MIGUEL B 17.50" "1" 0 line "N.GILA 500.00" "IMPRLVLY 500.00" "1" 1 0	P6	RAS shedding generation in the greater IV area	Area 20, Area 21

Contingencies on the ISO System which may impact Adjacent Systems

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No	Contingency	Category Description	Description of RAS if Applicable	Potentially Affected Adjacent Area
46	line "OCOTILLO 500.00" "SUNCREST 500.00" "1" 1 0 line "N.GILA 500.00" "IMPRLVLY 500.00" "1" 1 0	P6	IV Gen Shedding RAS	Area 20, Area 22
47	line "PALOVRDE 500.00" "PV_CLRVR_11 500.00" "1" 1 0 line "PV_CLRVR_11 500.00" "PV_CLRVR_12 500.00" "1" 1 0 line "PV_CLRVR_12 500.00" "COLRIVER 500.00" "1" 1 0 line "N.GILA 500.00" "IMPRLVLY 500.00" "1" 1 0 line "N.GILA 500.00" "IMPRLVLY 500.00" "1" 2 0	P6		Area 14, Area 26, Area 21
48	line "DELANEY 500.00" "DEL_CLRVR_11 500.00" "1" 1 0 line "DEL_CLRVR_11 500.00" "DEL_CLRVR_12 500.00" "1" 1 0 line "DEL_CLRVR_12 500.00" "COLRIVER 500.00" "1" 1 0 line "N.GILA 500.00" "IMPRLVLY 500.00" "1" 1 0 line "N.GILA 500.00" "IMPRLVLY 500.00" "1" 2 0	P6		Area 14
49	line "INYOKERN 115.00" "KRAMER 115.00" "1" 1 0 line "TAP701 115.00" "KRAMER 115.00" "1" 1 0 line "TAP701 115.00" "INYOKERN 115.00" "1" 1 0 line "RANDSBRG 115.00" "TAP701 115.00" "1" 1 0	P6		Area 26
50	line "DEVERS 500.00" "DVRS_RB_11 500.00" "1" 1 0 line "DVRS_RB_11 500.00" "DVRS_RB_12 500.00" "1" 1 0 line "DVRS_RB_12 500.00" "REDBLUFF 500.00" "1" 1 0 line "DEVERS 500.00" "DVRS_RB_21 500.00" "2" 1 0 line "DVRS_RB_21 500.00" "DVRS_RB_22 500.00" "2" 1 0 line "DVRS_RB_22 500.00" "REDBLUFF 500.00" "2" 1 0	P6 (NERC)/ WECC Common Corridor /Extreme	Colorado River Corridor RAS	Area 26, Area 21, Area 14
50	line "COLRIVER 500.00" "REDBLUFF 500.00" "1" 1 0 line "COLRIVER 500.00" "REDBLUFF 500.00" "2" 1 0	P6 (NERC)/ WECC Common Corridor	Colorado River Corridor RAS	Area 14
51	line "MOHAVE 500.0" "ELDORDO 500.0" "1" 1 0 line "ELDORDO 500.0" "LUGO 500.0" "1" 1 0	P6/Extreme	Lugo-Victorville RAS	Area 26
52	line "ECO 500.00" "MIGUEL 500.00" "1" 1 0 gen "MIGUEL A 17.50" "1" 0 gen "MIGUEL B 17.50" "1" 0 line "OCOTILLO 500.00" "SUNCREST 500.00" "1" 1 0	P6/Extreme	San Diego 500 kV Gen Drop RAS, San Diego Safety Net	Area 20, Area 21, Area 14
52	line "EAGLROCK 230.00" "SYLMAR S 230.00" "1" 1 0 line "SYLMAR S 230.00" "GOULD 230.00" "1" 1 0	P7		Area 26

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No	Contingency	Category Description	Description of RAS if Applicable	Potentially Affected Adjacent Area
53	line "OTAYMESA 230.00" "MLSXTAP 230.00" "1" 1 0 line "MIGUEL 230.00" "MLSXTAP 230.00" "1" 1 0 line "SYCAMORE 230.00" "MLSXTAP 230.00" "1" 1 0 line "OTAYMESA 230.00" "MLMS3TAP 230.00" "1" 1 0 line "MIGUEL 230.00" "MLMS3TAP 230.00" "1" 1 0 line "BAY BLVD 230.00" "MLMS3TAP 230.00" "1" 1 0	P7	RAS tripping Otay Mesay and/or Pio Pico generation	Area 20
54	line "CVSUB230 230.00" "MIRAGE 230.00" "1" 1 0 line "RAMON 230.00" "MIRAGE 230.00" "1" 1 0	P7		Area 21
55	line "CONTROL 115.00" "TAP710 115.00" "1" 1 0 line "TAP710 115.00" "INYOKERN 115.00" "1" 1 0 line "COSO 115.00" "TAP710 115.00" "1" 1 0 line "CONTROL 115.00" "INYOKERN 115.00" "1" 1 0	P7	Bishop RAS - trips Bishop area generation	Area 26
56	line "INNOVATION 230.00" "DESERT VIEW 230.00" "1" 1 0			
	Stability Contingencies			
	None identified			