

2013/2014 ISO Reliability Assessment - Study Results

Study Area: **PG&E Greater Bay Area San Francisco - Summer Peak**



Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SF-SP-T-01	AY-2 115 kV Line	B2_8_Potrero-Mission (AX) 115kV Cable	B	N-1	<100%	107%	101%	Reduce TBC output and/or modify TBC DC Runback scheme
SF-SP-T-02	AX 115 kV Line	B2_7_Potrero-Larkin #2 (AY-2) 115kV Cable	B	N-1	116%	127%	120%	Short Term: Existing TBC DC Runback Scheme Long Term: Modify TBC DC Runback Scheme
SF-SP-T-03	AY-2 115 kV Line	C1-4_BUS FAULT AT 33204 POTRERO 115.00 Sec 2D	C1	Bus	104%	<100%	<100%	Short Term: Action Plan - cutail load at Larkin Long Term: Potrero 115 kV Bus upgrade
SF-SP-T-04	AX 115 kV Line	C1-3_BUS FAULT AT 33204 POTRERO 115.00 Sec 1D	C1	Bus	105%	<100%	<100%	Existing TBC DC Runback Scheme
SF-SP-T-05	AX 115 kV Line	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	<100%	121%	120%	Short Term: Action Plan - cutail load at Larkin Long Term: Potrero 115 kV Bus upgrade
SF-SP-T-06	AY-2 115 kV Line	C2-4_CB FAULT AT 33204 POTRERO 115 CB102	C2	Breaker	159%	105%	<100%	Short Term: Reduce TBC output Long Term: Potrero 115 kV Bus upgrade
SF-SP-T-07	AX 115 kV Line	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	101%	126%	127%	Short Term: Reduce TBC output Long Term: Potrero 115 kV Bus upgrade
SF-SP-T-08	AY-1 115 kV Line	B2_15_Martin-Larkin (HY-1) 115kV Cable & B2_6_Mission-Larkin (XY-1) 115kV Cable	C3	N-1-1	177%	183%	179%	Action Plan - clear line and reenergize Larkin 115 kV bus after first contingency
SF-SP-T-09	XY-1 115 kV Line	B2_5_Potrero-Larkin #1 (AY-1) 115kV Cable & B2_7_Potrero-Larkin #2 (AY-2) 115kV Cable	C3	N-1-1	106%	116%	114%	Action Plan - reduce TBC to 0 MW and drop up to 30 MW of load at Larkin
SF-SP-T-10	AY-2 115 kV Line	B2_5_Potrero-Larkin #1 (AY-1) 115kV Cable & B2_8_Potrero-Mission (AX) 115kV Cable	C3	N-1-1	125%	135%	130%	Action Plan - reduce TBC import and/or modify TBC DC Runback



Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SF-SP-T-11	AX 115 kV Line	B2_9_Hunters Point-Mission #1 (PX-1) 115kV Cable & B2_7_Potrero-Larkin #2 (AY-2) 115kV Cable	C3	N-1-1	137%	147%	142%	Action Plan - reduce TBC import and/or modify TBC DC Runback

San Onofre Nuclear Generation Station was retired on June 7, 2013 and therefore was removed from the base cases used for the 2013/14 ISO transmission planning process.

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Study Area: **PG&E Greater Bay Area San Francisco - Winter Peak**



Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Winter Peak	2018 Winter Peak	2023 Winter Peak	
SF-WP-T-01	AY-2 115 kV Line	B2_8_Potrero-Mission (AX) 115kV Cable	B	N-1	<100%	102%	107%	Reduce TBC output and/or modify TBC DC Runback scheme
SF-WP-T-02	AX 115 kV Line	B2_7_Potrero-Larkin #2 (AY-2) 115kV Cable	B	N-1	110%	121%	127%	Existing TBC DC Runback
SF-WP-T-03	AX 115 kV Line	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	<100%	120%	122%	Existing TBC DC Runback
SF-WP-T-04	AY-2 115 kV Line	C2-4_CB FAULT AT 33204 POTRERO 115 CB102	C2	Breaker	150%	100%	105%	Reduce TBC output and/or modify TBC DC Runback scheme
SF-WP-T-05	AX 115 kV Line	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	<100%	124%	128%	Reduce TBC output and/or modify TBC DC Runback scheme
SF-WP-T-06	AY-1 115 kV Line	B2_15_Martin-Larkin (HY-1) 115kV Cable & B2_6_Mission-Larkin (XY-1) 115kV Cable	C3	N-1-1	165%	172%	182%	Action Plan - clear line and reenergize Larkin 115 kV bus after first contingency
SF-WP-T-07	XY-1 115 kV Line	B2_5_Potrero-Larkin #1 (AY-1) 115kV Cable & B2_7_Potrero-Larkin #2 (AY-2) 115kV Cable	C3	N-1-1	103%	112%	118%	Reduce TBC output and/or modify TBC DC Runback scheme
SF-WP-T-08	AY-2 115 kV Line	B2_8_Potrero-Mission (AX) 115kV Cable & B2_5_Potrero-Larkin #1 (AY-1) 115kV Cable	C3	N-1-1	118%	129%	135%	Reduce TBC output and/or modify TBC DC Runback scheme
SF-WP-T-09	AX 115 kV Line	B2_5_Potrero-Larkin #1 (AY-1) 115kV Cable & B2_7_Potrero-Larkin #2 (AY-2) 115kV Cable	C3	N-1-1	138%	150%	157%	Reduce TBC output and/or modify TBC DC Runback scheme, curtail load at Larkin

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Summer Off-Peak	2018 Summer Light Load	N/A	
SF-OP-T-01	AY-2 115 kV Line	C2-4_CB FAULT AT 33204 POTRERO 115 CB102	C2	Breaker	123%	<100%	-	Short Term: Reduce TBC output Long Term: Potrero 115 kV Bus upgrade
SF-OP-T-02	AX 115 kV Line	B2_11_Potrero-Hunters Point (AP-1) 115kV Cable & B2_7_Potrero-Larkin #2 (AY-2) 115kV Cable	C3	N-1-1	104%	<100%	-	Existing TBC DC Runback scheme

Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SF-SP-VD-01	MARTIN 60 KV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	12.00%	12.00%	< 0.95	Review Martin transformer tap and voltage schedule settings
SF-SP-VD-02	MARTIN 60 KV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	12.00%	12.00%	< 0.9	Review Martin transformer tap and voltage schedule settings
SF-SP-VD-03	MARTIN 60 KV	C2-1_CB FAULT AT 33204 POTRERO 115 CB302	C2	Breaker	14.00%	14.00%	< 0.9	Review Martin transformer tap and voltage schedule settings
SF-SP-VD-04	MARTIN 60 KV	B2_10_Hunters Point-Mission #2 (PX-2) 115kV Cable & B2_12_Potrero-TBC 115kV section	C3	N-1-1	11.00%	11.00%	< 0.9	Review Martin transformer tap and voltage schedule settings

Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2015 Winter Peak	2018 Winter Peak	2023 Winter Peak	
SF-WP-VD-1	MARTIN 60kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	< 5%	< 5%	13.00%	Review Martin transformer tap and voltage schedule settings
SF-WP-VD-2	MARTIN 60kV	B2_4_San Mateo-Martin 230kV Line	B	N-1	-15.00%	< 5%	< 0.95	Review Martin transformer tap and voltage schedule settings
SF-WP-VD-3	MARTIN 60kV	C1-3_BUS FAULT AT 33204 POTRERO 115.00 Sec 1D	C1	Bus	-14.00%	< 10%	< 10%	Review Martin transformer tap and voltage schedule settings
SF-WP-VD-4	MARTIN 60kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	< 10%	< 10%	13.00%	Review Martin transformer tap and voltage schedule settings
SF-WP-VD-5	MARTIN 60kV	C2-4_CB FAULT AT 33204 POTRERO 115 CB102	C2	Breaker	-15.00%	< 10%	< 10%	Review Martin transformer tap and voltage schedule settings
SF-WP-VD-6	MARTIN 60kV	B2_1_Martin-Embarcadero #2 (HZ-2) 115kV Cable & B2_2_Martin-Embarcadero #1 (HZ-1) 115kV Cable	C3	N-1-1	< 10%	10.00%	12.00%	Review Martin transformer tap and voltage schedule settings
SF-WP-VD-7	MARTIN 60kV	C5_1_Martin-Daly City Nos. 1 & 2 115 kV lines	C5	DCTL	-16.00%	-9.00%	-8.00%	Review Martin transformer tap and voltage schedule settings

Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2015 Summer Off-Peak	2018 Summer Light Load	N/A	
SF-OP-DV-01	MARTIN 60kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	-18.00%	< 5%	-	Review Martin transformer tap and voltage schedule settings
SF-OP-DV-02	MARTIN 60kV	B3_5_Martin 115/60kV Transformer #6	B	N-1	< 5%	-12.00%	-	Review Martin transformer tap and voltage schedule settings
SF-OP-DV-03	MARTIN 60kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	-18.00%	< 10%	-	Review Martin transformer tap and voltage schedule settings
SF-OP-DV-04	MARTIN 60kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	-18.00%	< 10%	-	Review Martin transformer tap and voltage schedule settings
SF-OP-DV-05	MARTIN 60kV	C5_2_Martin-East Grand 115 kV and San Mateo-Martin No. 6 115 kV	C5	DCTL	-11.00%	< 10%	-	Review Martin transformer tap and voltage schedule settings

ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
SF-SP-V-01	MARTIN 60kV	B2_25_Martin-Sneath Lane 60kV Line	B	N-1	1.11	1.12	1.16	Review Martin transformer tap and voltage schedule settings

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Study Area: **PG&E Greater Bay Area San Francisco - Winter Peak**

High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2015 Winter Peak	2018 Winter Peak	2023 Winter Peak	
SF-WP-V-1	MARTIN 60kV	B2_4_San Mateo-Martin 230kV Line	B	N-1	1.14	> 0.95	> 0.95	Review Martin transformer tap and voltage schedule settings
SF-WP-V-2	MARTIN 60kV	C1-3_BUS FAULT AT 33204 POTRERO 115.00 Sec 1D	C1	Bus	1.13	1.13	1.13	Review Martin transformer tap and voltage schedule settings
SF-WP-V-3	MARTIN 60kV	C2-4_CB FAULT AT 33204 POTRERO 115 CB102	C2	Breaker	1.14	1.14	1.14	Review Martin transformer tap and voltage schedule settings
SF-WP-V-4	MARTIN 60kV	C5_1_Martin-Daly City Nos. 1 & 2 115 kV lines	C5	DCTL	1.15	1.15	1.15	Review Martin transformer tap and voltage schedule settings

2013/2014 ISO Reliability Assessment - Study Results

Study Area: **PG&E Greater Bay Area San Francisco - Summer Off-Peak & Summer Light Load**

High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2015 Summer Off-Peak	2018 Summer Light Load	N/A	
SF-OP-V-01	MARTIN 60kV	B2_25_Martin-Sneath Lane 60kV Line	B	N-1	> 0.95	1.24	-	Review area tap settings and voltage schedules
SF-OP-V-02	MARTIN 60kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	1.16	> 0.95	-	Review area tap settings and voltage schedules
SF-OP-V-03	POT_SVC 115kV	B2_4_San Mateo-Martin 230kV Line	B	N-1	> 0.95	1.12	-	Review area tap settings and voltage schedules
SF-OP-V-04	POTRERO 115kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-05	BAYSHOR1 115kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-06	EMBRCDRD 230kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-07	HNTRS PT 115kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-08	LARKIN D 115kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-09	LARKIN E 115kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-10	LARKIN F 115kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-11	MARTIN C 115kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-12	MARTIN C 230kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-13	MRT RC&1 230kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-14	MARTIN 60kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	1.16	1.23	-	Review area tap settings and voltage schedules
SF-OP-V-15	MISSION 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-16	POTRERO 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-17	POTRERO 230kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-18	BAYSHOR1 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-19	BAYSHOR2 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Review area tap settings and voltage schedules

2013/2014 ISO Reliability Assessment - Study Results

Study Area: **PG&E Greater Bay Area San Francisco - Summer Off-Peak & Summer Light Load**

High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2015 Summer Off-Peak	2018 Summer Light Load	N/A	
SF-OP-V-20	EMBRCDRD 230kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-21	EMBRCDRE 230kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-22	HNTRS PT 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-23	LARKIN D 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-24	LARKIN E 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-25	LARKIN F 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-26	MARTIN C 230kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.12	-	Review area tap settings and voltage schedules
SF-OP-V-27	MARTIN C 230kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-28	MRT RC&1 230kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.10	-	Review area tap settings and voltage schedules
SF-OP-V-29	MRT RC&2 230kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-30	MARTIN 60kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.24	-	Review area tap settings and voltage schedules
SF-OP-V-31	MISSION 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-32	POTRERO 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-33	POTRERO 230kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-34	BAYSHOR1 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-35	BAYSHOR2 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-36	EMBRCDRD 230kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-37	HNTRS PT 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-38	LARKIN D 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Review area tap settings and voltage schedules

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Study Area: **PG&E Greater Bay Area San Francisco - Summer Off-Peak & Summer Light Load**

High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2015 Summer Off-Peak	2018 Summer Light Load	N/A	
SF-OP-V-39	LARKIN E 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-40	LARKIN F 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Review area tap settings and voltage schedules
SF-OP-V-41	MARTIN C 230kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.12	-	Review area tap settings and voltage schedules
SF-OP-V-42	MARTIN C 230kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-43	MRT RC&1 230kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.10	-	Review area tap settings and voltage schedules
SF-OP-V-44	MRT RC&2 230kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-45	MARTIN 60kV	C5_2_Martin-East Grand 115 kV and San Mateo-Martin No. 6 115 kV	C5	DCTL	> 0.9	1.21	-	Review area tap settings and voltage schedules
SF-OP-V-46	MISSION 115kV	C5_2_Martin-East Grand 115 kV and San Mateo-Martin No. 6 115 kV	C5	DCTL	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-47	POT_SVC 115kV	C5_2_Martin-East Grand 115 kV and San Mateo-Martin No. 6 115 kV	C5	DCTL	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-48	POTRERO 115kV	C5_2_Martin-East Grand 115 kV and San Mateo-Martin No. 6 115 kV	C5	DCTL	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-49	BAYSHOR1 115kV	C5_2_Martin-East Grand 115 kV and San Mateo-Martin No. 6 115 kV	C5	DCTL	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-50	BAYSHOR2 115kV	C5_2_Martin-East Grand 115 kV and San Mateo-Martin No. 6 115 kV	C5	DCTL	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-51	HNTRS PT 115kV	C5_2_Martin-East Grand 115 kV and San Mateo-Martin No. 6 115 kV	C5	DCTL	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-52	LARKIN D 115kV	C5_2_Martin-East Grand 115 kV and San Mateo-Martin No. 6 115 kV	C5	DCTL	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-53	LARKIN E 115kV	C5_2_Martin-East Grand 115 kV and San Mateo-Martin No. 6 115 kV	C5	DCTL	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-54	LARKIN F 115kV	C5_2_Martin-East Grand 115 kV and San Mateo-Martin No. 6 115 kV	C5	DCTL	> 0.9	1.11	-	Review area tap settings and voltage schedules
SF-OP-V-55	MARTIN C 115kV	C5_2_Martin-East Grand 115 kV and San Mateo-Martin No. 6 115 kV	C5	DCTL	> 0.9	1.11	-	Review area tap settings and voltage schedules

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Study Area: **PG&E Greater Bay Area San Francisco - Summer Peak**



Single Contingency Load Drop

ID	Worst Contingency	Category	Category Description	Amount of Load Drop (MW)			Potential Mitigation Solutions
				Select..	Select..	Select..	

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

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Single Contingency Load Drop

ID	Worst Contingency	Category	Category Description	Amount of Load Drop (MW)			Potential Mitigation Solutions
				Select..	Select..	Select..	

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

2013/2014 ISO Reliability Assessment - Study Results

Study Area: **PG&E Greater Bay Area San Francisco - Summer Off-Peak & Summer Light Load**



Single Contingency Load Drop

ID	Worst Contingency	Category	Category Description	Amount of Load Drop (MW)			Potential Mitigation Solutions
				Select..	Select..	Select..	

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



Single Source Substation with more than 100 MW Load

ID	Substation	Load Served (MW)			Potential Mitigation Solutions
		Select..	Select..	Select..	

No single source substation with more than 100 MW Load

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Single Source Substation with more than 100 MW Load



ID	Substation	Load Served (MW)			Potential Mitigation Solutions
		Select..	Select..	Select..	

No single source substation with more than 100 MW Load

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Study Area: **PG&E Greater Bay Area San Francisco - Summer Off-Peak & Summer Light Load**



Single Source Substation with more than 100 MW Load

ID	Substation	Load Served (MW)			Potential Mitigation Solutions
		Select..	Select..	Select..	

No single source substation with more than 100 MW Load