

2013/2014 ISO Reliability Assessment - Preliminary 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 update 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%	Existing TBC DC Runback
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%	Develop an action plan to transfer loads among substation (NB: reducing TransBay cable output doesn't solve the problem)
SF-SP-T-04	AX 115 kV Line	C1-3_BUS FAULT AT 33204 POTRERO 115.00 Sec 1D	C1	Bus	105%	<100%	<100%	Reduce TBC output and/or update 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%	Existing TBC DC Runback
SF-SP-T-06	AY-2 115 kV Line	C2-4_CB FAULT AT 33204 POTRERO 115 CB102	C2	Breaker	159%	105%	<100%	Develop an action plan to transfer loads among substation (NB: reducing TransBay cable output doesn't solve the problem)
SF-SP-T-07	AX 115 kV Line	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	101%	126%	127%	TBC DC Runback will automatically initiate for this contingency, reducing overload (loss of AY-2). Reduce TBC further and/or update TBC DC Runback scheme
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%	Develop an action plan to transfer loads among substation (NB: reducing TransBay cable output doesn't solve the problem)

2013/2014 ISO Reliability Assessment - Preliminary 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-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%	TBC DC Runback will automatically initiate for this contingency, reducing overload (loss of AY-2). Develop action plan to transfer loads among substation
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%	Reduce TransBay cable output and develop an action plan to transfer loads among substation
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%	Reduce TransBay cable output and develop an action plan to transfer loads among substation

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.

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 update 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%	Develop an action plan to transfer loads among substation (NB: reducing TransBay cable output doesn't solve the problem)
SF-WP-T-05	AX 115 kV Line	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	<100%	124%	128%	TBC DC Runback will automatically initiate for this contingency, reducing overload (loss of AY-2). Reduce TBC further and/or update 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%	Develop an action plan to transfer loads among substation (NB: reducing TransBay cable output doesn't solve the problem)
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%	TBC DC Runback will automatically initiate for this contingency, reducing overload (loss of AY-2). Develop action plan to transfer loads among substation

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-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 TransBay cable output and develop an action plan to transfer loads among substation
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%	TBC DC Runback will automatically initiate for this contingency, reducing overload (loss of AY-2)
SF-WP-T-10	Potrero - Mission (AX) 115 kV Cable	Potrero-Larkin #2 (AY-2) 115kV Cable	B	N-1	111%	122%	126%	Existing TBC DC Runback Scheme

2013/2014 ISO Reliability Assessment - Preliminary Study Results

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



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%	-	Develop an action plan to transfer loads among substation (NB: reducing TransBay cable output doesn't solve the problem)
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%	-	TBC DC Runback will automatically initiate for this contingency, reducing overload (loss of AY-2)

2013/2014 ISO Reliability Assessment - Preliminary Study Results

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

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	Add Reactive Support
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	Add Reactive Support
SF-SP-VD-03	MARTIN 60 KV	C2-1_CB FAULT AT 33204 POTRERO 115 CB302	C2	Breaker	14.00%	14.00%	< 0.9	Add Reactive Support
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	Add Reactive Support

2013/2014 ISO Reliability Assessment - Preliminary Study Results

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



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%	Add Reactive Support
SF-WP-VD-2	MARTIN 60kV	B2_4_San Mateo-Martin 230kV Line	B	N-1	-15.00%	< 5%	< 0.95	Add Reactive Support
SF-WP-VD-3	MARTIN 60kV	C1-3_BUS FAULT AT 33204 POTRERO 115.00 Sec 1D	C1	Bus	-14.00%	< 10%	< 10%	Add Reactive Support
SF-WP-VD-4	MARTIN 60kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	< 10%	< 10%	13.00%	Add Reactive Support
SF-WP-VD-5	MARTIN 60kV	C2-4_CB FAULT AT 33204 POTRERO 115 CB102	C2	Breaker	-15.00%	< 10%	< 10%	Add Reactive Support
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%	Add Reactive Support
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%	Add Reactive Support

2013/2014 ISO Reliability Assessment - Preliminary Study Results

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



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%	-	Add Reactive Support
SF-OP-DV-02	MARTIN 60kV	B3_5_Martin 115/60kV Transformer #6	B	N-1	< 5%	-12.00%	-	Add Reactive Support
SF-OP-DV-03	MARTIN 60kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	-18.00%	< 10%	-	Add Reactive Support
SF-OP-DV-04	MARTIN 60kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	-18.00%	< 10%	-	Add Reactive Support
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%	-	Add Reactive Support

2013/2014 ISO Reliability Assessment - Preliminary Study Results

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

High/Low Voltage



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	Under review for possible exemption or reactive device

2013/2014 ISO Reliability Assessment - Preliminary Study Results

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	Under review for possible exemption or reactive device
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	Under review for possible exemption or reactive device
SF-WP-V-3	MARTIN 60kV	C2-4_CB FAULT AT 33204 POTRERO 115 CB102	C2	Breaker	1.14	1.14	1.14	Under review for possible exemption or reactive device
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	Under review for possible exemption or reactive device

2013/2014 ISO Reliability Assessment - Preliminary 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	-	Under review for possible exemption or reactive device
SF-OP-V-02	MARTIN 60kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	1.16	> 0.95	-	Under review for possible exemption or reactive device
SF-OP-V-03	POT_SVC 115kV	B2_4_San Mateo-Martin 230kV Line	B	N-1	> 0.95	1.12	-	Under review for possible exemption or reactive device
SF-OP-V-04	POTRERO 115kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-05	BAYSHOR1 115kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-06	EMBRCDRD 230kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.11	-	Under review for possible exemption or reactive device
SF-OP-V-07	HNTRS PT 115kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-08	LARKIN D 115kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-09	LARKIN E 115kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-10	LARKIN F 115kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-11	MARTIN C 115kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-12	MARTIN C 230kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.11	-	Under review for possible exemption or reactive device
SF-OP-V-13	MRT RC&1 230kV	B2_26_Potrero-Potrero SVC 115kV section	B	N-1	> 0.95	1.11	-	Under review for possible exemption or reactive device
SF-OP-V-14	MARTIN 60kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	1.16	1.23	-	Under review for possible exemption or reactive device
SF-OP-V-15	MISSION 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Under review for possible exemption or reactive device

2013/2014 ISO Reliability Assessment - Preliminary 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-16	POTRERO 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-17	POTRERO 230kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.11	-	Under review for possible exemption or reactive device
SF-OP-V-18	BAYSHOR1 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-19	BAYSHOR2 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-20	EMBRCDRD 230kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.11	-	Under review for possible exemption or reactive device
SF-OP-V-21	EMBRCDRE 230kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.11	-	Under review for possible exemption or reactive device
SF-OP-V-22	HNTRS PT 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-23	LARKIN D 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-24	LARKIN E 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-25	LARKIN F 115kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-26	MARTIN C 230kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.12	-	Under review for possible exemption or reactive device
SF-OP-V-27	MARTIN C 230kV	C1-5_BUS FAULT AT 33204 POTRERO 115.00 Sec 1E	C1	Bus	> 0.9	1.11	-	Under review for possible exemption or reactive device
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	-	Under review for possible exemption or reactive device
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	-	Under review for possible exemption or reactive device
SF-OP-V-30	MARTIN 60kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.24	-	Under review for possible exemption or reactive device

2013/2014 ISO Reliability Assessment - Preliminary 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-31	MISSION 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-32	POTRERO 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-33	POTRERO 230kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.11	-	Under review for possible exemption or reactive device
SF-OP-V-34	BAYSHOR1 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-35	BAYSHOR2 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-36	EMBRCDRD 230kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.11	-	Under review for possible exemption or reactive device
SF-OP-V-37	HNTRS PT 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-38	LARKIN D 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-39	LARKIN E 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-40	LARKIN F 115kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.13	-	Under review for possible exemption or reactive device
SF-OP-V-41	MARTIN C 230kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.12	-	Under review for possible exemption or reactive device
SF-OP-V-42	MARTIN C 230kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.11	-	Under review for possible exemption or reactive device
SF-OP-V-43	MRT RC&1 230kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.10	-	Under review for possible exemption or reactive device
SF-OP-V-44	MRT RC&2 230kV	C2-2_CB FAULT AT 33204 POTRERO 115 CB412	C2	Breaker	> 0.9	1.11	-	Under review for possible exemption or reactive device
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	-	Under review for possible exemption or reactive device

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-46	MISSION 115kV	C5_2_Martin-East Grand 115 kV and San Mateo-Martin No. 6 115 kV	C5	DCTL	> 0.9	1.11	-	Under review for possible exemption or reactive device
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	-	Under review for possible exemption or reactive device
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	-	Under review for possible exemption or reactive device
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	-	Under review for possible exemption or reactive device
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	-	Under review for possible exemption or reactive device
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	-	Under review for possible exemption or reactive device
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	-	Under review for possible exemption or reactive device
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	-	Under review for possible exemption or reactive device
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	-	Under review for possible exemption or reactive device
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	-	Under review for possible exemption or reactive device

2013/2014 ISO Reliability Assessment - Preliminary Study Results

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.

2013/2014 ISO Reliability Assessment - Preliminary Study Results

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

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.

2013/2014 ISO Reliability Assessment - Preliminary Study Results

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

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

2013/2014 ISO Reliability Assessment - Preliminary Study Results

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

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

2013/2014 ISO Reliability Assessment - Preliminary Study Results

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