

2013/2014 ISO Reliability Assessment - Study Results

Study Area: **PG&E Greater Bay Area East Bay - 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	
Ebay-SP-T-01	Lone Tree - Cayetano 230 kV Line	Base system (n-0)	A	N-0	<100%	101%	105%	Reduce generation in the Contra Costa Area
Ebay-SP-T-02	Oleum - North Tower - Christie 115 kV Line	B1_8_UNION CH 9.11 Unit ID 1 & B2_9_Christie-Sobrante (Oleum-Sobrante) 115kV Line	B	L-1/G-1	103%	<100%	<100%	Action Plan before the North Tower 115 kV Looping Project completion
Ebay-SP-T-03	Moraga - Claremont #1 115 kV Line	Moraga-Claremont #2 115kV Line _CRCKTCOG 18.00 Unit ID 1	B	L-1/G-1	<100%	<100%	102%	Increase generation in the Oakland Area
Ebay-SP-T-04	Moraga - Claremont #2 115 kV Line	Moraga-Claremont #1 115kV Line _CRCKTCOG 18.00 Unit ID 1	B	L-1/G-1	<100%	<100%	102%	Increase generation in the Oakland Area
Ebay-SP-T-05	Moraga - Oakland "J" 115kV Line	San Leandro-Oakland J 115kV Line & Entire RCEC generation	B	L-1/G-1	<100%	115%	119%	Short Term: Action plan - Open Grant-J line at Oakland J following RCEC outage Long Term: Reconductor Moraga-Oakland J 115 kV Line
Ebay-SP-T-06	Moraga - Claremont #1 115 kV Line	BUS FAULT AT 32786 OAK C115 115.00 Sec D	C1	Bus	<100%	<100%	104%	Increase generation in the Oakland Area
Ebay-SP-T-07	Moraga - Claremont #2 115 kV Line	BUS FAULT AT 32786 OAK C115 115.00 Sec D	C1	Bus	<100%	<100%	104%	Increase generation in the Oakland Area
Ebay-SP-T-08	Moraga - Oakland #1 115 kV Line	BUS FAULT AT 32790 STATIN X 115.00 Bus #1	C1	Bus	<100%	<100%	106%	Increase generation in the Oakland Area
Ebay-SP-T-09	Moraga - Claremont #1 115 kV Line	CB FAULT AT 32790 STATIN X 115 CB372	C2	Breaker	<100%	104%	112%	Increase generation in the Oakland Area
Ebay-SP-T-10	Moraga - Claremont #2 115 kV Line	CB FAULT AT 32790 STATIN X 115 CB372	C2	Breaker	<100%	104%	112%	Increase generation in the Oakland Area
Ebay-SP-T-11	Oakland C-L #1 115 kV Cable	C2-2_CB FAULT AT 32780 CLARMNT 115 CB122	C2	Breaker	106%	108%	113%	Re-rate or reconductor line. Drop load either manually or thru SPS as appropriate

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					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
Ebay-SP-T-12	Moraga - Claremont #1 115 kV Line	Oakland C - Oakland L #1 115kV Cable _Moraga-Claremont #2 115kV Line	C3	N-1-1	<100%	126%	136%	Increase generation in the Oakland Area
Ebay-SP-T-13	Moraga - Claremont #2 115 kV Line	Oakland C - Oakland L #1 115kV Cable _Moraga-Claremont #1 115kV Line	C3	N-1-1	<100%	126%	136%	Increase generation in the Oakland Area
Ebay-SP-T-14	C-L #1 115 kV Cable	Claremont K - Oakland D #1 115kV Cable & Claremont K - Oakland D #2 115kV Cable	C3	N-1-1	106%	108%	113%	Re-rate or reconductor line. Drop load either manually or thru SPS as appropriate
Ebay-SP-T-15	Christie - Sobrante 115 kV Line	Sobrante-EI Cerrito STA G #1 115kV Line _Sobrante-EI Cerrito STA G #2 115kV Line	C3	N-1-1	132%	109%	112%	Action Plan plus the North Tower 115 kV Looping Project completion
Ebay-SP-T-16	Sobrante - "G" #1 115 kV Line	Christie-Sobrante (Oleum-Sobrante) 115kV_Sobrante-EI Cerrito STA G #2 115kV Line	C3	N-1-1	105%	<100%	<100%	Action Plan before the North Tower 115 kV Looping Project completion
Ebay-SP-T-17	Sobrante - "G" #2 115 kV Line	Christie-Sobrante (Oleum-Sobrante) 115kV_Sobrante-EI Cerrito STA G #1 115kV Line	C3	N-1-1	105%	<100%	<100%	Action Plan before the North Tower 115 kV Looping Project completion
Ebay-SP-T-18	Oleum-Christie 115 kV Line	C5_3_Sobrante-G Nos. 1 & 2 115 kV lines	C5	DCTL	<100%	110%	108%	Re-rate or reconductor line. Drop load either manually or thru SPS as appropriate
Ebay-SP-T-19	Oleum - North Tower - Christie 115 kV Line	C5_3_Sobrante-G Nos. 1 & 2 115 kV lines	C5	DCTL	120%	<100%	<100%	Action Plan before the North Tower 115 kV Looping Project completion

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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High/Low Voltage

ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
EBay-SP-V-01	STD. OIL 115kV	B1_9_ChevGen1 13.80 Unit ID 1 & B2_16_Sobrante-Standard Oil #2 115kV Line	C3	N-1-1	> 0.9	0.89	0.89	Add reactive support

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	
EBay-OP-V-01	UNIN CHM 60kV	Normal	A	N-0	1.06	1.06	-	Under review for possible exemption or reactive device
EBay-OP-V-02	CHRISTIE 60kV	Normal	A	N-0	1.06	1.07	-	Under review for possible exemption or reactive device
EBay-OP-V-03	PRT CSTA 60kV	Normal	A	N-0	1.06	1.06	-	Under review for possible exemption or reactive device
EBay-OP-V-04	FRANKLIN 60kV	Normal	A	N-0	1.06	1.06	-	Under review for possible exemption or reactive device
EBay-OP-V-05	SEQUOIA 60kV	Normal	A	N-0	1.06	1.06	-	Under review for possible exemption or reactive device

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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.

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Study Area: **PG&E Greater Bay Area East Bay - 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.

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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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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