

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	
LAB-SP-T-1	Barre-Lewis 230 kV line	Barre-Villa Park 230 kV line	B	L-1	<100	<100	109	<p>The following "Post-SONGS Developments" are being/will be evaluated to address these post-SONGS loading concerns:</p> <ol style="list-style-type: none"> <li>1. Additional local capacity in Western LA Basin and San Diego areas (SONGS Area) as authorized by the CPUC</li> <li>2. The Mesa 500 kV Loop-In &amp; Ellis Corridor Upgrade Projects</li> <li>3. Other SONGS Area transmission upgrades</li> <li>4. A combination of 1 thru 3 above</li> </ol>
		Barre-Villa Park 230 kV & Eco-Miguel 500 kV lines (also Barre-Villa Park & Mira Loma-Olinda 230 kV lines)	C	L-1/L-1	<100	<100	123	
LAB-SP-T-2	Vincent 500/230 kV #1 Bank	PDCI Monopole (also Eco-Miguel or Vincent-Mira Loma 500 kV lines)	B	L-1	<100	<100	104	
		Barre-Lewis & Barre-Villa Park 230 kV lines	C	L-2	<100	<100	111	
		PDCI Monopole & Vincent 500/230 kV #3 or #4 Bank before available spare is energized	C	L-1/T-1	<100	105	141	
		Vincent 500/230 kV #3 & #4 Banks with available spare energized	C	T-1/T-1	<100	<100	130	
LAB-SP-T-3	Serrano 500/230 kV Banks	One Serrano 500/230 kV bank & Eco-Miguel 500 kV (or Imperial Valley-N.Gila 500 kV) line	C	T-1/L-1	<100	<100	108	
		Two Serrano 500/230 kV banks	C	T-1/T-1	100	110	135	
LAB-SP-T-4	Barre-Villa Park 230 kV line	Barre-Lewis 230 kV & Eco-Miguel 500 kV lines (also Barre-Lewis & Mira Loma-Olinda 230 kV lines)	C	L-1/L-1	<100	<100	110	
LAB-SP-T-5	Serrano-Villa Park #1 (or #2) 230 kV line	Serrano-Villa Park #2 (or #1) & Lewis-Serrano #1 or #2 230 kV lines	C	L-2	<100	<100	108 (101)	
LAB-SP-T-6	Lewis-Villa Park 230 kV line	Serrano-Lewis #1 & #2	C	L-2	<100	<100	115	
LAB-SP-T-7	Mira Loma 500/230 kV #1 (or #2) Bank	Chino-Mira Loma # 3 230 kV line & Mira Loma 500/230 kV #2 (or #1) Bank	C	T-1/L-1	<100	<100	105	
LAB-SP-T-8	Ellis-Santiago 230 kV line	N.Gila-Imperial Valley 500 kV & Ellis-Johanna 230 kV	C	L-1/L-1	<100	108	<100	

## 2013/2014 ISO Reliability Assessment - Study Results

Study Area: **SCE Metro - 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	
LAB-SP-T-9	Ellis–Johanna 230 kV line	N.Gila–Imperial Valley 500 kV & Ellis–Santiago 230 kV line	C	L-1/L-1	<100	103	<100	
LAB-SP-T-10	Chino–Mira Loma # 3 230 kV line	Mira Loma 500/230 kV #1 & #2 Banks	C	T-1/T-1	108	101	109	Short term: operating solution Longer term: Post-SONGS Developments

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.

Study Area: **SCE Metro - 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	

No voltage deviations were identified.

## 2013/2014 ISO Reliability Assessment - Study Results

Study Area: **SCE Metro - Summer Peak**



### Single Contingency Load Drop

ID	Worst Contingency	Category	Category Description	Amount of Load Drop (MW)			Potential Mitigation Solutions
				2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	

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

## 2013/2014 ISO Reliability Assessment - Study Results

Study Area: **SCE Metro - Summer Light Load & Spring Off-Peak**



### Single Contingency Load Drop

ID	Worst Contingency	Category	Category Description	Amount of Load Drop (MW)			Potential Mitigation Solutions
				2015 Summer Off-Peak	2018 Summer Light Load	2023 Summer Off-Peak	

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

2013/2014 ISO Reliability Assessment - Study Results

Study Area: **SCE Metro - Summer Peak**



*Single Source Substation with more than 100 MW Load*

ID	Substation	Load Served (MW)			Potential Mitigation Solutions
		2015 Summer Peak	2018 Summer Peak	2023 Summer Peak	

No single source substation with more than 100 MW Load

2013/2014 ISO Reliability Assessment - Study Results

Study Area: **SCE Metro - Summer Light Load & Spring Off-Peak**



*Single Source Substation with more than 100 MW Load*

ID	Substation	Load Served (MW)			Potential Mitigation Solutions
		2015 Summer Off-Peak	2018 Summer Light Load	2023 Summer Off-Peak	

No single source substation with more than 100 MW Load