

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2016 Summer Peak	2019 Summer Peak	2024 Summer Peak	
Bulk-SP-T-1	Lugo – Victorville 500 kV line	Eldorado–Lugo 500 kV line	B	L-1	<100%	<100%	95%	System adjustments after initial contingency including bypassing series caps per ISO OP 6610, utilizing Preferred Resources and Energy Storage (PR&ES) along with the recently approved Delaney–Colorado River 500 kV line.
		Eldorado–Lugo & Eldorado–Mohave or Mohave–Lugo 500 kV lines	C	L-1/L-1	<100%	<100%	125%	
		Eldorado–Lugo & N.Gila–Imperial Valley 500 kV lines	C	L-1/L-1	<100%	<100%	110%	
Bulk-SP-T-2	Otay Mesa–Tijuana 230 kV line or other CFE facilities that trigger tripping of the line (worst loading reported)	Eco–Miguel & Ocotillo–Suncrest 500 kV lines (without system adjustments after initial contingency)	C	L-1/L-1	164%	129%	111%	System adjustments after initial contingency including generation redispatch (2016SP & 2019SP), dispatching existing and authorized PR&ES in SCE and SDGE areas (2024SP), adjusting ISO approved phase shifter (2019SP & 2024SP), and bypassing 500 kV series capacitors as needed. Review the Path 44 flow threshold setting of the SDGE safety net (2016SP).
	N/A	Eco–Miguel & Ocotillo–Suncrest 500 kV lines with Otay Mesa–Tijuana 230 kV line tripped (without system adjustments after initial contingency)	C	L-1/L-1	Diverged	Diverged	Diverged	



Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2016 Summer Off-Peak	2019 Summer Light Load	2024 Fall/Winter	

No thermal overload concerns identified.

2014-2015 ISO Reliability Assessment - Study Results

Study Area: **Consolidated Southern CA SCE - Summer Off-Peak with Path 46 (WOR) and Path 49 (EOR) Stressed**



Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2016 Summer Off-Peak	N/A	N/A	
Bulk-WOR/EOR -T-1	Devers-Vista 230 kV line	Devers-Valley #1 & #2 500 kV lines after tripping participating generation per WOD RAS	C	L-2	102%			ISO Operating Procedure OP 7750 or WOD RAS Safety net
Bulk-WOR/EOR -T-2	Diverged	Palo Verde-Colorado River & Imperial Valley-N.Gila 500 kV lines (without reducing transfers on WOR & EOR after the initial contingency)	C	L-1/L-1	Diverged			Reduce transfers on WOR/EOR after initial contingency
Bulk-WOR/EOR -T-3	Lugo-Victorville 500 kV line	Palo Verde-Colorado River & Eldorado-Lugo 500 kV lines (without reducing transfers on WOR & EOR after the initial contingency)	C	L-1/L-1	128%			
Bulk-WOR/EOR -T-4	Eldorado-Moenkopi 500 kV line	Navajo-Crystal & Perkins-Mead or Perkins-Westwing 500 kV lines (without reducing transfers on WOR & EOR after the initial contingency)	C	L-1/L-1	130%			
Bulk-WOR/EOR -T-5	Navajo-Crystal 500 kV line series capacitors	Eldorado-Moenkopi & Perkins-Mead or Perkins-Westwing 500 kV lines (without reducing transfers on WOR & EOR after the initial contingency)	C	L-1/L-1	126%			



Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2016 Summer Peak	2019 Summer Peak	2024 Summer Peak	

No voltage deviation concerns identified.



Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2016 Summer Off-Peak	2019 Summer Light Load	2024 Fall/Winter	

No voltage deviation concerns identified.

Study Area: Consolidated Southern CA SCE - Summer Off-Peak with Path 46 (WOR) and Path 49 (EOR) Stressed



Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2016 Summer Off-Peak	2019 Summer Light Load	2024 Fall/Winter	

No voltage deviation concerns identified.



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2016 Summer Peak	2019 Summer Peak	2024 Summer Peak	

No thigh/low voltage concerns identified.



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2016 Summer Off-Peak	2019 Summer Light Load	2024 Fall/Winter	

No high/low voltage concerns identified.



High/Low Voltage

ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)			Potential Mitigation Solutions
					2016 Summer Off-Peak	2019 Summer Light Load	2024 Fall/Winter	

No high/low voltage concerns identified.



Transient Stability

ID	Contingency	Category	Category Description	Transient Stability Performance			Potential Mitigation Solutions
				2016 Summer Peak	2019 Summer Peak	2024 Summer Peak	

No transient stability concerns identified.



Transient Stability

ID	Contingency	Category	Category Description	Transient Stability Performance			Potential Mitigation Solutions
				2016 Summer Off-Peak	2019 Summer Light Load	2024 Fall/Winter	

No transient stability concerns identified.

2014-2015 ISO Reliability Assessment - Study Results

Study Area: **Consolidated Southern CA SCE - Summer Off-Peak with Path 46 (WOR) and Path 49 (EOR) Stressed**



Transient Stability

ID	Contingency	Category	Category Description	Transient Stability Performance			Potential Mitigation Solutions
				2016 Summer Off-Peak	N/A	N/A	
Bulk-WOR/EOR-TS-1	Palo Verde–Colorado River & Imperial Valley–N.Gila 500 kV lines (without reducing transfers on WOR & EOR after the initial contingency)	C	L-1/L-1	Diverged			Reduce transfers on WOR/EOR after initial contingency



Post-Transient Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2016 Summer Peak	2019 Summer Peak	2024 Summer Peak	

No post-transient thermal concerns identified.



Post-Transient Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2016 Summer Off-Peak	2019 Summer Light Load	2024 Fall/Winter	

No post-transient thermal overloads concerns identified.



Post-Transient Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)			Potential Mitigation Solutions
					2016 Summer Off-Peak	2019 Summer Light Load	2024 Fall/Winter	

No post-transient thermal overloads concerns identified.



Post-Transient Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2016 Summer Peak	2019 Summer Peak	2024 Summer Peak	

No post-transient voltage deviation concerns identified.



Post-Transient Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2016 Summer Off-Peak	2019 Summer Light Load	2024 Fall/Winter	

No post-transient voltage deviation concerns identified.



Post-Transient Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %			Potential Mitigation Solutions
					2016 Summer Off-Peak	2019 Summer Light Load	2024 Fall/Winter	

No post-transient voltage deviation concerns identified.



Single Contingency Load Drop

ID	Worst Contingency	Category	Category Description	Amount of Load Drop (MW)			Potential Mitigation Solutions
				2016 Summer Peak	2019 Summer Peak	2024 Summer Peak	

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

Study Area: Consolidated Southern CA SCE - Summer Off-Peak & Summer Light Load



Single Contingency Load Drop

ID	Worst Contingency	Category	Category Description	Amount of Load Drop (MW)			Potential Mitigation Solutions
				2016 Summer Off-Peak	2019 Summer Light Load	2024 Fall/Winter	

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

Study Area: Consolidated Southern CA SCE - Summer Peak

Single Source Substation with more than 100 MW Load



ID	Substation	Load Served (MW)			Potential Mitigation Solutions
		2016 Summer Peak	2019 Summer Peak	2024 Summer Peak	

No single source substation with more than 100 MW Load

2014-2015 ISO Reliability Assessment - Study Results

Study Area: Consolidated Southern CA SCE - Summer Off-Peak & Summer Light Load



Single Source Substation with more than 100 MW Load

ID	Substation	Load Served (MW)			Potential Mitigation Solutions
		2016 Summer Off-Peak	2019 Summer Light Load	2024 Fall/Winter	

No single source substation with more than 100 MW Load