

2014-2015 ISO Reliability Assessment - Preliminary Study Results

Study Area: **Consolidated Southern CA SCE - Summer Peak**

Thermal Overloads



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%	1) System adjustments after initial contingency including bypassing series caps per ISO OP 6610, dispatching Preferred Resources and Energy Storage (PR&ES) or 2) Increase the emergency rating of the line (LADWP Portion) 3) Install series reactors to limit flows on the 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. 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.



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.



High/Low Voltage

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.



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.



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.



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.



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

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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