

Study Area: **SCE North of Lugo**

Thermal Overloads



ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)								Potential Mitigation Solutions
					2017 Summer Peak	2020 Summer Peak	2025 Summer Peak	2017 Summer Off-Peak	2020 Summer Light Load	2020 SP Heavy Renewable & Min Gas Gen	N/A	N/A	
NOL-T-1	24728 INYO 115 24730 INYO PS 115 1	Line CONTROL 115.0 to INYOKERN 115.0 Circuit 1_	P1	N-1	29.07	24.81	21.10	100.82	96.10	25.80			Congestion management
NOL-T-2	24728 INYO 115 24730 INYO PS 115 1	Line CONTROL 115.0 to TAP710 115.0 Circuit 1_	P1	N-1	29.10	25.01	20.98	101.23	96.45	26.05			Congestion management
NOL-T-3	24728 INYO 115 24730 INYO PS 115 1	line CONTROL-COSO-INYOKERN 115 ck 2_	P1	N-1	29.22	25.17	21.01	101.44	96.65	26.23			Congestion management
NOL-T-4	24601 VICTOR 230 24602 VICTOR 115 2	Tran VICTOR 230.00 to VICTOR 115.00 Circuit 3 0.00_ and Tran VICTOR 230.00 to VICTOR 115.00 Circuit 4 0.00_	P6	N-1-1	127.77	130.70	136.86	< 100	< 100	115.37			Bring the hot spare bank in-service
NOL-T-5	24601 VICTOR 230 24602 VICTOR 115 3	Tran VICTOR 230.00 to VICTOR 115.00 Circuit 2 0.00_ and Tran VICTOR 230.00 to VICTOR 115.00 Circuit 4 0.00_	P6	N-1-1	127.37	130.28	136.42	< 100	< 100	115.05			Bring the hot spare bank in-service
NOL-T-6	24601 VICTOR 230 24602 VICTOR 115 4	Tran VICTOR 230.00 to VICTOR 115.00 Circuit 2 0.00_ and Tran VICTOR 230.00 to VICTOR 115.00 Circuit 3 0.00_	P6	N-1-1	127.37	130.28	136.42	< 100	< 100	115.05			Bring the hot spare bank in-service
NOL-T-7	24723 CONTROL 115 24728 INYO 115 1	Line INYOKERN 115.0 to KRAMER 115.0 Circuit 1_ and Line TAP701 115.0 to INYOKERN 115.0 Circuit 1_	P6	N-1-1	Diverged	99.39	< 100	Diverged	Diverged	99.56			Maintain Inyokern area generation-load balance as described in SCE's SOB 209 (Kramer RAS)
NOL-T-8	24728 INYO 115 24730 INYO PS 115 1	Line CONTROL 115.0 to TAP710 115.0 Circuit 1_ and Line KRAMER 230.0 to VICTOR 230.0 Circuit 1_	P6	N-1-1	< 100	< 100	< 100	108.02	98.19	< 100			Redispatch generation North of Control after the first N-1
NOL-T-9	24728 INYO 115 24730 INYO PS 115 1	Line CONTROL 115.0 to TAP710 115.0 Circuit 1_ and Line KRAMER 230.0 to VICTOR 230.0 Circuit 2_	P6	N-1-1	< 100	< 100	< 100	108.02	98.19	< 100			Redispatch generation North of Control after the first N-1
NOL-T-10	24728 INYO 115 24730 INYO PS 115 1	Line CONTROL 115.0 to TAP710 115.0 Circuit 1_ and line KRAMER-INYOKERN-RANDSB 115 ck 1_	P6	N-1-1	< 100	< 100	< 100	107.62	103.22	< 100			Redispatch generation North of Control after the first N-1
NOL-T-11	24728 INYO 115 24730 INYO PS 115 1	Line KRAMER 230.0 to VICTOR 230.0 Circuit 2_ and line CONTROL-COSO-INYOKERN 115 ck 2_	P6	N-1-1	< 100	< 100	< 100	108.20	98.39	< 100			Redispatch generation North of Control after the first N-1
NOL-T-12	24728 INYO 115 24730 INYO PS 115 1	line KRAMER-INYOKERN-RANDSB 115 ck 1_ and Line CONTROL 115.0 to TAP710 115.0 Circuit 1_	P6	N-1-1	< 100	< 100	< 100	107.61	103.22	< 100			Redispatch generation North of Control after the first N-1
NOL-T-13	Case Divergence	Lugo 500/230 kV AA Bank 1 and 2 (with HDPP RAS and Mohave Desert RAS)	P6	N-1-1	Diverged	Diverged	Diverged	Diverged	Diverged	Diverged			Reduction in total generation drop for the the loss of both transformer banks
NOL-T-14	24648 IVANPAH 115 24778 MTN PASS 115 1	Lugo 500/230 kV AA Bank 1 and 2 (with HDPP RAS)	P6	N-1-1	< 100	< 100	109.00	< 100	< 100	< 100			Reduction in total generation drop for the the loss of both transformer banks

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Voltage Deviations



ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %								Potential Mitigation Solutions
					Select..	Select..	Select..	Select..	Select..	Select..	Select..	Select..	

No voltage deviation concerns identified.

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High/Low Voltage



ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)								Potential Mitigation Solutions
					2017 Summer Peak	2020 Summer Peak	2025 Summer Peak	2017 Summer Off-Peak	2020 Summer Light Load	2020 SP Heavy Renewable & Min Gas Gen	N/A	N/A	
NOL-V-1	INYO PS 115 kV	Base Case	P0	N-0	1.0354	1.0299	1.026	1.0361	1.0557	1.0264			Adjust voltage schedule, reactive devices and taps.
NOL-V-2	INYO 115 kV	Line CONTROL 115.0 to INYO 115.0 Circuit 1_	P1	N-1	1.1159	1.077	1.0585	1.1588	1.2027	1.0762			Adjust voltage schedule, reactive devices and taps.
NOL-V-3	INYO 230 kV	Tran INYO 115.00 to INYO PS 115.00 Circuit 1 0.00_	P1	N-1	< 1.1	1.077	1.0585	1.1588	1.2027	1.0762			Not under ISO control. Adjust voltage schedule, reactive devices and taps.
NOL-V-4	INYO PS 115 kV	Line CONTROL 115.0 to INYO 115.0 Circuit 1_	P1	N-1	1.1159	1.077	1.0585	1.1588	1.2027	1.0762			Adjust voltage schedule, reactive devices and taps.
NOL-V-5	INYO PS 115 kV	Tran INYO 115.00 to INYO PS 115.00 Circuit 1 0.00_	P1	N-1	1.1159	1.077	1.0585	1.1588	1.2027	1.0762			Adjust voltage schedule, reactive devices and taps.

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Transient Stability



ID	Contingency	Category	Category Description	Transient Stability Performance							Potential Mitigation Solutions
				Select..	Select..	Select..	Select..	Select..	Select..	Select..	
None											

No transient stability concerns identified.

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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..	Select..	Select..	Select..	Select..	Select..	
X-SLD-1												

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..	Select..	Select..	Select..	Select..	Select..	
X-SS-1										

No single source substation with more than 100 MW Load