Study Area: Valley Electric Association

Thermal Overloads

ID	Overloaded Facility	Worst Contingency	Category	Category Description	Loading (%)						Potential Mitigation Solutions	Notes
					2018 Summer Peak	2021 Summer Peak	2026 Summer Peak	2018 Summer Off-Peak	2021 Summer Light Load	2021 SOP Heavy Renewable & Min Gas Gen		
VEA-T-1	18003 AMARGOSA 230 189001 AMARGOSA 138 1 1	Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1	P6	N-1-1	107.50	N/A	N/A	<90	N/A	N/A	Existing UVLS or operational action plan (Switching after N-1)	
VEA-T-1b	18003 AMARGOSA 230 189001 AMARGOSA 138 1 1	Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1	P6	N-1-1	N/A	123.77	123.37	N/A	<90	<90	Existing UVLS or operational action plan (Switching after N-1)	
VEA-T-2	18003 AMARGOSA 230 189001 AMARGOSA 138 1 1	Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1 & Line Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1	P6	N-1-1	106.82	N/A	N/A	<90	N/A	N/A	Existing UVLS or operational action plan (Switching after N-1)	
VEA-T-2b	18003 AMARGOSA 230 189001 AMARGOSA 138 1 1	Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1 & Line Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1	P6	N-1-1	N/A	120.87	121.92	N/A	<90	<90	Existing UVLS or operational action plan (Switching after N-1)	
VEA-T-3	18084 NWEST 138 18102 SNOW MTN 138 1 1	Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1	P6	N-1-1	104.80	N/A	N/A	<90	N/A	N/A	Existing UVLS or operational action plan (Switching after N-1)	
VEA-T-3b	18084 NWEST 138 18102 SNOW MTN 138 1 1	Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1	P6	N-1-1	N/A	135.37	135.75	N/A	<90	<90	Existing UVLS or operational action plan (Switching after N-1)	
VEA-T-4	18045 CANYON 138 18102 SNOW MTN 138 1 1	Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1	P6	N-1-1	110.40	N/A	N/A	<90	N/A	N/A	Existing UVLS or operational action plan (Switching after N-1)	
VEA-T-4b	18045 CANYON 138 18102 SNOW MTN 138 1 1	Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1	P6	N-1-1	N/A	133.93	133.82	N/A	<90	<90	Existing UVLS or operational action plan (Switching after N-1)	
VEA-T-5	18091 RADAR138 18073 IS TAP 138 189101 MERCRYSW 138 1 1	Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1	P6	N-1-1	102.07	N/A	N/A	<90	N/A	N/A	Existing UVLS or operational action plan (Switching after N-1)	
VEA-T-5b	18091 RADAR138 18073 IS TAP 138 189101 MERCRYSW 138 1 1	Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1	P6	N-1-1	N/A	125.58	121.49	N/A	<90	<90	Existing UVLS or operational action plan (Switching after N-1)	
VEA-T-6	18045 CANYON 138 18798 SIL FLG 138 18050 COLDCREK 138 18091 RADAR 138	Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1	P6	N-1-1	115.96	N/A	N/A	<90	N/A	N/A	Existing UVLS or operational action plan (Switching after N-1)	
VEA-T-6b	18045 CANYON 138 18798 SIL FLG 138 18050 COLDCREK 138 18091 RADAR 138	Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1	P6	N-1-1	N/A	132.57	132.41	N/A	<90	<90	Existing UVLS or operational action plan (Switching after N-1)	

Study Area: Valley Electric Association

Voltage Deviations

ID	Substation	Worst Contingency	Category	Category Description	Post Cont. Voltage Deviation %						Potential Mitigation Solutions
					2018 Summer Peak	2021 Summer Peak	2026 Summer Peak	2018 Summer Off-Peak	2021 Summer Light Load	2021 SOP Heavy Renewable & Min Gas Gen	
VEA-VD-1	CHARLSTN-THSNDAIR-GAMEBIRD 138kV	Line GAMEBIRD 138.0 to PAHRUMP 138.0 Circuit 1	P1	N-1	5.744	<5	<5	5.873	<5	<5	New planned Vista - Charleston 138kV Line
VEA-VD-2	INNOVATION 230kV	Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1	P6	N-1-1	18.535	22.916	20.22	14.762	-11.815	13.362	Existing UVLS or operational action plan (Switching after N-1)
VEA-VD-3	PAHRUMP 230kV	Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1	P6	N-1-1	18.155	18.86	20.018	14.554	-12.357	12.975	Existing UVLS or operational action plan (Switching after N-1)
VEA-VD-4	DESERT VIEW 230kV	Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1	P6	N-1-1	18.594	22.989	20.285	14.809	-11.853	13.404	Existing UVLS or operational action plan (Switching after N-1)
VEA-VD-5	JACKASSF 138kV	Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1	P6	N-1-1	<10	18.251	12.641	<10	<10	<10	Existing UVLS or operational action plan (Switching after N-1)
VEA-VD-6	LTHRPWLS 138kV	Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1	P6	N-1-1	<10	18.752	12.906	<10	<10	<10	Existing UVLS or operational action plan (Switching after N-1)
VEA-VD-7	MERCRYSW 138kV	Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1	P6	N-1-1	<10	17.104	11.896	<10	<10	<10	Existing UVLS or operational action plan (Switching after N-1)

Study Area: Valley Electric Association

High/Low Voltage

ID	Substation	Worst Contingency	Category	Category Description	Voltage (PU)						Potential Mitigation Solutions
					2018 Summer Peak	2021 Summer Peak	2026 Summer Peak	2018 Summer Off-Peak	2021 Summer Light Load	2021 SOP Heavy Renewable & Min Gas Gen	
VEA-V-1	DESERT VIEW 230kV	Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1	P6	N-1-1	0.8453	N/A	N/A	0.8973	N/A	N/A	Existing UVLS or operational action plan (Switching after N-1)
VEA-V-1b	DESERT VIEW 230kV	Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1	P6	N-1-1	N/A	0.768	0.8151	N/A	1.1823	0.9	Existing UVLS or operational action plan (Switching after N-1)
VEA-V-2	INNOVATION-MERCRYSW-PAHRUMP-SANDY 138kV AREA	Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1	P6	N-1-1	>0.9	0.82	0.87	N/A	>0.9	>0.9	Existing UVLS or operational action plan (Switching after N-1)
VEA-V-3	INNOVATION-MERCRYSW-PAHRUMP-SANDY 138kV AREA	Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1 & Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1	P6	N-1-1	>0.9	0.83	0.89	>0.9	>0.9	>0.9	Existing UVLS or operational action plan (Switching after N-1)
X-V-4	CHARLSTN-THSNDAIR-GAMEBIRD-SANDY 138kV	Line GAMEBIRD 138.0 to PAHRUMP 138.0 Circuit 1 & Line CHARLSTN 138.0 to VISTA 138.0 Circuit 1	P6	N-1-1	NA	0.83	>0.9	N/A	>0.9	>0.9	Existing UVLS or operational action plan (Switching after N-1)
X-V-7											
X-V-8											
X-V-9											
X-V-10											
X-V-11											
X-V-12											
X-V-13											
X-V-14											
X-V-15											
X-V-16											
X-V-17											
X-V-18											
X-V-19											

Study Area: Valley Electric Association

Transient Stability

ID	Contingency	Category	Category Description	Transient Stability Performance								Potential Mitigation Solutions
				Select..	Select..	Select..	Select..	Select..	Select..	Select..	Select..	
X-TS-1												
X-TS-2												
X-TS-3												
X-TS-4												
X-TS-5												
X-TS-6												
X-TS-7												
X-TS-8												
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X-TS-30												
X-TS-31												

Study Area: Valley Electric Association

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.

Study Area: SCE East of Lugo

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