Overloaded Facility	Contingency (AllWorst P6)	Category	Category Description	Loading % (Baseline Scenarios)						Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions*
				2026 Summer Peak	2026 Spring Off-Peak	2029 Summer Off Peak	2029 Summer Peak	2029 Spring Off-Peak	2034 Summer Peak	2029 SP High CEC Forecast	2026 SP Heavy Renewable & Min Gas Gen	2026 OP BESS Charging	
Victor-Lugo 230 kV Circuit 1 or Victor-Lugo 230 kV Circuit 2	Base Case	P0	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100	101.0	< 100	Generation redispatch
Victor-Lugo 230 kV Circuit 1 or Victor-Lugo 230 kV Circuit 2	Gen TOT904_ES1 0.55kV Unit 1 + Victor-Lugo 230 kV No.2 Line or No.1	P3	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	104.6	< 100	Short term: HDPP RAS, Long term: Previously approved Lugo-Victor 230kV lines upgrade
Victor-Lugo 230 kV Circuit 1 or Victor-Lugo 230 kV Circuit 2	Gen TOT904_ES1 0.55kV Unit 1 + Victor-Lugo 230 kV No.3 Line	P3	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	104.6	< 100	Short term: HDPP RAS, Long term: Previously approved Lugo-Victor 230kV lines upgrade
Victor-Lugo 230 kV Circuit 1 or Victor-Lugo 230 kV Circuit 2	Victor-Lugo 230kV No.3 Line & Victor-Lugo 230kV No.4 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	< 100	< 100	149.4	< 100	Short term: HDPP RAS, Long term: Previously approved Lugo-Victor 230kV lines upgrade
Victor-Lugo 230 kV Circuit 1 or Victor-Lugo 230 kV Circuit 2	Victor-Lugo 230 kV No.2 Line + Victor-Lugo 230 kV No.3 Line	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	149.4	< 100	Short term: HDPP RAS, Long term: Previously approved Lugo-Victor 230kV lines upgrade
Victor-Lugo 230 kV No.3 Line or Victor-Lugo 230 kV No.4 Line	Base Case	P0	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100	101.0	< 100	Generation redispatch
Victor-Lugo 230 kV No.3 Line or Victor-Lugo 230 kV No.4 Line	Victor-Lugo 230kV No.1 Line & Victor-Lugo 230kV No.2 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	< 100	< 100	149.4	< 100	Short term: HDPP RAS, Long term: Previously approved Lugo-Victor 230kV lines upgrade
Victor-Lugo 230 kV No.3 Line or Victor-Lugo 230 kV No.4 Line	Gen TOT904_ES1 0.55kV Unit 1 + Victor-Lugo 230 kV No.1 Line	P3	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	104.6	< 100	Short term: HDPP RAS, Long term: Previously approved Lugo-Victor 230kV lines upgrade
Victor-Lugo 230 kV No.3 Line or Victor-Lugo 230 kV No.4 Line	Gen TOT904_ES1 0.55kV Unit 1 + Victor-Lugo 230 kV No.2 Line	P3	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	104.6	< 100	Short term: HDPP RAS, Long term: Previously approved Lugo-Victor 230kV lines upgrade
Victor-Lugo 230 kV No.3 Line or Victor-Lugo 230 kV No.4 Line	Victor-Lugo 230 kV No.1 Line + Victor-Lugo 230 kV No.2 Line	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	149.4	< 100	Short term: HDPP RAS, Long term: Previously approved Lugo-Victor 230kV lines upgrade
Victor-Lugo 230 kV No.3 Line or Victor-Lugo 230 kV No.4 Line	Base Case	P0	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100	101.0	< 100	Generation redispatch
Victor-Lugo 230 kV No.3 Line or Victor-Lugo 230 kV No.4 Line	Victor-Lugo 230kV No.1 Line & Victor-Lugo 230kV No.2 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	< 100	< 100	149.4	< 100	Existing RAS
Victor-Lugo 230 kV No.3 Line or Victor-Lugo 230 kV No.4 Line	Gen TOT904_ES1 0.55kV Unit 1 + Victor-Lugo 230 kV No.1 Line	P3	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	104.6	< 100	Generation redispatch after the first contingency
Victor-Lugo 230 kV No.3 Line or Victor-Lugo 230 kV No.4 Line	Gen TOT904_ES1 0.55kV Unit 1 + Victor-Lugo 230 kV No.2 Line	P3	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	104.6	< 100	Generation redispatch after the first contingency
Victor-Lugo 230 kV No.3 Line or Victor-Lugo 230 kV No.4 Line	Victor-Lugo 230 kV No.1 Line + Victor-Lugo 230 kV No.2 Line	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	149.4	< 100	Generation redispatch after the first contingency
Victor 230/115 kV Transformer Circuit 1	Victor 230/115kV Transformer Circuit 2	P1	N-1	< 100	< 100	< 100	107.4	< 100	< 100	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 1	Victor 230/115kV Transformer Circuit 3	P1	N-1	< 100	< 100	< 100	106.7	< 100	< 100	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 1	Base Case	P0	-	< 100	< 100	< 100	< 100	< 100	118.6	< 100	< 100	< 100	Further investigation needed*
Victor 230/115 kV Transformer Circuit 1	Gen BLDMSA_1 0.9kV Unit 1 + Victor 230/115kV Transformer Circuit 2	P3	N-1-1	< 100	< 100	< 100	112.9	< 100	172.9	< 100	< 100	< 100	Further investigation needed*
Victor 230/115 kV Transformer Circuit 1	Gen BLDMSA_1 0.9kV Unit 1 and Victor 230/115kV Transformer Circuit 3	P3	N-1-1	< 100	< 100	< 100	112.2	< 100	171.6	< 100	< 100	< 100	Further investigation needed*
Victor 230/115 kV Transformer Circuit 1	Victor 230/115kV Transformer Circuit 2 + Victor 230/115kV Transformer Circuit 3	P6	N-1-1	129.5	144.7	< 100	192.1	< 100	341.3	< 100	< 100	159.8	Further investigation needed*
Victor 230/115 kV Transformer Circuit 1	Victor 230/115kV Transformer Circuit 2	P1	N-1	< 100	< 100	< 100	107.4	< 100	169.6	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 1	Victor 230/115kV Transformer Circuit 3	P1	N-1	< 100	< 100	< 100	106.7	< 100	168.3	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 2	Victor 230/115kV Transformer Circuit 1	P1	N-1	< 100	< 100	< 100	107.6	< 100	< 100	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 2	Victor 230/115kV Transformer Circuit 3	P1	N-1	< 100	< 100	< 100	107.1	< 100	< 100	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 2	Base Case	P0	-	< 100	< 100	< 100	< 100	< 100	119.0	< 100	< 100	< 100	Further investigation needed*
Victor 230/115 kV Transformer Circuit 2	Gen BLDMSA_1 0.9kV Unit 1 + Victor 230/115kV Transformer Circuit 1	P3	N-1-1	< 100	< 100	< 100	113.1	< 100	173.2	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 2	Gen BLDMSA_1 0.9kV Unit 1 + Victor 230/115kV Transformer Circuit 3	P3	N-1-1	< 100	< 100	< 100	112.6	< 100	172.2	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank

Overloaded Facility	Contingency (AllWorst P6)	Category	Category Description	Loading % (Baseline Scenarios)						Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions*
				2026 Summer Peak	2026 Spring Off-Peak	2029 Summer Off Peak	2029 Summer Peak	2029 Spring Off-Peak	2034 Summer Peak	2029 SP High CEC Forecast	2026 SP Heavy Renewable & Min Gas Gen	2026 OP BESS Charging	
Victor 230/115 kV Transformer Circuit 2	Victor 230/115kV Transformer Circuit 1 + Victor 230/115kV Transformer Circuit 3	P6	N-1-1	129.6	144.8	< 100	192.3	< 100	341.8	< 100	< 100	159.9	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 2	Victor 230/115kV Transformer Circuit 1	P1	N-1	< 100	< 100	< 100	107.6	< 100	169.9	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 2	Victor 230/115kV Transformer Circuit 3	P1	N-1	< 100	< 100	< 100	107.1	< 100	168.8	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 3	Victor 230/115kV Transformer Circuit 1	P1	N-1	< 100	< 100	< 100	106.1	< 100	< 100	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 3	Victor 230/115kV Transformer Circuit 2	P1	N-1	< 100	< 100	< 100	106.3	< 100	< 100	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 3	Base Case	P0	-	< 100	< 100	< 100	< 100	< 100	117.4	< 100	< 100	< 100	Further investigation needed*
Victor 230/115 kV Transformer Circuit 3	Gen BLDMSA_1 0.9kV Unit 1 + Victor 230/115kV Transformer Circuit 1	P3	N-1-1	< 100	< 100	< 100	111.6	< 100	170.7	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 3	Gen BLDMSA_1 0.9kV Unit 1 + Victor 230/115kV Transformer Circuit 2	P3	N-1-1	< 100	< 100	< 100	111.7	< 100	171.1	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 3	Victor 230/115kV Transformer Circuit 1 + Victor 230/115kV Transformer Circuit 2	P6	N-1-1	129.2	144.3	< 100	191.8	< 100	339.8	< 100	< 100	159.3	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 3	Victor 230/115kV Transformer Circuit 1	P1	N-1	< 100	< 100	< 100	106.1	< 100	167.5	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor 230/115 kV Transformer Circuit 3	Victor 230/115kV Transformer Circuit 2	P1	N-1	< 100	< 100	< 100	106.3	< 100	167.8	< 100	< 100	< 100	Utilize Existing Spare Victor 230/115 kV Transformer Bank
Victor-Roadway 115kV Line 1	Kramer-Victor 230 kV No.1 Line + Kramer-Victor 230 kV No.2 Line	P7	DCTL	111.7	< 100	NotConv	< 100	< 100	< 100	< 100	NotConv	NotConv	Mojave Desert RAS
Victor-Kramer 115kV Line 1	Kramer-Victor 230 kV No.1 Line + Kramer-Victor 230 kV No.2 Line	P7	DCTL	131.6	< 100	NotConv	< 100	< 100	< 100	< 100	NotConv	NotConv	Mojave Desert RAS
Roadway-Kramer 115kV No.1 Line	Kramer-Victor 230 kV No.1 Line + Kramer-Victor 230 kV No.2 Line	P7	DCTL	131.9	< 100	NotConv	< 100	< 100	< 100	< 100	NotConv	NotConv	Mojave Desert RAS
Ivanpah-Mtn Pass 115kV No.1 Line	Hidesert-Hidesert_Tap 230kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	117.9	< 100	< 100	< 100	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Victor 230kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	107.1	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Victor 230kV No.2 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	107.1	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Coolwater 115kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	102.4	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Coolwater 230kV No.2 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	113.2	< 100	< 100	< 100	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Tortilla 115kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	101.3	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation*
Ivanpah-Mtn Pass 115kV No.1 Line	Victor-Hidesert_Tap No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	118.1	< 100	< 100	< 100	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Victor 230kV No.3 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	112.4	< 100	< 100	< 100	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Tortilla 115kV Line & Kramer-Inyokern-Randsburg No.3 115 kV Line	P4	Stuck Breaker	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	101.2	SCE's SOB-4: Gen Dispatch
Ivanpah-Mtn Pass 115kV No.1 Line	Coolwater-Kramer 115kV Line & Kramer-Victor 115 kV Line	P4	Stuck Breaker	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	106.6	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer- Victor 220 kV No.2 Line & Coolwater- Kramer 220 kV Line	P4	Stuck Breaker	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	108.1	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Base Case	P0	-	< 100	< 100	< 100	< 100	< 100	140.8	< 100	< 100	109.2	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Eldordo-Lugo 500kV No.1 Line & Lugo-Mohave 500kV No.1 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	126.6	< 100	< 100	< 100	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Inyokern-Randsburg No.3 Line & Kramer-Inyokern-Randsburg No.1 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	104.8	< 100	< 100	< 100	SCE's SOB-4: Gen Dispatch

Overloaded Facility	Contingency (AllWorst P6)	Category	Category Description	Loading % (Baseline Scenarios)						Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions*
				2026 Summer Peak	2026 Spring Off-Peak	2029 Summer Off Peak	2029 Summer Peak	2029 Spring Off-Peak	2034 Summer Peak	2029 SP High CEC Forecast	2026 SP Heavy Renewable & Min Gas Gen	2026 OP BESS Charging	
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Victor 230kV No.2 Line & Kramer-Loop Station 230kV No.1 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	107.1	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Victor-Lugo 230kV No.1 Line & Victor-Lugo 230kV No.2 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	114.1	< 100	< 100	< 100	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Victor-Lugo 230kV No.3 Line & Victor-Lugo 230kV No.4 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	114.1	< 100	< 100	< 100	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Coolwater 230kV No.2 Line & Sandlot-Kramer 230kV No.2 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	139.2	< 100	< 100	< 100	Mojave Desert RAS
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Coolwater 230kV No.2 Line & Sandlot-Coolwater 230kV No.1 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	135.7	< 100	< 100	< 100	Mojave Desert RAS
Ivanpah-Mtn Pass 115kV No.1 Line	Victor-Roadway 115kV No.1 Line & Victor-Kramer 115kV No.1 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	102.2	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Lugo 1T 500/230/13.8kV Transformer Circuit 2 & Lugo 500/230/13.8kV Transformer Circuit 1	P7	DCTL	< 100	< 100	< 100	< 100	< 100	115.2	< 100	NotConv	NotConv	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Victor-Roadway 115kV No.1 Line + Kramer-Victor 230 kV No.1 Line	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	126.4	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Victor 230 kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	107.1	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Victor 230 kV No.2 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	107.1	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Victor 230kV No.3 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	112.4	< 100	< 100	< 100	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Victor 230kV No.4 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	112.4	< 100	< 100	< 100	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Coolwater 230kV No.2 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	113.2	< 100	< 100	< 100	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Coolwater 115kV No.1 Line + Coolwater 230/115kV Transformer Circuit 1	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	171.0	< 100	< 100	< 100	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Coolwater 115kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	102.4	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer-Tortilla 115kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	101.3	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation*
Ivanpah-Mtn Pass 115kV No.1 Line	Sandlot-Kramer 230kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	114.0	< 100	< 100	< 100	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Sandlot-Coolwater 230kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	113.2	< 100	< 100	< 100	Further investigation needed*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer 230/115kV Transformer Circuit 1	P1	N-1	< 100	< 100	< 100	< 100	< 100	113.2	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Ivanpah-Mtn Pass 115kV No.1 Line	Kramer 230/115kV Transformer Circuit 2	P1	N-1	< 100	< 100	< 100	< 100	< 100	113.2	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Ivanpah-Mtn Pass 115kV No.1 Line	Coolwater 230/115kV Transformer Circuit 1	P1	N-1	< 100	< 100	< 100	< 100	< 100	138.6	< 100	< 100	< 100	Further investigation needed*
Kramer-Victor 230kV No.1 Line	Kramer-Victor 230kV No.2 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	156.2	158.0	Existing RAS
Kramer-Victor 230kV No.1 Line	Victor-Roadway 115kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	100.9	< 100	Congestion management
Kramer-Victor 230kV No.1 Line	Kramer-Victor 220 kV No.2 Line & Coolwater- Kramer 220 kV Line	P4	Stuck Breaker	< 100	< 100	< 100	< 100	< 100	< 100	< 100	156.3	159.7	Congestion management
Kramer-Victor 230kV No.1 Line	Base Case	P0	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100	121.7	117.3	Congestion management
Kramer-Victor 230kV No.1 Line	Kramer-Victor 230kV No.2 Line & Kramer-Loop Station 230kV No.1 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	< 100	< 100	156.2	158.0	Existing RAS
Kramer-Victor 230kV No.1 Line	Victor-Kramer 115kV No.1 Line & Roadway-Kramer 115kV No.1 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	< 100	< 100	110.2	103.0	Congestion management
Kramer-Victor 230kV No.1 Line	Victor-Roadway 115kV No.1 Line & Victor-Kramer 115kV No.1 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	< 100	< 100	115.3	110.8	Congestion management

Overloaded Facility	Contingency (AllWorst P6)	Category	Category Description	Loading % (Baseline Scenarios)						Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions*
				2026 Summer Peak	2026 Spring Off-Peak	2029 Summer Off Peak	2029 Summer Peak	2029 Spring Off-Peak	2034 Summer Peak	2029 SP High CEC Forecast	2026 SP Heavy Renewable & Min Gas Gen	2026 OP BESS Charging	
Kramer-Victor 230kV No.1 Line	Gen TOT812_G3b 0.7kV Unit 1 + Kramer-Victor 230 kV No.2 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	166.2	< 100	Generation redispatch after the first contingency
Kramer-Victor 230kV No.1 Line	Gen CALGEN2G 13.8kV Unit 2 + Kramer-Victor 230 kV No.2 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	161.0	Generation redispatch after the first contingency
Kramer-Victor 230kV No.1 Line	Victor-Roadway 115kV No.1 Line + Kramer-Victor 230 kV No.2 Line	P6	N-1-1	< 100	< 100	111.2	< 100	< 100	< 100	< 100	185.7	195.4	Generation redispatch after the first contingency
Kramer-Victor 230kV No.1 Line	Victor-Roadway 115kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	100.9	< 100	Congestion management
Kramer-Victor 230kV No.1 Line	Kramer-Victor 230 kV No.2 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	156.2	158.0	existing RAS
Kramer-Victor 230kV No.2 Line	Kramer-Victor 230kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	156.2	158.0	Existing RAS
Kramer-Victor 230kV No.2 Line	Victor-Roadway 115kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	100.9	< 100	Congestion management
Kramer-Victor 230kV No.2 Line	Base Case	P0	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100	121.7	117.3	Congestion management
Kramer-Victor 230kV No.2 Line	Victor-Kramer 115kV No.1 Line & Roadway-Kramer 115kV No.1 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	< 100	< 100	110.2	103.0	Congestion management
Kramer-Victor 230kV No.2 Line	Victor-Roadway 115kV No.1 Line & Victor-Kramer 115kV No.1 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	< 100	< 100	115.3	110.8	Congestion management
Kramer-Victor 230kV No.2 Line	Gen LUZ9 G 13.8kV Unit 9 + Kramer-Victor 230 kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	158.3	Generation redispatch after the first contingency
Kramer-Victor 230kV No.2 Line	Gen HIDEDST1 20.0kV Unit 1 + Kramer-Victor 230 kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	156.6	< 100	Generation redispatch after the first contingency
Kramer-Victor 230kV No.2 Line	Gen HIDEDCT3 15.0kV Unit 1 + Kramer-Victor 230 kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	156.4	< 100	Generation redispatch after the first contingency
Kramer-Victor 230kV No.2 Line	Gen HIDEDCT2 15.0kV Unit 1 + Kramer-Victor 230 kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	156.4	158.2	Generation redispatch after the first contingency
Kramer-Victor 230kV No.2 Line	Gen HIDEDCT1 15.0kV Unit 1 + Kramer-Victor 230 kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	156.4	< 100	Generation redispatch after the first contingency
Kramer-Victor 230kV No.2 Line	Gen ALTA 3ST 13.8kV Unit R3 + Kramer-Victor 230 kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	156.2	< 100	Generation redispatch after the first contingency
Kramer-Victor 230kV No.2 Line	Gen ALTA 4ST 13.8kV Unit R4 + Kramer-Victor 230 kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	156.2	< 100	Generation redispatch after the first contingency
Kramer-Victor 230kV No.2 Line	Gen TOT904_ES1 0.55kV Unit 1 + Kramer-Victor 230 kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	168.6	< 100	Generation redispatch after the first contingency
Kramer-Victor 230kV No.2 Line	Gen CALGEN2G 13.8kV Unit 2 + Kramer-Victor 230 kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	161.0	Generation redispatch after the first contingency
Kramer-Victor 230kV No.2 Line	Victor-Roadway 115kV No.1 Line + Kramer-Victor 230 kV No.1 Line	P6	N-1-1	< 100	< 100	111.2	< 100	< 100	< 100	< 100	185.7	195.4	Generation redispatch after the first contingency
Kramer-Victor 230kV No.2 Line	Victor-Roadway 115kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	100.9	< 100	Congestion management
Kramer-Victor 230kV No.2 Line	Kramer-Victor 230 kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	156.2	158.0	Congestion management
Kramer-Coolwater 230kV No.2 Line	Sandlot-Kramer 230kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	146.7	< 100	Existing RAS
Kramer-Coolwater 230kV No.2 Line	Gen KERRMGEE 13.8kV Unit 1 + Sandlot-Kramer 230kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	146.7	< 100	Existing RAS
Kramer-Coolwater 230kV No.2 Line	Gen HIDEDST1 20.0kV Unit 1 + Sandlot-Kramer 230kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	146.6	< 100	Existing RAS
Kramer-Coolwater 230kV No.2 Line	Gen ALTA 3ST 13.8kV Unit R3 + Sandlot-Kramer 230kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	146.7	< 100	Existing RAS
Kramer-Coolwater 230kV No.2 Line	Gen ALTA 4ST 13.8kV Unit R4 + Sandlot-Kramer 230kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	146.7	< 100	Existing RAS
Kramer-Coolwater 230kV No.2 Line	Gen Gen TOT904_ES2 0.6kV Unit 1 + Sandlot-Kramer 230kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	146.7	< 100	Existing RAS

Overloaded Facility	Contingency (AllWorst P6)	Category	Category Description	Loading % (Baseline Scenarios)						Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions*
				2026 Summer Peak	2026 Spring Off-Peak	2029 Summer Off Peak	2029 Summer Peak	2029 Spring Off-Peak	2034 Summer Peak	2029 SP High CEC Forecast	2026 SP Heavy Renewable & Min Gas Gen	2026 OP BESS Charging	
Kramer-Coolwater 230kV No.2 Line	Gen TOT812_G3b 0.7kV Unit 1 + Sandlot-Kramer 230kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	147.9	< 100	Existing RAS
Kramer-Coolwater 230kV No.2 Line	Gen LCKHRT_P3_PV 34.5kV Unit 1 + Sandlot-Kramer 230kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	147.1	< 100	Existing RAS
Kramer-Coolwater 230kV No.2 Line	Gen SEARLES 33 34.5kV Unit PV + Sandlot-Kramer 230kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	146.8	< 100	Existing RAS
Kramer-Coolwater 230kV No.2 Line	Kramer-Victor 230 kV No.1 Line + Sandlot-Kramer 230kV No.1 Line	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	156.2	< 100	Existing RAS
Kramer-Coolwater 230kV No.2 Line	Sandlot-Kramer 230kV No.1 Line + Coolwater 230/115kV Transformer Circuit 1	P6	N-1-1	< 100	< 100	117.0	< 100	< 100	< 100	< 100	< 100	< 100	Existing RAS
Kramer-Coolwater 230kV No.2 Line	Sandlot-Kramer 230kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	146.7	< 100	existing RAS
Kramer 230/12 kV Transformer Circuit 1	Gen RP_COLWTR_WN 0.7kV Unit VW + Kramer 230/115kV Transformer Circuit 2	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	110.7	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Kramer 230/12 kV Transformer Circuit 1	Gen TOT812_G3l 0.6kV Unit 1 + Kramer 230/115kV Transformer Circuit 2	P3	Gen Loss	101.0	< 100	< 100	< 100	< 100	109.2	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Kramer 230/12 kV Transformer Circuit 1	Kramer-Victor 230 kV No.1 Line + Kramer-Victor 230 kV No.2 Line	P7	DCTL	160.5	< 100	NotConv	< 100	< 100	< 100	< 100	NotConv	NotConv	Mojave Desert RAS
Kramer 230/12 kV Transformer Circuit 1	Kramer 230/115kV Transformer Circuit 2 + Coolwater 230/115kV Transformer Circuit 1	P6	N-1-1	< 100	< 100	108.5	115.6	< 100	177.4	< 100	< 100	< 100	Install (1) new Coolwater 220/115 kV A Bank (2nd A Bank), Upgrade Ivanpah-Coolwater-Baker-Dunn Siding-Mountain Pass 115 kV line*
Kramer 230/12 kV Transformer Circuit 1	Kramer 230/115kV Transformer Circuit 2	P1	N-1	< 100	< 100	< 100	< 100	< 100	108.5	< 100	< 100	< 100	Upgrade Ivanpah-Coolwater-Baker-Dunn Siding-Mountain Pass 115 kV line*
Kramer 230/12 kV Transformer Circuit 2	Gen 240269 RP_COLWTR_PV 0.4kV Unit VS + Kramer 230/115kV Transformer Circuit 1	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	109.3	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Kramer 230/12 kV Transformer Circuit 2	Gen TOT812_G3l 0.6kV Unit 1 + Kramer 230/115kV Transformer Circuit 1	P3	Gen Loss	101.0	< 100	< 100	< 100	< 100	109.2	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Kramer 230/12 kV Transformer Circuit 2	Kramer-Victor 230 kV No.1 Line + Kramer-Victor 230 kV No.2 Line	P7	DCTL	160.5	< 100	NotConv	< 100	< 100	< 100	< 100	NotConv	NotConv	Mojave Desert RAS
Kramer 230/12 kV Transformer Circuit 2	Kramer 230/115kV Transformer Circuit 1 + Coolwater 230/115kV Transformer Circuit 1	P6	N-1-1	< 100	< 100	108.5	115.6	< 100	177.4	< 100	< 100	< 100	Install (1) new Coolwater 220/115 kV A Bank (2nd A Bank) Upgrade Ivanpah-Coolwater-Baker-Dunn Siding-Mountain Pass 115 kV line*
Kramer 230/12 kV Transformer Circuit 2	Kramer 230/115kV Transformer Circuit 1	P1	N-1	< 100	< 100	< 100	< 100	< 100	108.5	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Kramer 115/12 kV Transformer Circuit 1	Gen RP_COLWTR_WN 0.7kV Unit VW + Kramer 230/115kV Transformer Circuit 2	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	111.1	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Kramer 115/12 kV Transformer Circuit 1	Gen TOT812_G3l 0.6kV Unit 1 + Kramer 230/115kV Transformer Circuit 2	P3	Gen Loss	101.2	< 100	< 100	< 100	< 100	109.8	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Kramer 115/12 kV Transformer Circuit 1	Kramer-Victor 230 kV No.1 Line + Kramer-Victor 230 kV No.2 Line	P7	DCTL	154.4	< 100	NotConv	< 100	< 100	< 100	< 100	NotConv	NotConv	Mojave Desert RAS
Kramer 115/12 kV Transformer Circuit 1	Kramer 230/115kV Transformer Circuit 2 + Coolwater 230/115kV Transformer Circuit 1	P6	N-1-1	< 100	< 100	107.8	112.6	< 100	174.9	< 100	< 100	< 100	Install (1) new Coolwater 220/115 kV A Bank (2nd A Bank) Upgrade Ivanpah-Coolwater-Baker-Dunn Siding-Mountain Pass 115 kV line*
Kramer 115/12 kV Transformer Circuit 1	Kramer 230/115kV Transformer Circuit 2	P1	N-1	< 100	< 100	< 100	< 100	< 100	109.0	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Kramer 115/12 kV Transformer Circuit 2	Gen RP_COLWTR_WN 0.7kV Unit VW + Kramer 230/115kV Transformer Circuit 1	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	111.1	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Kramer 115/12 kV Transformer Circuit 2	Gen TOT812_G3l 0.6kV Unit 1 + Kramer 230/115kV Transformer Circuit 1	P3	Gen Loss	101.2	< 100	< 100	< 100	< 100	109.8	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Kramer 115/12 kV Transformer Circuit 2	Kramer-Victor 230 kV No.1 Line + Kramer-Victor 230 kV No.2 Line	P7	DCTL	154.4	< 100	NotConv	< 100	< 100	< 100	< 100	NotConv	NotConv	Mojave Desert RAS
Kramer 115/12 kV Transformer Circuit 2	Kramer 230/115kV Transformer Circuit 1 + Coolwater 230/115kV Transformer Circuit 1	P6	N-1-1	< 100	< 100	107.8	112.6	< 100	174.9	< 100	< 100	< 100	Install (1) new Coolwater 220/115 kV A Bank (2nd A Bank) Upgrade Ivanpah-Coolwater-Baker-Dunn Siding-Mountain Pass 115 kV line*
Kramer 115/12 kV Transformer Circuit 2	Kramer 230/115kV Transformer Circuit 1	P1	N-1	< 100	< 100	< 100	< 100	< 100	109.0	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Kramer 115/12 kV Transformer Circuit 2	Tortilla-Tap705 115kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	101.3	< 100	< 100	< 100	Further investigation needed*
Kramer 115/12 kV Transformer Circuit 2	Gen 240269 RP_COLWTR_PV 0.4kV Unit VS + Coolwater-Tortilla-Segs2 115kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	101.3	< 100	< 100	< 100	Further investigation needed*

Overloaded Facility	Contingency (AllWorst P6)	Category	Category Description	Loading % (Baseline Scenarios)						Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions*
				2026 Summer Peak	2026 Spring Off-Peak	2029 Summer Off Peak	2029 Summer Peak	2029 Spring Off-Peak	2034 Summer Peak	2029 SP High CEC Forecast	2026 SP Heavy Renewable & Min Gas Gen	2026 OP BESS Charging	
Kramer 115/12 kV Transformer Circuit 2	Gen 240272 RP_COLWTR_PV 0.4kV Unit VS + Coolwater-Tortilla-Segs2 115kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	101.3	< 100	< 100	< 100	Further investigation needed*
Kramer 115/12 kV Transformer Circuit 2	Coolwater-Tortilla-Segs2 115kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	101.3	< 100	< 100	< 100	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation*
Kramer 115/12 kV Transformer Circuit 2	Kramer-Coolwater 115kV No.1 Line + Coolwater 230/115kV Transformer Circuit 1	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	113.1	< 100	< 100	< 100	Further investigation needed*
Coolwater-Tap705 115kV No.1 Line	Kramer-Tortilla 115kV No.1 Line	P1	N-1	< 100	< 100	< 100	112.0	< 100	< 100	< 100	< 100	< 100	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation*
Coolwater-Tap705 115kV No.1 Line	Base Case	P0	-	< 100	< 100	< 100	100.4	< 100	125.4	< 100	< 100	< 100	Generation redispatch
Coolwater-Tap705 115kV No.1 Line	Kramer-Coolwater 230kV No.2 Line & Sandlot-Coolwater 230kV No.1 Line	P7	DCTL	< 100	< 100	159.9	< 100	< 100	< 100	< 100	< 100	< 100	Mojave Desert RAS
Coolwater-Tap705 115kV No.1 Line	Gen KERRMGEE 13.8kV Unit 1 + Kramer-Tortilla 115kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	112.0	< 100	< 100	< 100	< 100	< 100	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation*
Coolwater-Tap705 115kV No.1 Line	Gen ALTA 3ST 13.8kV Unit R3 + Kramer-Tortilla 115kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	112.0	< 100	< 100	< 100	< 100	< 100	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation*
Coolwater-Tap705 115kV No.1 Line	Kramer-Tortilla 115kV No.1 Line + Tortilla 115kV Shunt B1	P6	N-1-1	< 100	< 100	< 100	112.8	< 100	< 100	< 100	< 100	< 100	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation*
Coolwater-Tap705 115kV No.1 Line	Kramer-Tortilla 115kV No.1 Line	P1	N-1	< 100	< 100	< 100	112.0	< 100	< 100	< 100	< 100	< 100	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation*
Coolwater-Tap705 115kV No.1 Line	Kramer 230/115kV Transformer Circuit 1 + Kramer 230/115kV Transformer Circuit 2	P6	N-1-1	< 100	< 100	103.4	< 100	< 100	148.9	< 100	< 100	< 100	SCE's SOB-4: Gen Re-Dispatch
Coolwater-Dunnside 115kV No.1 Line	Victor-Roadway 115kV No.1 Line + Kramer-Victor 230 kV No.1 Line	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	109.8	Further investigation needed*
Coolwater 230/115kV Transformer Circuit 1	Kramer-Coolwater 230kV No.1 Line + Sandlot-Coolwater 230kV No.1 Line	P6	N-1-1	< 100	< 100	127.5	< 100	< 100	< 100	< 100	< 100	< 100	Further investigation needed*
Coolwater 230/115kV Transformer Circuit 1	Kramer-Coolwater 230kV No.2 Line & Sandlot-Coolwater 230kV No.1 Line	P7	DCTL	< 100	< 100	127.5	< 100	< 100	< 100	< 100	< 100	< 100	Mojave Desert RAS
Coolwater 230/115kV Transformer Circuit 1	Kramer 230/115kV Transformer Circuit 1 + Kramer 230/115kV Transformer Circuit 2	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	144.8	< 100	< 100	< 100	SCE's SOB-4: Gen Re-Dispatch
Holgate-Kramer 115kV No.1 Line	Base Case	P0	-	102.0	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	Generation redispatch
Tortilla-Tap705 115kV No.1 Line	Kramer-Tortilla 115kV No.1 Line	P1	N-1	< 100	< 100	< 100	115.4	< 100	< 100	< 100	< 100	< 100	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation*
Tortilla-Tap705 115kV No.1 Line	Base Case	P0	-	< 100	< 100	100.1	104.1	< 100	130.3	< 100	< 100	< 100	Generation redispatch
Tortilla-Tap705 115kV No.1 Line	Kramer-Coolwater 230kV No.2 Line & Sandlot-Coolwater 230kV No.1 Line	P7	DCTL	< 100	< 100	166.5	< 100	< 100	< 100	< 100	< 100	< 100	Mojave Desert RAS
Tortilla-Tap705 115kV No.1 Line	Gen KERRMGEE 13.8kV Unit 1 + Kramer-Tortilla 115kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	115.4	< 100	< 100	< 100	< 100	< 100	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation*
Tortilla-Tap705 115kV No.1 Line	Gen KERRMGEE 13.8kV Unit 1 + Kramer 230/115kV Transformer Circuit 1	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	102.5	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Tortilla-Tap705 115kV No.1 Line	Kramer-Victor 230 kV No.1 Line + Kramer-Tortilla 115kV No.1 Line	P6	N-1-1	< 100	< 100	< 100	115.4	< 100	< 100	< 100	< 100	< 100	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation*
Tortilla-Tap705 115kV No.1 Line	Kramer-Coolwater 230kV No.1 Line + Sandlot-Coolwater 230kV No.1 Line	P6	N-1-1	< 100	< 100	166.5	< 100	< 100	< 100	< 100	< 100	< 100	Further investigation needed*
Tortilla-Tap705 115kV No.1 Line	Kramer-Tortilla 115kV No.1 Line	P1	N-1	< 100	< 100	< 100	115.4	< 100	< 100	< 100	< 100	< 100	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation*
Tortilla-Tap705 115kV No.1 Line	Kramer 230/115kV Transformer Circuit 1 + Kramer 230/115kV Transformer Circuit 2	P6	N-1-1	< 100	< 100	109.7	< 100	< 100	153.0	< 100	< 100	< 100	Update Mojave Desert RAS to accomodate outage
Tortilla-Tap705 115kV No.1 Line	Kramer 230/115kV Transformer Circuit 1	P1	N-1	< 100	< 100	< 100	< 100	< 100	102.0	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Tortilla-Tap705 115kV No.1 Line	Kramer 230/115kV Transformer Circuit 2	P1	N-1	< 100	< 100	< 100	< 100	< 100	102.0	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Baker-Dunnside 115kV No.1 Line	Victor-Roadway 115kV No.1 Line + Kramer-Victor 230 kV No.1 Line	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	110.9	Further investigation needed*

Overloaded Facility	Contingency (AllWorst P6)	Category	Category Description	Loading % (Baseline Scenarios)						Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions*
				2026 Summer Peak	2026 Spring Off-Peak	2029 Summer Off Peak	2029 Summer Peak	2029 Spring Off-Peak	2034 Summer Peak	2029 SP High CEC Forecast	2026 SP Heavy Renewable & Min Gas Gen	2026 OP BESS Charging	
Baker-Mtn Pass 115kV No.1 Line	Hidesert-Hidesert_Tap 230kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	109.4	< 100	< 100	< 100	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Kramer-Victor 230kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	102.3	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Kramer-Victor 230kV No.2 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	102.3	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Kramer-Coolwater 230kV No.2 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	104.8	< 100	< 100	< 100	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Victor-Hidesert_Tap No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	109.6	< 100	< 100	< 100	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Kramer-Victor 230kV No.3 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	104.1	< 100	< 100	< 100	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Coolwater-Kramer 115kV Line & Kramer-Victor 115 kV Line	P4	Stuck Breaker	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	101.8	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Kramer-Victor 220 kV No.2 Line & Coolwater- Kramer 220 kV Line	P4	Stuck Breaker	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	103.3	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Base Case	P0	-	< 100	< 100	< 100	< 100	< 100	130.2	< 100	< 100	103.5	Generation redispatch
Baker-Mtn Pass 115kV No.1 Line	Eldordo-Lugo 500kV No.1 Line & Lugo-Mohave 500kV No.1 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	117.9	< 100	< 100	< 100	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Kramer-Victor 230kV No.2 Line & Kramer-Loop Station 230kV No.1 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	102.3	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Victor-Lugo 230kV No.1 Line & Victor-Lugo 230kV No.2 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	105.6	< 100	< 100	< 100	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Victor-Lugo 230kV No.3 Line & Victor-Lugo 230kV No.4 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	105.6	< 100	< 100	< 100	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Kramer-Coolwater 230kV No.2 Line & Sandlot-Kramer 230kV No.2 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	130.1	< 100	< 100	< 100	Mojave Desert RAS
Baker-Mtn Pass 115kV No.1 Line	Kramer-Coolwater 230kV No.2 Line & Sandlot-Coolwater 230kV No.1 Line	P7	DCTL	< 100	< 100	< 100	< 100	< 100	126.7	< 100	< 100	< 100	Mojave Desert RAS
Baker-Mtn Pass 115kV No.1 Line	Lugo 1T 500/230/13.8kV Transformer Circuit 2 & Lugo 500/230/13.8kV Transformer Circuit 1	P7	DCTL	< 100	< 100	< 100	< 100	< 100	106.8	< 100	NotConv	NotConv	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Gen RP_COLWTR_WN 0.7kV Unit VW + Coolwater 230/115kV Transformer Circuit 1	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	132.5	< 100	< 100	< 100	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Gen HIDEDST1 20.0kV Unit 1 + Kramer-Victor 230 kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	109.0	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Victor-Roadway 115kV No.1 Line + Kramer-Victor 230 kV No.1 Line	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	121.3	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Kramer-Victor 230 kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	102.3	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Kramer-Victor 230 kV No.2 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	< 100	102.3	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Kramer-Victor 230kV No.3 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	104.1	< 100	< 100	< 100	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Kramer-Victor 230kV No.4 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	104.1	< 100	< 100	< 100	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Kramer-Coolwater 230kV No.2 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	104.8	< 100	< 100	< 100	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Sandlot-Kramer 230kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	105.6	< 100	< 100	< 100	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Sandlot-Coolwater 230kV No.1 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	104.8	< 100	< 100	< 100	Further investigation needed*
Baker-Mtn Pass 115kV No.1 Line	Kramer 230/115kV Transformer Circuit 1 + Coolwater 230/115kV Transformer Circuit 1	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	142.6	< 100	< 100	< 100	Install (1) new Coolwater 220/115 kV A Bank (2nd A Bank) Upgrade Ivanpah-Coolwater-Baker-Dunn Siding-Mountain Pass 115 kV line*
Baker-Mtn Pass 115kV No.1 Line	Kramer 230/115kV Transformer Circuit 1	P1	N-1	< 100	< 100	< 100	< 100	< 100	104.8	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*

Overloaded Facility	Contingency (AllWorst P6)	Category	Category Description	Loading % (Baseline Scenarios)						Loading % (Sensitivity Scenarios)			Project & Potential Mitigation Solutions*
				2026 Summer Peak	2026 Spring Off-Peak	2029 Summer Off Peak	2029 Summer Peak	2029 Spring Off-Peak	2034 Summer Peak	2029 SP High CEC Forecast	2026 SP Heavy Renewable & Min Gas Gen	2026 OP BESS Charging	
Baker-Mtn Pass 115kV No.1 Line	Kramer 230/115kV Transformer Circuit 2	P1	N-1	< 100	< 100	< 100	< 100	< 100	104.8	< 100	< 100	< 100	Install (1) new Kramer 220/115 kV A Bank (3rd A Bank)*
Baker-Mtn Pass 115kV No.1 Line	Coolwater 230/115kV Transformer Circuit 1	P1	N-1	< 100	< 100	< 100	< 100	< 100	129.5	< 100	< 100	< 100	Further investigation needed*
Sandlot-Kramer 230kV No.1 Line	Kramer-Coolwater 230kV No.2 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	141.6	< 100	Further investigation needed*
Sandlot-Kramer 230kV No.1 Line	Kramer-Victor 220 kV No.2 Line & Coolwater- Kramer 220 kV Line	P4	Stuck Breaker	< 100	< 100	< 100	< 100	< 100	< 100	< 100	143.4	< 100	Further investigation needed*
Sandlot-Kramer 230kV No.1 Line	Gen TOT904_ES1 0.55kV Unit 1 + Kramer-Coolwater 230kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	141.9	< 100	Further investigation needed*
Sandlot-Kramer 230kV No.1 Line	Gen TOT812_G3b 0.7kV Unit 1 + Kramer-Coolwater 230kV No.1 Line	P3	Gen Loss	< 100	< 100	< 100	< 100	< 100	< 100	< 100	141.8	< 100	Further investigation needed*
Sandlot-Kramer 230kV No.1 Line	Coolwater-Tortilla-Segs2 115kV No.1 Line + Kramer-Coolwater 230kV No.1 Line	P6	N-1-1	< 100	< 100	116.1	< 100	< 100	< 100	< 100	< 100	< 100	Further investigation needed*
Sandlot-Kramer 230kV No.1 Line	Victor-Roadway 115kV No.1 Line + Kramer-Coolwater 230kV No.1 Line	P6	N-1-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	141.9	< 100	Further investigation needed*
Sandlot-Kramer 230kV No.1 Line	Kramer-Coolwater 230kV No.2 Line	P1	N-1	< 100	< 100	< 100	< 100	< 100	< 100	< 100	141.6	< 100	Further investigation needed*
Silvr-Spring1-Coolwater 230kV No.1 Line	Base Case	P0	-	< 100	< 100	< 100	< 100	< 100	< 100	< 100	103.6	< 100	Generation redispatch

*The ISO is reviewing the load forecast for the Norther of Lugo area

California ISO

Substation	Contingency (All and Worst P6)	Category	Category Description	High Low Voltage	Voltage PU (Baseline Scenarios) 2026 Summer Peak	2026 Spring Off-Peak	2029 Summer-Off Peak	2029 Summer Peak	2029 Spring Off-Peak	2034 Summer Peak	Voltage PU (Sensitivity Scenarios) 2029 SP High CEC Forecast	2026 SP Heavy Renewable & Min Gas Gen	2026 OP BESS Charging	Project & Potential Mitigation Solutions*
BAKER 115 kV	Gen Luz9 G 13.8kV Unit 9 + Ivanpah-Mtn Pass 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.85	0.9 < V < 1.1	0.81	0.79	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Install reactive support
BAKER 115 kV	GenTOT812 G3I 0.6kV Unit 1 + Ivanpah-Mtn Pass 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.82	0.9 < V < 1.1	0.9 < V < 1.1	0.78	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.87	0.9 < V < 1.1	Install reactive support
BAKER 115 kV	COOLWATER-Tortilla-Segs2 115kV No.1 Line + Ivanpah-Mtn Pass 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.82	0.9 < V < 1.1	0.90	0.9 < V < 1.1	Install reactive support
BAKER 115 kV	Kramer-Victor 230kV No.1 Line + Kramer-COOLWATER 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.80	Install reactive support
BAKER 115 kV	Ivanpah-Mtn Pass 115kV No.1 Line + TOT812 H-COOLWATER 115kV No.1 Line	P6	N-1-1	Low Voltage	0.80	0.9 < V < 1.1	0.81	0.78	0.9 < V < 1.1	0.81	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Install reactive support
BAKER 115 kV	Ivanpah-Mtn Pass 115kV No.1 Line + COOLWATER 230 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.72	0.67	0.9 < V < 1.1	0.78	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Install reactive support
BISHOP3 115 kV	Gen OCASOG2 16.8kV Unit 2 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.9 < V < 1.1	Further investigation needed*
BISHOP3 115 kV	Gen DS3 PPA5 PV 34.5kV Unit 1 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.85	0.9 < V < 1.1	Further investigation needed*
BISHOP3 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.86	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
BISHOP3 115 kV	Lugo 1T 500 230 13.8kV Transformer Circuit 2 & Lugo 500 230 13.8kV Transformer Circuit 1	P7	DCTL	Low Voltage	0.83	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
BISHOP3 115 kV	Tap701-Kramer 115kV No.1 Line + Inyokern-Kramer 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.86	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
BISHOP3 115 kV	Control-Inyo 115kV No.1 Line + Oxbow B-Control 115kV No.1 Line	P6	N-1-1	Low Voltage	0.79	0.9 < V < 1.1	0.84	0.9 < V < 1.1	0.9 < V < 1.1	0.79	0.9 < V < 1.1	0.76	0.90	Further investigation needed*
BISHOP4 115 kV	Gen OCASOG2 16.8kV Unit 2 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.9 < V < 1.1	Further investigation needed*
BISHOP4 115 kV	Gen DS3 PPA5 PV 34.5kV Unit 1 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.85	0.9 < V < 1.1	Further investigation needed*
BISHOP4 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.86	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
BISHOP4 115 kV	Lugo 1T 500 230 13.8kV Transformer Circuit 2 & Lugo 500 230 13.8kV Transformer Circuit 1	P7	DCTL	Low Voltage	0.83	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
BISHOP4 115 kV	Tap701-Kramer 115kV No.1 Line + Inyokern-Kramer 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.86	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
BISHOP4 115 kV	Control-Inyo 115kV No.1 Line + Oxbow B-Control 115kV No.1 Line	P6	N-1-1	Low Voltage	0.79	0.9 < V < 1.1	0.84	0.9 < V < 1.1	0.9 < V < 1.1	0.79	0.9 < V < 1.1	0.76	0.9 < V < 1.1	Further investigation needed*
BSPHYD34 115 kV	Gen OCASOG2 16.8kV Unit 2 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.9 < V < 1.1	Further investigation needed*
BSPHYD34 115 kV	Gen DS3 PPA5 PV 34.5kV Unit 1 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.85	0.9 < V < 1.1	Further investigation needed*
BSPHYD34 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.85	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
BSPHYD34 115 kV	Lugo 1T 500 230 13.8kV Transformer Circuit 2 & Lugo 500 230 13.8kV Transformer Circuit 1	P7	DCTL	Low Voltage	0.83	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
BSPHYD34 115 kV	Tap701-Kramer 115kV No.1 Line + Inyokern-Kramer 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.85	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
BSPHYD34 115 kV	Control-Inyo 115kV No.1 Line + Oxbow B-Control 115kV No.1 Line	P6	N-1-1	Low Voltage	0.79	0.9 < V < 1.1	0.84	0.9 < V < 1.1	0.9 < V < 1.1	0.79	0.9 < V < 1.1	0.76	0.9 < V < 1.1	Further investigation needed*
CAL GEN 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.66	0.9 < V < 1.1	0.54	0.50	1.16	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
CAL GEN 115 kV	Tap701-Kramer 115kV No.1 Line + Inyokern-Kramer 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.66	0.9 < V < 1.1	0.54	0.50	1.16	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
COOLWATER 115 kV	GenTOT812 G3I 0.6kV Unit 1 + Kramer-COOLWATER 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.81	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation (~11 miles Double Circuit)*
COOLWATER 115 kV	GenTOT812 G3I 0.6kV Unit 1 + COOLWATER 230 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.84	0.79	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation (~11 miles Double Circuit)*
COOLWATER 115 kV	Kramer-Victor 230kV No.1 Line + Kramer-COOLWATER 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.83	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation (~11 miles Double Circuit)*
COOLWATER 115 kV	Kramer-COOLWATER 115kV No.1 Line + Kramer-Tortilla 115kV No.1 Line	P6	N-1-1	Low Voltage	0.86	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation (~11 miles Double Circuit)*
COOLWATER 115 kV	Kramer-Tortilla 115kV No.1 Line + COOLWATER 230 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.85	0.73	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation (~11 miles Double Circuit)*
COOLWATER 115 kV	TOT812 H-COOLWATER 115kV No.1 Line + COOLWATER 230 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.81	0.78	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Loop Kramer-Coolwater 115 kV line into Tortilla 115 kV Substation (~11 miles Double Circuit)*
CONTROL 115 kV	Gen OCASOG2 16.8kV Unit 2 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.9 < V < 1.1	Bishop RAS
CONTROL 115 kV	Gen DS3 PPA5 PV 34.5kV Unit 1 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.85	0.9 < V < 1.1	Bishop RAS
CONTROL 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.85	0.9 < V < 1.1	0.97	0.9 < V < 1.1	Bishop RAS
CONTROL 115 kV	Lugo 1T 500 230 13.8kV Transformer Circuit 2 & Lugo 500 230 13.8kV Transformer Circuit 1	P7	DCTL	Low Voltage	0.83	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Bishop RAS
CONTROL 115 kV	Tap701-Kramer 115kV No.1 Line + Inyokern-Kramer 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.85	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Bishop RAS
CONTROL 115 kV	Control-Inyo 115kV No.1 Line + Oxbow B-Control 115kV No.1 Line	P6	N-1-1	Low Voltage	0.79	0.9 < V < 1.1	0.84	0.9 < V < 1.1	0.9 < V < 1.1	0.78	0.9 < V < 1.1	0.76	0.9 < V < 1.1	Bishop RAS
COSO 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	High/Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.70	0.9 < V < 1.1	0.60	0.57	1.14	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
COSO 115 kV	Lugo 1T 500 230 13.8kV Transformer Circuit 2 & Lugo 500 230 13.8kV Transformer Circuit 1	P7	DCTL	Low Voltage	0.90	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
COSO 115 kV	Tap701-Kramer 115kV No.1 Line + Inyokern-Kramer 115kV No.1 Line	P6	N-1-1	High/Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.70	0.9 < V < 1.1	0.60	0.57	1.14	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
CSA DIAB 115 kV	Gen OCASOG2 16.8kV Unit 2 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.85	0.9 < V < 1.1	SCE's SOB-4: Gen Dispatch
CSA DIAB 115 kV	Gen DS3 PPA5 PV 34.5kV Unit 1 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.82	0.9 < V < 1.1	SCE's SOB-4: Gen Dispatch
CSA DIAB 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.89	0.83	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	SCE's SOB-4: Gen Dispatch
CSA DIAB 115 kV	Lugo 1T 500 230 13.8kV Transformer Circuit 2 & Lugo 500 230 13.8kV Transformer Circuit 1	P7	DCTL	Low Voltage	0.81	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	SCE's SOB-4: Gen Dispatch
CSA DIAB 115 kV	Tap701-Kramer 115kV No.1 Line + Inyokern-Kramer 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.89	0.83	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	SCE's SOB-4: Gen Dispatch
CSA DIAB 115 kV	Control-Inyo 115kV No.1 Line + Oxbow B-Control 115kV No.1 Line	P6	N-1-1	Low Voltage	0.77	0.9 < V < 1.1	0.84	0.9 < V < 1.1	0.9 < V < 1.1	0.77	0.9 < V < 1.1	0.73	0.88	SCE's SOB-4: Gen Dispatch
DOWNS 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.66	0.9 < V < 1.1	0.54	0.49	1.15	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
DOWNS 115 kV	Gen KERRMGEE 13.8kV Unit 1 + Tap701-Kramer 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.87	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
DOWNS 115 kV	Tap701-Kramer 115kV No.1 Line + Inyokern-Kramer 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.66	0.9 < V < 1.1	0.54	0.49	1.15	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
DUNN SIDING 115 kV	GenTOT812 G3I 0.6kV Unit 1 + Kramer-COOLWATER 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.80	Install reactive support
DUNN SIDING 115 kV	GenTOT812 G3I 0.6kV Unit 1 + Kramer-Tortilla 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.80	Install reactive support
DUNN SIDING 115 kV	Kramer-Victor 230kV No.1 Line + Kramer-COOLWATER 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.77	Install reactive support
DUNN SIDING 115 kV	Kramer-COOLWATER 115kV No.1 Line + Kramer-Tortilla 115kV No.1 Line	P6	N-1-1	Low Voltage	0.85	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Install reactive support
DUNN SIDING 115 kV	Kramer-COOLWATER 115kV No.1 Line + COOLWATER 230 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.79	0.9 < V < 1.1	0.85	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Install reactive support
DUNN SIDING 115 kV	Ivanpah-Mtn Pass 115kV No.1 Line + COOLWATER 230 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.79	0.74	0.9 < V < 1.1	0.85	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Install reactive support
GALE 115 kV	GenTOT812 G3I 0.6kV Unit 1 + Kramer-COOLWATER 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.81	Further investigation needed*
GALE 115 kV	GenTOT812 G3I 0.6kV Unit 1 + COOLWATER 230 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.84	0.79	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
GALE 115 kV	Kramer-Victor 230kV No.1 Line + Kramer-COOLWATER 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.83	Further investigation needed*
GALE 115 kV	Kramer-COOLWATER 115kV No.1 Line + Kramer-Tortilla 115kV No.1 Line	P6	N-1-1	Low Voltage	0.86	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
GALE 115 kV	Kramer-Tortilla 115kV No.1 Line + COOLWATER 230 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.85	0.73	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
GALE 115 kV	TOT812 H-COOLWATER 115kV No.1 Line + COOLWATER 230 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.81	0.78	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
HAMLIN 115 kV	Victor 230 115kV Transformer Circuit 1 + Victor 230 115kV Transformer Circuit 2	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.78	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
INYO 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.89	0.85	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Install (1) new Control 115/55 kV A Bank (3rd A Bank)*
INYO 115 kV	Lugo 1T 500 230 13.8kV Transformer Circuit 2 & Lugo 500 230 13.8kV Transformer Circuit 1	P7	DCTL	Low Voltage	0.83	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Install (1) new Control 115/55 kV A Bank (3rd A Bank)*
INYO 115 kV	Gen OCASOG2 16.8kV Unit 2 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.9 < V < 1.1	Install (1) new Control 115/55 kV A Bank (3rd A Bank)*
INYO 115 kV	Gen DS3 PPA5 PV 34.5kV Unit 1 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.85	0.9 < V < 1.1	Install (1) new Control 115/55 kV A Bank (3rd A Bank)*
INYO 115 kV	Tap701-Kramer 115kV No.1 Line + Inyokern-Kramer 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.89	0.85	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Install (1) new Control 115/55 kV A Bank (3rd A Bank)*
INYO 115 kV	Control-Inyo 115kV No.1 Line + Owenscon-Inyo 230kV No.1 Line	P6	N-1-1	High Voltage	0.9 < V < 1.1	1.13	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	1.13	Install (1) new Control 115/55 kV A Bank (3rd A Bank)*
INYO 115 kV	Oxbow B-Control 115kV No.1 Line + Inyo-Inyo PS 115kV Phase Shifter Circuit 1	P6	N-1-1	Low Voltage	0.79	0.9 < V < 1.1	0.85	0.9 < V < 1.1	0.9 < V < 1.1	0.78	0.9 < V < 1.1	0.76	0.9 < V < 1.1	Install (1) new Control 115/55 kV A Bank (3rd A Bank)*
INYO PS 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.90	0.87	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Install (1) new Control 115/55 kV A Bank (3rd A Bank)*
INYO PS 115 kV	Lugo 1T 500 230 13.8kV Transformer Circuit 2 & Lugo 500 230 13.8kV Transformer Circuit 1	P7	DCTL	Low Voltage	0.87	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Install (1) new Control 115/55 kV A Bank (3rd A Bank)*
INYO PS 115 kV	Gen OCASOG2 16.8kV Unit 2 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.85	0.9 < V < 1.1	Install (1) new Control 115/55 kV A Bank (3rd A Bank)*
INYO PS 115 kV	Gen DS3 PPA5 PV 34.5kV Unit 1 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.81	0.9 < V < 1.1	Install (1) new Control 115/55 kV A Bank (3rd A Bank)*
INYO PS 115 kV	Tap645-NEVBD502-Tap644 55kV No.1 Line + Inyo-Cottonwd 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.83	0.9 < V < 1.1	Install (1) new Control 115/55 kV A Bank (3rd A Bank)*
INYO PS 115 kV	Tap701-Kramer 115kV No.1 Line + Inyokern-Kramer 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.90	0.87	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Install (1) new Control 115/55 kV A Bank (3rd A Bank)*
INYO PS 115 kV	Victor-Roadway 115kV No.1 Line + Control-Inyo 115kV No.1 Line	P6	N-1-1	High Voltage	0.9 < V < 1.1	1.12	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Install (1) new Control 115/55 kV A Bank (3rd A Bank)*
INYO PS 115 kV	Control-Inyo 115kV No.1 Line + Owenscon-Inyo 230kV No.1 Line	P6	N-1-1	High Voltage	0.9 < V < 1.1	1.13	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	1.13	Install (1) new Control 115/55 kV A Bank (3rd A Bank)*
INYOKERN 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.67	0.9 < V < 1.1	0.54	0.51	1.16	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
INYOKERN 115 kV	Tap701-Kramer 115kV No.1 Line + Inyokern-Kramer 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.67	0.9 < V < 1.1	0.54	0.51	1.16	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
LEE VINE 115 kV	Gen OCASOG2 16.8kV Unit 2 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.85	0.9 < V < 1.1	Further investigation needed*
LEE VINE 115 kV	Gen DS3 PPA5 PV 34.5kV Unit 1 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.82	0.9 < V < 1.1	Further investigation needed*
LEE VINE 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.84	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
LEE VINE 115 kV	Lugo 1T 500 230 13.8kV Transformer Circuit 2 & Lugo 500 230 13.8kV Transformer Circuit 1	P7	DCTL	Low Voltage	0.81	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
LEE VINE 115 kV	Control-Inyo 115kV No.1 Line + Oxbow B-Control 115kV No.1 Line	P6	N-1-1	Low Voltage	0.77	0.93	0.85	0.9 < V < 1.1	0.9 < V < 1.1	0.77	0.9 < V < 1.1	0.73	0.89	Further investigation needed*
MTN PASS 115 kV	Gen Luz9 G 13.8kV Unit 9 + Ivanpah-Mtn Pass 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.83	0.9 < V < 1.1	0.79	0.77	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.89	0.9 < V < 1.1	Further investigation needed*
MTN PASS 115 kV	Gen KERRMGEE 13.8kV Unit 1 + Ivanpah-Mtn Pass 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.83	0.9 < V < 1.1	0.79	0.77	0.9 < V < 1.1	0.80	0.9 < V < 1.1	0.89	0.9 < V < 1.1	Further investigation needed*
MTN PASS 115 kV	COOLWATER-Tortilla-Segs2 115kV No.1 Line + Ivanpah-Mtn Pass 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.80	0.80	0.9 < V < 1.1	0.80	0.9 < V < 1.1	0.87	0.9 < V < 1.1	Further investigation needed*
MTN PASS 115 kV	Kramer-COOLWATER 115kV No.1 Line + Ivanpah-Mtn Pass 115kV No.1 Line	P6	N-1-1	Low Voltage	0.82	0.9 < V < 1.1	0.9 < V < 1.1	0.77	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.86	Further investigation needed*
MTN PASS 115 kV	Ivanpah-Mtn Pass 115kV No.1 Line + TOT812 H-COOLWATER 115kV No.1 Line	P6	N-1-1	Low Voltage	0.78	0.9 < V < 1.1	0.79	0.76	0.9 < V < 1.1	0.79	0.9 < V < 1.1	0.88	0.9 < V < 1.1	Further investigation needed*
MTN PASS 115 kV	Ivanpah-Mtn Pass 115kV No.1 Line + COOLWATER 230 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.70	0.66	0.9 < V < 1.1	0.76	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
NAVY II 115 kV	Kramer-Victor 230kV No.1 Line + Sandlot-Kramer 230kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.90	0.9 < V < 1.1	Further investigation needed*
OXBOW B 115 kV	Gen OCASOG2 16.8kV Unit 2 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.9 < V < 1.1	Further investigation needed*

Substation	Contingency (All and Worst P6)	Category	Category Description	High Low Voltage	Voltage PU (Baseline Scenarios)						Voltage PU (Sensitivity Scenarios)			Project & Potential Mitigation Solutions*
					2026 Summer Peak	2026 Spring Off-Peak	2029 Summer-Off Peak	2029 Summer Peak	2029 Spring Off-Peak	2034 Summer Peak	2029 SP High CEC Forecast	2026 SP Heavy Renewable & Min Gas Gen	2026 OP BESS Charging	
OXBOW_B 115 kV	Gen DS3_PPA5_PV 34.5kV Unit 1 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.85	0.9 < V < 1.1	Further investigation needed*
OXBOW_B 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.85	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
OXBOW_B 115 kV	Lugo 1T 500 230 13.8kV Transformer Circuit 2 & Lugo 500 230 13.8kV Transformer Circuit 1	P7	DCTL	Low Voltage	0.83	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
OXBOW_B 115 kV	Tap701-Kramer 115kV No.1 Line + Inyokern-Kramer 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.85	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
OXBOW_B 115 kV	Control-Inyo 115kV No.1 Line + Oxbow B-Oxbow A 230kV No.1 Line	P6	N-1-1	Low Voltage	0.79	0.9 < V < 1.1	0.84	0.9 < V < 1.1	0.9 < V < 1.1	0.78	0.9 < V < 1.1	0.76	0.9 < V < 1.1	Further investigation needed*
ROADWAY 115 kV	Victor-Roadway 115kV No.1 Line + Roadway-Hamlin 115kV No.1 Line	P6	N-1-1	Low Voltage	0.87	0.9 < V < 1.1	0.9 < V < 1.1	0.85	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
ROADWAY 115 kV	Victor 230 115kV Transformer Circuit 1 + Victor 230 115kV Transformer Circuit 2	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.76	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
RUSH 115 kV	Gen OCASOG2 16.8kV Unit 2 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.85	0.9 < V < 1.1	Further investigation needed*
RUSH 115 kV	Gen DS3_PPA5_PV 34.5kV Unit 1 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.82	0.9 < V < 1.1	Further investigation needed*
RUSH 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.83	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
RUSH 115 kV	Lugo 1T 500 230 13.8kV Transformer Circuit 2 & Lugo 500 230 13.8kV Transformer Circuit 1	P7	DCTL	Low Voltage	0.81	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
RUSH 115 kV	Control-Inyo 115kV No.1 Line + Oxbow B-Control 115kV No.1 Line	P6	N-1-1	Low Voltage	0.77	0.9 < V < 1.1	0.85	0.9 < V < 1.1	0.9 < V < 1.1	0.77	0.9 < V < 1.1	0.73	0.88	Further investigation needed*
SEARLES 115 kV	Gen KERRMGEE 13.8kV Unit 1 + Tap701-Kramer 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.86	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
SEARLES 115 kV	Gen Searles 33 34.5kV Unit 1 + Tap701-Kramer 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.87	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
SEARLES 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	High/Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.65	0.9 < V < 1.1	0.54	0.50	1.15	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
SEARLES 115 kV	Tap701-Kramer 115kV No.1 Line + Inyokern-Kramer 115kV No.1 Line	P6	N-1-1	High/Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.65	0.9 < V < 1.1	0.54	0.50	1.15	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
SEGS2 115 kV	GenTOT812_G3I 0.6kV Unit 1 + Kramer-COOLWATER 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.81	Further investigation needed*
SEGS2 115 kV	GenTOT812_G3I 0.6kV Unit 1 + COOLWATER 230 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.84	0.79	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
SEGS2 115 kV	Kramer-Victor 230kV No.1 Line + Kramer-COOLWATER 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.83	Further investigation needed*
SEGS2 115 kV	Kramer-COOLWATER 115kV No.1 Line + Kramer-Tortilla 115kV No.1 Line	P6	N-1-1	Low Voltage	0.86	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
SEGS2 115 kV	Kramer-Tortilla 115kV No.1 Line + COOLWATER 230 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.85	0.73	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
SEGS2 115 kV	TOT812_H-COOLWATER 115kV No.1 Line + COOLWATER 230 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.82	0.78	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
SHERWIN 115 kV	Gen OCASOG2 16.8kV Unit 2 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.86	0.9 < V < 1.1	Further investigation needed*
SHERWIN 115 kV	Gen DS3_PPA5_PV 34.5kV Unit 1 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.83	0.9 < V < 1.1	Further investigation needed*
SHERWIN 115 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.89	0.84	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
SHERWIN 115 kV	Lugo 1T 500 230 13.8kV Transformer Circuit 2 & Lugo 500 230 13.8kV Transformer Circuit 1	P7	DCTL	Low Voltage	0.82	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
SHERWIN 115 kV	Tap701-Kramer 115kV No.1 Line + Inyokern-Kramer 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.89	0.84	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
SHERWIN 115 kV	Control-Inyo 115kV No.1 Line + Oxbow B-Control 115kV No.1 Line	P6	N-1-1	Low Voltage	0.77	0.9 < V < 1.1	0.84	0.9 < V < 1.1	0.9 < V < 1.1	0.77	0.9 < V < 1.1	0.74	0.89	Further investigation needed*
TIEFORT 115 kV	GenTOT812_G3I 0.6kV Unit 1 + Kramer-COOLWATER 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.80	Further investigation needed*
TIEFORT 115 kV	GenTOT812_G3I 0.6kV Unit 1 + COOLWATER 230 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.81	0.76	0.89	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
TIEFORT 115 kV	Kramer-Victor 230kV No.1 Line + Kramer-COOLWATER 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.83	Further investigation needed*
TIEFORT 115 kV	Kramer-COOLWATER 115kV No.1 Line + Kramer-Tortilla 115kV No.1 Line	P6	N-1-1	Low Voltage	0.84	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
TIEFORT 115 kV	Kramer-Tortilla 115kV No.1 Line + COOLWATER 230 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.83	0.71	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
TIEFORT 115 kV	TOT812_H-COOLWATER 115kV No.1 Line + COOLWATER 230 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.79	0.75	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
TORTILLA 115 kV	Gen RP_COLWTR_G 0.7kV Unit VE + COOLWATER-Tortilla-Segs2 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.62	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
TORTILLA 115 kV	Gen RP_ROADWAY_G 0.7kV Unit VE + COOLWATER-Tortilla-Segs2 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.62	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
TORTILLA 115 kV	COOLWATER-Tortilla-Segs2 115kV No.1 Line + Kramer-Tortilla 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.71	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
TORTILLA 115 kV	COOLWATER-Tortilla-Segs2 115kV No.1 Line + Tortilla 115kV Shunt B1	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.83	0.64	0.89	0.62	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
TORTILLA 115 kV	COOLWATER-Tortilla-Segs2 115kV No.1 Line + Kramer 1T 230 115kV Circuit 1	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.84	0.65	0.9 < V < 1.1	0.61	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
TORTILLA 115 kV	Kramer-Victor 230kV No.1 Line + Kramer-Tortilla 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.83	Further investigation needed*
TORTILLA 115 kV	Kramer-COOLWATER 115kV No.1 Line + Kramer-Tortilla 115kV No.1 Line	P6	N-1-1	Low Voltage	0.84	0.9 < V < 1.1	0.9 < V < 1.1	0.84	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
VICTOR 115 kV	Victor 230 115kV Transformer Circuit 1 + Victor 230 115kV Transformer Circuit 2	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.75	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
INYO 230 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.90	0.89	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
INYO 230 kV	Gen OCASOG2 16.8kV Unit 2 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.79	0.9 < V < 1.1	Further investigation needed*
INYO 230 kV	Gen DS3_PPA5_PV 34.5kV Unit 1 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.74	0.9 < V < 1.1	Further investigation needed*
INYO 230 kV	Tap645-NEVBD502-Tap644 55kV No.1 Line + Inyo-Cottonwd 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.77	0.9 < V < 1.1	Further investigation needed*
INYO 230 kV	Tap701-Kramer 115kV No.1 Line + Inyokern-Kramer 115kV No.1 Line	P6	N-1-1	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.90	0.89	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
INYO 230 kV	Inyo-Cottonwd 115kV No.1 Line + Control 115 55kV Circuit 1	P6	N-1-1	Low Voltage	0.88	0.87	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
OXBOW_B 230 kV	Gen DS3_PPA5_PV 34.5kV Unit 1 + Inyo-Cottonwd 115kV No.1 Line	P3	Gen. Loss	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.89	0.9 < V < 1.1	Further investigation needed*
OXBOW_B 230 kV	Kramer-Inyokern-Randsburg 115kV No.3 Line & Kramer-Inyokern-Randsburg 115kV No.1 Line	P7	DCTL	Low Voltage	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.88	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
OXBOW_B 230 kV	Lugo 1T 500 230 13.8kV Transformer Circuit 2 & Lugo 500 230 13.8kV Transformer Circuit 1	P7	DCTL	Low Voltage	0.87	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	0.9 < V < 1.1	Further investigation needed*
OXBOW_B 230 kV	Control-Inyo 115kV No.1 Line + Oxbow B-Oxbow A 230kV No.1 Line	P6	N-1-1	Low Voltage	0.79	0.9 < V < 1.1	0.84	0.9 < V < 1.1	0.9 < V < 1.1	0.78	0.9 < V < 1.1	0.76	0.9 < V < 1.1	Further investigation needed*

*The ISO is reviewing the load forecast for the North of Lugo area

2024-2025 ISO Reliability Assessment - Preliminary Study Results
Study Area: **SCE North of Lugo**
Voltage Deviation

Substation	Contingency (All and Worst P6)	Category	Category Description	Voltage PU (Baseline Scenarios)						Voltage PU (Sensitivity Scenarios)			Project & Potential Mitigation Solutions
				2026 Summer Peak	2026 Spring Off-Peak	2029 Summer-Off Peak	2029 Summer Peak	2029 Spring Off-Peak	2034 Summer Peak	2029 SP High CEC Forecast	2026 SP Heavy Renewable & Min Gas Gen	2026 OP BESS Charging	

No P1 or P3 contingencies resulted in voltage deviation greater than 8%

Contingency	Category	Category Description	Transient Stability Performance					Potential Mitigation Solutions*
			Baseline Scenarios			Sensitivity Scenarios		
			2029 Summer Peak	2034 Summer Peak	2026 Spring Off-Peak	2029 SP High CEC Forecast	2026 Spr Shoulder-Peak Heavy Renewable	
Control-Casa Diablo 115 kV (fault at Control), plus stuck breaker	P4	Stuck Breaker	WECC criteria not met	No Issues	WECC criteria not met	WECC criteria not met	WECC criteria not met	Further investigation needed*
Control-Casa Diablo 115 kV (fault at Casa Diablo), plus stuck breaker	P4	Stuck Breaker	WECC criteria not met	No Issues	WECC criteria not met	WECC criteria not met	WECC criteria not met	Further investigation needed*
Control-Coso-Haiwee-Inyokern 115 kV (fault at Inyokern), plus stuck breaker	P4	Stuck Breaker	WECC criteria not met	WECC criteria not met	WECC criteria not met	WECC criteria not met	WECC criteria not met	Bishop RAS
Control-Coso-Haiwee-Inyokern 115 kV (fault at Control), plus stuck breaker	P4	Stuck Breaker	WECC criteria not met	WECC criteria not met	WECC criteria not met	No Issues	WECC criteria not met	Bishop RAS
Control-Haiwee-Inyokern 115 kV (fault at Control), plus stuck breaker	P4	Stuck Breaker	No Issues	No Issues	WECC criteria not met	No Issues	Undamped oscillations	Further investigation needed*
Control-Haiwee-Inyokern 115 kV (fault at Inyokern), plus stuck breaker	P4	Stuck Breaker	WECC criteria not met	WECC criteria not met	WECC criteria not met	WECC criteria not met	Undamped oscillations	Further investigation needed*
Control-Inyo 115 kV (fault at Control), plus stuck breaker	P4	Stuck Breaker	No Issues	No Issues	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Control-SilverPeak A 115 kV (fault at Control), plus stuck breaker	P4	Stuck Breaker	No Issues	No Issues	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Inyokern-Downs 115 kV (fault at Inyokern), plus stuck breaker	P4	Stuck Breaker	No Issues	WECC criteria not met	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Kramer-Roadway 115 kV (fault at Kramer), plus stuck breaker	P4	Stuck Breaker	No Issues	n/a	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Kramer-Roadway 115 kV (fault at Roadway), plus stuck breaker	P4	Stuck Breaker	No Issues	n/a	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Kramer-Victor 115 kV (fault at Kramer), plus stuck breaker	P4	Stuck Breaker	No Issues	n/a	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Kramer-Victor 115 kV (fault at Victor), plus stuck breaker	P4	Stuck Breaker	No Issues	n/a	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Victor 115kV 1-PH Bus Fault, N-RBD Relay, delayed clearing	P5	Non-Redundant Relay	No Issues	No Issues	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Inyo 115kV 1-PH Bus Fault, N-RBD Relay, delayed clearing	P5	Non-Redundant Relay	No Issues	No Issues	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Control 115kV fault, Loss of Control No. 1 & 3 115/55 kV Transformer Banks	P6	N-1-1	No Issues	No Issues	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Kramer 230 kV fault, loss of Kramer No. 1 & 2 230/115 kV Transformer Banks	P6	N-1-1	No Issues	WECC criteria not met	WECC criteria not met	No Issues	WECC criteria not met	Further investigation needed*
Lugo 230 kV fault, loss of Lugo No. 1 & 2 500/230 kV Transformer Banks, w/RAS	P6	N-1-1	WECC criteria not met	WECC criteria not met	WECC criteria not met	No Issues	WECC criteria not met	Further investigation needed*
Lugo 230 kV fault, loss of Lugo No. 1 & 2 500/230 kV Transformer Banks, no/RAS	P6	N-1-1	No Issues	WECC criteria not met	WECC criteria not met	No Issues	WECC criteria not met	Further investigation needed*
Kramer fault, loss of Kramer-Inyokern-Randsburg No. 1 & 3 115 kV Lines	P6	N-1-1	No Issues	WECC criteria not met	WECC criteria not met	WECC criteria not met	WECC criteria not met	Further investigation needed*
Coolwater fault, loss of Coolwater-Kramer & Cool Water-SEGS2-Tortilla 115 kV Lines, w/op	P6	N-1-1	No Issues	No Issues	WECC criteria not met	No Issues	Diverged	Further investigation needed*
Coolwater fault, loss of Coolwater-Kramer & Cool Water-SEGS2-Tortilla 115 kV Lines	P6	N-1-1	No Issues	No Issues	WECC criteria not met	No Issues	Diverged	Further investigation needed*
Coolwater fault, loss of Coolwater-Kramer & Accelerate-Tortilla 115 kV Lines, w/OP	P6	N-1-1	Diverged	Diverged	WECC criteria not met	n/a	Diverged	Further investigation needed*
Coolwater fault, loss of Coolwater-Kramer & Kramer-Accelerate 115 kV Lines, w/OP	P6	N-1-1	No Issues	No Issues	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Coolwater fault, loss of Coolwater-Kramer & Kramer-Accelerate 115 kV Lines	P6	N-1-1	No Issues	No Issues	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Coolwater fault, loss of Coolwater-Kramer & Kramer-Tortilla 115 kV Lines, w/OP	P6	N-1-1	No Issues	n/a	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Coolwater fault, loss of Coolwater-Kramer & Kramer-Tortilla 115 kV Lines	P6	N-1-1	No Issues	n/a	WECC criteria not met	No Issues	Diverged	Further investigation needed*
Coolwater fault, loss of Coolwater-Accelerate & Accelerate-Tortilla 115 kV Lines	P6	N-1-1	Diverged	n/a	WECC criteria not met	n/a	Diverged	Further investigation needed*
Kramer fault, loss of Kramer-Victor No. 1 & 2 230 kV Lines, w/RAS	P7	DCTL	WECC criteria not met	No Issues	WECC criteria not met	No Issues	WECC criteria not met	Further investigation needed*
Kramer fault, loss of Kramer-Victor No. 1 & 2 230 kV Lines, no RAS	P7	DCTL	No Issues	No Issues	WECC criteria not met	No Issues	WECC criteria not met	Further investigation needed*
Lugo fault, loss of Victor-Lugo No. 1 & 2 230 kV Lines, w/RAS	P7	DCTL	No Issues	WECC criteria not met	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Lugo fault, loss of Victor-Lugo No. 1 & 2 230 kV Lines, no RAS	P7	DCTL	No Issues	WECC criteria not met	WECC criteria not met	No Issues	No Issues	HDPP RAS and Mojave Desert RAS
Control fault, loss of Control-Haiwee-Inyokern & Control-Coso-Haiwee-Inyokern 115 kV Lines, w/RAS	P7	DCTL	No Issues	No Issues	No Issues	No Issues	WECC criteria not met	Further investigation needed*
Control fault, loss of Control-Haiwee-Inyokern & Control-Coso-Haiwee-Inyokern 115 kV Lines, no RAS	P7	DCTL	WECC criteria not met	No Issues	WECC criteria not met	No Issues	WECC criteria not met	Bishop RAS
Kramer fault, loss of Kramer-Victor & Roadway-Victor 115 kV Lines	P7	DCTL	No Issues	Diverged	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Kramer fault, loss of Kramer-Victor & Kramer-Roadway 115 kV Lines	P7	DCTL	No Issues	Diverged	WECC criteria not met	No Issues	No Issues	Further investigation needed*
Extreme contingency, Kramer fault, loss of Kramer 230 kV Substation, w/RAS	extreme		WECC criteria not met	WECC criteria not met	WECC criteria not met	No Issues	WECC criteria not met	Further investigation needed*
Extreme contingency, Victor fault, loss of Victor 230 kV Substation, w/RAS	extreme		WECC criteria not met	WECC criteria not met	WECC criteria not met	WECC criteria not met	WECC criteria not met	Further investigation needed*

*The ISO is reviewing the load forecast for the North of Lugo area

Worst Contingency	Category	Category Description	Amount of Load Drop (MW)									Potential Mitigation Solutions
			2026 Summer Peak	2026 Spring Off-Peak	2029 Summer-Off Peak	2029 Summer Peak	2029 Spring Off-Peak	2034 Summer Peak	2029 SP High CEC Forecast	2026 SP Heavy Renewable & Min Gas Gen	2026 OP BESS Charging	

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

2024-2025 ISO Reliability Assessment - Preliminary Study Results
Study Area: **SCE North of Lugo**
Single Source Substation with more than 100 MW Load

Substation	Load Served (MW)									Potential Mitigation Solutions
	2026 Summer Peak	2026 Spring Off-Peak	2029 Summer-Off Peak	2029 Summer Peak	2029 Spring Off-Peak	2034 Summer Peak	2029 SP High CEC Forecast	2026 SP Heavy Renewable & Min Gas Gen	2026 OP BESS Charging	

No single source substation with more than 100 MW