



| ID       | Overloaded Facility                          | Worst Contingency                                                                                                    | Category | Category Description | Loading (%)      |                  |                  |                      |                        |                                        |                                       |     | Potential Mitigation Solutions                                                                 |
|----------|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------|----------|----------------------|------------------|------------------|------------------|----------------------|------------------------|----------------------------------------|---------------------------------------|-----|------------------------------------------------------------------------------------------------|
|          |                                              |                                                                                                                      |          |                      | 2017 Summer Peak | 2020 Summer Peak | 2025 Summer Peak | 2017 Summer Off-Peak | 2020 Summer Light Load | 2020 SOP Heavy Renewable & Min Gas Gen | 2020 SP Heavy Renewable & Min Gas Gen | N/A |                                                                                                |
| VEA-T-1  | 19012 MEAD S 230 189040 BOB SS 230 1         | Tran ELDORDO 500.00 to ELDORDO2 230.00 Circuit 5ELDOR 5T 13.80_                                                      | P1       | N-1                  | < 90             | < 90             | < 90             | < 90                 | < 90                   | 167.99                                 | 164.03                                |     | Add T-1 gen tripping as part of Ivanpah RAS                                                    |
| VEA-T-2  | 189000 PAHRUMP 230 189007 PAHRUMP 138 1      | P4.3-6_PAHRUMP 138/230kV Tran Bnk. #2 & PAHRUMP-INNOVATION 230                                                       | P4       | Breaker Failure      | < 90             | < 90             | 100.47           | < 90                 | < 90                   | < 90                                   | < 90                                  |     | Short-term emergency rating or rely on future generation in VEA or automatic load transfer SPS |
| VEA-T-3  | 18003 AMARGOSA 230 189001 AMARGOSA 138 1     | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_              | P6       | N-1-1                | < 90             | 115.58           | 114.10           | < 90                 | < 90                   | < 90                                   | 115.89                                |     | Existing UVLS or operational action plan (Swithcing after N-1)                                 |
| VEA-T-4  | 18003 AMARGOSA 230 189001 AMARGOSA 138 1     | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_              | P6       | N-1-1                | 147.42           | N/A              | N/A              | < 90                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1)                                 |
| VEA-T-5  | 18003 AMARGOSA 230 189001 AMARGOSA 138 1     | Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_                   | P6       | N-1-1                | N/A              | 113.17           | 110.87           | N/A                  | < 90                   | < 90                                   | 113.43                                |     | Existing UVLS or operational action plan (Swithcing after N-1)                                 |
| VEA-T-6  | 18003 AMARGOSA 230 189001 AMARGOSA 138 1     | Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_                   | P6       | N-1-1                | 142.34           | N/A              | N/A              | < 90                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1)                                 |
| VEA-T-7  | 18003 AMARGOSA 230 189001 AMARGOSA 138 1     | Line PAHRUMP 230.0 to INNOVATION 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_                  | P6       | N-1-1                | 120.95           | N/A              | N/A              | < 90                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1)                                 |
| VEA-T-8  | 18003 AMARGOSA 230 189001 AMARGOSA 138 1     | Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ and Line PAHRUMP 230.0 to INNOVATION 230.0 Circuit 1_                  | P6       | N-1-1                | 120.92           | N/A              | N/A              | < 90                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1)                                 |
| VEA-T-9  | 18003 AMARGOSA 230 189001 AMARGOSA 138 1     | Tran PAHRUMP 230.00 to PAHRUMP 138.00 Circuit 1 0.00_ and Tran PAHRUMP 230.00 to PAHRUMP 138.00 Circuit 2 0.00_      | P6       | N-1-1                | 118.62           | 92.31            | < 90             | < 90                 | < 90                   | < 90                                   | 91.11                                 |     | Existing UVLS or operational action plan (Swithcing after N-1)                                 |
| VEA-T-10 | 189000 PAHRUMP 230 189007 PAHRUMP 138 1 or 2 | Line AMARGOSA 138.0 to SANDY 138.0 Circuit 1_ and Tran PAHRUMP 230.00 to PAHRUMP 138.00 Circuit 2 or 1               | P6       | N-1-1                | 100.85           | < 90             | 95.42            | < 90                 | < 90                   | < 90                                   | 91.32                                 |     | Existing UVLS or operational action plan (Swithcing after N-1)                                 |
| VEA-T-11 | 189000 PAHRUMP 230 189007 PAHRUMP 138 1 or 2 | Line INNOVATION 138.0 to MERCRYSW 138.0 Circuit 1_ and Tran PAHRUMP 230.00 to PAHRUMP 138.00 Circuit 2 or 1          | P6       | N-1-1                | 95.44            | < 90             | 105.05           | < 90                 | < 90                   | < 90                                   | 91.79                                 |     | Existing UVLS or operational action plan (Swithcing after N-1)                                 |
| VEA-T-12 | 189000 PAHRUMP 230 189007 PAHRUMP 138 1 or 2 | Tran INNOVATION 230.00 to INNOVATION 138.00 Circuit 1 0.00_ and Tran PAHRUMP 230.00 to PAHRUMP 138.00 Circuit 2 or 1 | P6       | N-1-1                | 95.39            | < 90             | 105.01           | < 90                 | < 90                   | < 90                                   | 91.77                                 |     | Existing UVLS or operational action plan (Swithcing after N-1)                                 |

Thermal Overloads

| ID       | Overloaded Facility                                      | Worst Contingency                                                                                       | Category | Category Description | Loading (%)      |                  |                  |                      |                        |                                        |                                       |     | Potential Mitigation Solutions                                 |
|----------|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------|----------|----------------------|------------------|------------------|------------------|----------------------|------------------------|----------------------------------------|---------------------------------------|-----|----------------------------------------------------------------|
|          |                                                          |                                                                                                         |          |                      | 2017 Summer Peak | 2020 Summer Peak | 2025 Summer Peak | 2017 Summer Off-Peak | 2020 Summer Light Load | 2020 SOP Heavy Renewable & Min Gas Gen | 2020 SP Heavy Renewable & Min Gas Gen | N/A |                                                                |
| VEA-T-13 | 18084 NWEST 138 189101<br>MERCYSW 138 (several sections) | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A              | 122.88           | 147.41           | N/A                  | < 90                   | < 90                                   | 123.92                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-T-14 | 18084 NWEST 138 189101<br>MERCYSW 138 (several sections) | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 134.47           | N/A              | N/A              | < 90                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-T-15 | 18084 NWEST 138 189101<br>MERCYSW 138 (several sections) | Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_      | P6       | N-1-1                | N/A              | 119.64           | 141.22           | N/A                  | < 90                   | < 90                                   | 120.55                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-T-16 | 18084 NWEST 138 189101<br>MERCYSW 138 (several sections) | Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_      | P6       | N-1-1                | 132.53           | N/A              | N/A              | < 90                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-T-17 | 18084 NWEST 138 189101<br>MERCYSW 138 (several sections) | Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1__63 and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_   | P6       | N-1-1                | 132.53           | N/A              | N/A              | < 90                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |

Study Area: Valley Electric Association

Voltage Deviations



| ID        | Substation         | Worst Contingency                                                                                       | Category | Category Description | Post Cont. Voltage Deviation % |                  |                  |                      |                        |                                        |                                       |     | Potential Mitigation Solutions                                 |
|-----------|--------------------|---------------------------------------------------------------------------------------------------------|----------|----------------------|--------------------------------|------------------|------------------|----------------------|------------------------|----------------------------------------|---------------------------------------|-----|----------------------------------------------------------------|
|           |                    |                                                                                                         |          |                      | 2017 Summer Peak               | 2020 Summer Peak | 2025 Summer Peak | 2017 Summer Off-Peak | 2020 Summer Light Load | 2020 SOP Heavy Renewable & Min Gas Gen | 2020 SP Heavy Renewable & Min Gas Gen | N/A |                                                                |
| VEA-VD-1  | CHARLSTN 138 kV    | Line GAMEBIRD 138.0 to PAHRUMP 138.0 Circuit 1_                                                         | P1       | N-1                  | 8.056                          | < 5              | < 5              | < 5                  | < 5                    | < 5                                    | < 5                                   |     | Dynamic VAR support or exception                               |
| VEA-VD-2  | DESERT VIEW 230 kV | Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1_                                                        | P1       | N-1                  | < 5                            | < 5              | < 5              | < 5                  | -6.764                 | < 5                                    | < 5                                   |     | Dynamic VAR support or exception                               |
| VEA-VD-3  | GAMEBIRD 138 kV    | Line GAMEBIRD 138.0 to PAHRUMP 138.0 Circuit 1_                                                         | P1       | N-1                  | 7.97                           | < 5              | < 5              | < 5                  | < 5                    | < 5                                    | < 5                                   |     | Dynamic VAR support or exception                               |
| VEA-VD-4  | PAHRUMP 230 kV     | Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_                                                           | P1       | N-1                  | < 5                            | < 5              | 6.895            | < 5                  | < 5                    | < 5                                    | < 5                                   |     | Dynamic VAR support or exception                               |
| VEA-VD-5  | PAHRUMP 230 kV     | Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_                                                           | P1       | N-1                  | 5.072                          | < 5              | < 5              | < 5                  | < 5                    | < 5                                    | < 5                                   |     | Dynamic VAR support or exception                               |
| VEA-VD-6  | SANDY 138 kV       | Line GAMEBIRD 138.0 to PAHRUMP 138.0 Circuit 1_                                                         | P1       | N-1                  | 5.677                          | < 5              | < 5              | < 5                  | < 5                    | < 5                                    | < 5                                   |     | Dynamic VAR support or exception                               |
| VEA-VD-7  | THSND AIR 138 kV   | Line GAMEBIRD 138.0 to PAHRUMP 138.0 Circuit 1_                                                         | P1       | N-1                  | 8.018                          | < 5              | < 5              | < 5                  | < 5                    | < 5                                    | < 5                                   |     | Dynamic VAR support or exception                               |
| VEA-VD-8  | BEATTY 138 kV      | Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_      | P6       | N-1-1                | N/A                            | 14.301           | 19.815           | N/A                  | < 10                   | < 10                                   | 14.158                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-9  | BEATTY 138 kV      | Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_      | P6       | N-1-1                | 13.217                         | N/A              | N/A              | < 10                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-10 | CHARLSTN 138 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | 17.08            | 22.372           | N/A                  | < 10                   | < 10                                   | 17.159                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-11 | CHARLSTN 138 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 15.515                         | N/A              | N/A              | < 10                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-12 | DESERT VIEW 230 kV | Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_      | P6       | N-1-1                | N/A                            | 21.087           | 26.418           | N/A                  | -10.363                | 13.791                                 | 20.62                                 |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-13 | DESERT VIEW 230 kV | Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_      | P6       | N-1-1                | 19.984                         | N/A              | N/A              | 15.085               | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-14 | FRENCH-FLAT 138 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | 14.398           | 20.507           | N/A                  | < 10                   | < 10                                   | 14.32                                 |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-15 | FRENCH-FLAT 138 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 13.465                         | N/A              | N/A              | < 10                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-16 | GAMEBIRD 138 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | 16.935           | 22.076           | N/A                  | < 10                   | < 10                                   | 16.99                                 |     | Existing UVLS or operational action plan (Swithcing after N-1) |

Study Area: Valley Electric Association

Voltage Deviations



| ID        | Substation       | Worst Contingency                                                                                       | Category | Category Description | Post Cont. Voltage Deviation % |                  |                  |                      |                        |                                        |                                       | Potential Mitigation Solutions                                 |
|-----------|------------------|---------------------------------------------------------------------------------------------------------|----------|----------------------|--------------------------------|------------------|------------------|----------------------|------------------------|----------------------------------------|---------------------------------------|----------------------------------------------------------------|
|           |                  |                                                                                                         |          |                      | 2017 Summer Peak               | 2020 Summer Peak | 2025 Summer Peak | 2017 Summer Off-Peak | 2020 Summer Light Load | 2020 SOP Heavy Renewable & Min Gas Gen | 2020 SP Heavy Renewable & Min Gas Gen |                                                                |
| VEA-VD-17 | GAMEBIRD 138 kV  | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 15.299                         | N/A              | N/A              | < 10                 | N/A                    | N/A                                    | N/A                                   | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-18 | IND SPR 138 kV   | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | < 10             | 11.899           | N/A                  | < 10                   | < 10                                   | < 10                                  | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-19 | JACKASSF 138 kV  | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | 15.023           | 21.134           | N/A                  | < 10                   | < 10                                   | 14.994                                | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-20 | JACKASSF 138 kV  | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 14.04                          | N/A              | N/A              | < 10                 | N/A                    | N/A                                    | N/A                                   | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-21 | JOHNNIE 138 kV   | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | 16.735           | 22.259           | N/A                  | < 10                   | < 10                                   | 16.816                                | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-22 | JOHNNIE 138 kV   | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 15.642                         | N/A              | N/A              | < 10                 | N/A                    | N/A                                    | N/A                                   | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-23 | LTHRPWLS 138 kV  | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | 15.464           | 21.552           | N/A                  | < 10                   | < 10                                   | 15.47                                 | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-24 | LTHRPWLS 138 kV  | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 14.448                         | N/A              | N/A              | < 10                 | N/A                    | N/A                                    | N/A                                   | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-25 | MERC-DIST 138 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | 14.084           | 20.006           | N/A                  | < 10                   | < 10                                   | 13.987                                | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-26 | MERC-DIST 138 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 13.175                         | N/A              | N/A              | < 10                 | N/A                    | N/A                                    | N/A                                   | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-27 | PAHRUMP 230 kV   | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | 22.546           | 28.695           | N/A                  | -8.273                 | 12.117                                 | 21.775                                | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-28 | PAHRUMP 230 kV   | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 20.284                         | N/A              | N/A              | 14.327               | N/A                    | N/A                                    | N/A                                   | Existing UVLS or operational action plan (Swithcing after N-1) |

Study Area: Valley Electric Association

Voltage Deviations



| ID        | Substation        | Worst Contingency                                                                                       | Category | Category Description | Post Cont. Voltage Deviation % |                  |                  |                      |                        |                                        |                                       |     | Potential Mitigation Solutions                                 |
|-----------|-------------------|---------------------------------------------------------------------------------------------------------|----------|----------------------|--------------------------------|------------------|------------------|----------------------|------------------------|----------------------------------------|---------------------------------------|-----|----------------------------------------------------------------|
|           |                   |                                                                                                         |          |                      | 2017 Summer Peak               | 2020 Summer Peak | 2025 Summer Peak | 2017 Summer Off-Peak | 2020 Summer Light Load | 2020 SOP Heavy Renewable & Min Gas Gen | 2020 SP Heavy Renewable & Min Gas Gen | N/A |                                                                |
| VEA-VD-29 | RADAR 138 kV      | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | < 10             | 11.44            | N/A                  | < 10                   | < 10                                   | < 10                                  |     | Existing UVLS or operational action plan (Switching after N-1) |
| VEA-VD-30 | SANDY 138 kV      | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | 13.718           | 17.743           | N/A                  | < 10                   | < 10                                   | 13.755                                |     | Existing UVLS or operational action plan (Switching after N-1) |
| VEA-VD-31 | SANDY 138 kV      | Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ and Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ | P6       | N-1-1                | 11.207                         | N/A              | N/A              | < 10                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Switching after N-1) |
| VEA-VD-32 | STOCK-WASH 138 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | 14.944           | 21.058           | N/A                  | < 10                   | < 10                                   | 14.907                                |     | Existing UVLS or operational action plan (Switching after N-1) |
| VEA-VD-33 | STOCK-WASH 138 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 13.967                         | N/A              | N/A              | < 10                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Switching after N-1) |
| VEA-VD-34 | THSND AIR 138 kV  | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 15.425                         | N/A              | N/A              | < 10                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Switching after N-1) |
| VEA-VD-35 | THSND AIR 138 kV  | Line N WEST 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_     | P6       | N-1-1                | N/A                            | 15.673           | 20.424           | N/A                  | < 10                   | < 10                                   | 15.383                                |     | Existing UVLS or operational action plan (Switching after N-1) |
| VEA-VD-36 | TWEEZER 138 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | 14.507           | 20.591           | N/A                  | < 10                   | < 10                                   | 14.436                                |     | Existing UVLS or operational action plan (Switching after N-1) |
| VEA-VD-37 | TWEEZER 138 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 13.565                         | N/A              | N/A              | < 10                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Switching after N-1) |
| VEA-VD-38 | VALLEY-NTS 138 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | 14.635           | 20.742           | N/A                  | < 10                   | < 10                                   | 14.572                                |     | Existing UVLS or operational action plan (Switching after N-1) |
| VEA-VD-39 | VALLEY-NTS 138 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 13.682                         | N/A              | N/A              | < 10                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Switching after N-1) |
| VEA-VD-40 | VALLEYVE 138 kV   | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | 15.788           | 21.852           | N/A                  | < 10                   | < 10                                   | 15.822                                |     | 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                                 |
|-----------|-----------------|---------------------------------------------------------------------------------------------------------|----------|----------------------|--------------------------------|------------------|------------------|----------------------|------------------------|----------------------------------------|---------------------------------------|-----|----------------------------------------------------------------|
|           |                 |                                                                                                         |          |                      | 2017 Summer Peak               | 2020 Summer Peak | 2025 Summer Peak | 2017 Summer Off-Peak | 2020 Summer Light Load | 2020 SOP Heavy Renewable & Min Gas Gen | 2020 SP Heavy Renewable & Min Gas Gen | N/A |                                                                |
| VEA-VD-41 | VALLEYVE 138 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 14.744                         | N/A              | N/A              | < 10                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-42 | VISTA 138 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A                            | 17.027           | 22.338           | N/A                  | < 10                   | < 10                                   | 17.117                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-VD-43 | VISTA 138 kV    | Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ and Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ | P6       | N-1-1                | 16.193                         | N/A              | N/A              | < 10                 | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |



Study Area: Valley Electric Association

High/Low Voltage



| ID       | Substation         | Worst Contingency                                                                                       | Category | Category Description | Voltage (PU)     |                  |                  |                      |                        |                                        |                                       | N/A | Potential Mitigation Solutions                                               |
|----------|--------------------|---------------------------------------------------------------------------------------------------------|----------|----------------------|------------------|------------------|------------------|----------------------|------------------------|----------------------------------------|---------------------------------------|-----|------------------------------------------------------------------------------|
|          |                    |                                                                                                         |          |                      | 2017 Summer Peak | 2020 Summer Peak | 2025 Summer Peak | 2017 Summer Off-Peak | 2020 Summer Light Load | 2020 SOP Heavy Renewable & Min Gas Gen | 2020 SP Heavy Renewable & Min Gas Gen |     |                                                                              |
| VEA-V-1  | BOB SS 230 kV      | Base Case                                                                                               | P0       | N-0                  | < 1.05           | < 1.05           | < 1.05           | < 1.05               | 1.0619                 | < 1.05                                 | < 1.05                                |     | Adjust voltage schedules, taps and reactive devices or seek for an exception |
| VEA-V-2  | PAHRUMP 230 kV     | Base Case                                                                                               | P0       | N-0                  | < 1.05           | < 1.05           | < 1.05           | < 1.05               | 1.059                  | < 1.05                                 | < 1.05                                |     | Adjust voltage schedules, taps and reactive devices or seek for an exception |
| VEA-V-3  | BEATTY 138 kV      | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A              | 0.8579           | 0.8054           | N/A                  | > 0.9                  | > 0.9                                  | 0.8512                                |     | Existing UVLS or operational action plan (Swithcing after N-1)               |
| VEA-V-4  | BEATTY 138 kV      | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 0.857            | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1)               |
| VEA-V-5  | CHARLSTN 138 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A              | 0.8426           | 0.7923           | N/A                  | > 0.9                  | > 0.9                                  | 0.8355                                |     | Existing UVLS or operational action plan (Swithcing after N-1)               |
| VEA-V-6  | CHARLSTN 138 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 0.8423           | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1)               |
| VEA-V-7  | CHARLSTN 138 kV    | Line PAHRUMP 138.0 to GAMEBIRD 138.0 Circuit 1_ and Line VISTA 138.0 to CHARLSTN 138.0 Circuit 1_       | P6       | N-1-1                | > 0.9            | > 0.9            | 0.8162           | > 0.9                | > 0.9                  | > 0.9                                  | > 0.9                                 |     | Existing UVLS or operational action plan (Swithcing after N-1)               |
| VEA-V-8  | DESERT VIEW 230 kV | Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_      | P6       | N-1-1                | N/A              | 0.7984           | 0.7561           | N/A                  | 1.1986                 | 0.8972                                 | 0.7925                                |     | Existing UVLS or operational action plan (Swithcing after N-1)               |
| VEA-V-9  | FRENCH-FLAT 138 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A              | 0.8656           | 0.8156           | N/A                  | > 0.9                  | > 0.9                                  | 0.8593                                |     | Existing UVLS or operational action plan (Swithcing after N-1)               |
| VEA-V-10 | FRENCH-FLAT 138 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 0.8635           | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1)               |
| VEA-V-11 | GAMEBIRD 138 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A              | 0.8468           | 0.7968           | N/A                  | > 0.9                  | > 0.9                                  | 0.8398                                |     | Existing UVLS or operational action plan (Swithcing after N-1)               |
| VEA-V-12 | GAMEBIRD 138 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 0.8523           | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1)               |
| VEA-V-13 | GAMEBIRD 138 kV    | Line NWEST 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_      | P6       | N-1-1                | 0.867            | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1)               |

Study Area: Valley Electric Association

High/Low Voltage



| ID       | Substation        | Worst Contingency                                                                                           | Category | Category Description | Voltage (PU)     |                  |                  |                      |                        |                                        |                                       |     | Potential Mitigation Solutions                                 |
|----------|-------------------|-------------------------------------------------------------------------------------------------------------|----------|----------------------|------------------|------------------|------------------|----------------------|------------------------|----------------------------------------|---------------------------------------|-----|----------------------------------------------------------------|
|          |                   |                                                                                                             |          |                      | 2017 Summer Peak | 2020 Summer Peak | 2025 Summer Peak | 2017 Summer Off-Peak | 2020 Summer Light Load | 2020 SOP Heavy Renewable & Min Gas Gen | 2020 SP Heavy Renewable & Min Gas Gen | N/A |                                                                |
| VEA-V-14 | IND SPR 138 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_     | P6       | N-1-1                | N/A              | > 0.9            | 0.8943           | N/A                  | > 0.9                  | > 0.9                                  | > 0.9                                 |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-15 | INNOVATION 230 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_     | P6       | N-1-1                | N/A              | 0.775            | 0.7315           | N/A                  | 1.1595                 | 0.8902                                 | 0.7691                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-16 | INNOVATION 230 kV | Line PAHRUMP 230.0 to INNOVATION 230.0 Circuit 1_ and Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ | P6       | N-1-1                | 0.8991           | > 0.9            | > 0.9            | > 0.9                | 1.1341                 | > 0.9                                  | > 0.9                                 |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-17 | JACKASSF 138 kV   | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_     | P6       | N-1-1                | N/A              | 0.861            | 0.8102           | N/A                  | > 0.9                  | > 0.9                                  | 0.8545                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-18 | JACKASSF 138 kV   | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_     | P6       | N-1-1                | 0.8594           | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-19 | JOHNNIE 138 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_     | P6       | N-1-1                | N/A              | 0.8483           | 0.7976           | N/A                  | > 0.9                  | > 0.9                                  | 0.8413                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-20 | JOHNNIE 138 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_     | P6       | N-1-1                | 0.8491           | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-21 | LTHRPWLS 138 kV   | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_     | P6       | N-1-1                | N/A              | 0.8582           | 0.8059           | N/A                  | > 0.9                  | > 0.9                                  | 0.8515                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-22 | LTHRPWLS 138 kV   | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_     | P6       | N-1-1                | 0.8573           | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-23 | MERC-DIST 138 kV  | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_     | P6       | N-1-1                | N/A              | 0.8704           | 0.824            | N/A                  | > 0.9                  | > 0.9                                  | 0.8643                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-24 | MERC-DIST 138 kV  | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_     | P6       | N-1-1                | 0.8684           | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-25 | PAHRUMP 230 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_     | P6       | N-1-1                | N/A              | 0.7659           | 0.7212           | N/A                  | 1.1597                 | 0.8874                                 | 0.7597                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |



Study Area: Valley Electric Association

High/Low Voltage



| ID       | Substation        | Worst Contingency                                                                                       | Category | Category Description | Voltage (PU)     |                  |                  |                      |                        |                                        |                                       |     | Potential Mitigation Solutions                                 |
|----------|-------------------|---------------------------------------------------------------------------------------------------------|----------|----------------------|------------------|------------------|------------------|----------------------|------------------------|----------------------------------------|---------------------------------------|-----|----------------------------------------------------------------|
|          |                   |                                                                                                         |          |                      | 2017 Summer Peak | 2020 Summer Peak | 2025 Summer Peak | 2017 Summer Off-Peak | 2020 Summer Light Load | 2020 SOP Heavy Renewable & Min Gas Gen | 2020 SP Heavy Renewable & Min Gas Gen | N/A |                                                                |
| VEA-V-26 | PAHRUMP 230 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 0.7681           | N/A              | N/A              | 0.8843               | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-27 | PAHRUMP 230 kV    | Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ and Line PAHRUMP 230.0 to INNOVATION 230.0 Circuit 1_     | P6       | N-1-1                | N/A              | 0.7956           | 0.7927           | N/A                  | > 0.9                  | 0.8713                                 | 0.7929                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-28 | PAHRUMP 230 kV    | Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ and Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ | P6       | N-1-1                | 0.7681           | N/A              | N/A              | 0.887                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-29 | RADAR 138 kV      | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A              | > 0.9            | 0.8987           | N/A                  | > 0.9                  | > 0.9                                  | > 0.9                                 |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-30 | SANDY 138 kV      | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A              | 0.8793           | 0.832            | N/A                  | > 0.9                  | > 0.9                                  | 0.8727                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-31 | SANDY 138 kV      | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 0.8993           | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-32 | STOCK-WASH 138 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A              | 0.8616           | 0.811            | N/A                  | > 0.9                  | > 0.9                                  | 0.8552                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-33 | STOCK-WASH 138 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 0.8599           | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-34 | THSND AIR 138 kV  | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A              | 0.8429           | 0.7925           | N/A                  | > 0.9                  | > 0.9                                  | 0.8359                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-35 | THSND AIR 138 kV  | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 0.8467           | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-36 | TWEEZER 138 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A              | 0.8642           | 0.8147           | N/A                  | > 0.9                  | > 0.9                                  | 0.8579                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-37 | TWEEZER 138 kV    | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 0.8622           | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-38 | VALLEY-NTS 138 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A              | 0.863            | 0.8133           | N/A                  | > 0.9                  | > 0.9                                  | 0.8567                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |

Study Area: **Valley Electric Association**

High/Low Voltage



| ID       | Substation        | Worst Contingency                                                                                       | Category | Category Description | Voltage (PU)     |                  |                  |                      |                        |                                        |                                       |     | Potential Mitigation Solutions                                 |
|----------|-------------------|---------------------------------------------------------------------------------------------------------|----------|----------------------|------------------|------------------|------------------|----------------------|------------------------|----------------------------------------|---------------------------------------|-----|----------------------------------------------------------------|
|          |                   |                                                                                                         |          |                      | 2017 Summer Peak | 2020 Summer Peak | 2025 Summer Peak | 2017 Summer Off-Peak | 2020 Summer Light Load | 2020 SOP Heavy Renewable & Min Gas Gen | 2020 SP Heavy Renewable & Min Gas Gen | N/A |                                                                |
| VEA-V-39 | VALLEY-NTS 138 kV | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 0.861            | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-40 | VALLEYVE 138 kV   | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ | P6       | N-1-1                | N/A              | 0.854            | 0.8007           | N/A                  | > 0.9                  | > 0.9                                  | 0.8472                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-41 | VALLEYVE 138 kV   | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 0.8537           | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-42 | VISTA 138 kV      | Line INNOVATION 230.0 to DESERT VIEW 230.0 Circuit 1_ and Line PAHRUMP 230.0 to MEAD S 230.0 Circuit 1_ | P6       | N-1-1                | 0.8473           | N/A              | N/A              | > 0.9                | N/A                    | N/A                                    | N/A                                   |     | Existing UVLS or operational action plan (Swithcing after N-1) |
| VEA-V-43 | VISTA 138 kV      | Line PAHRUMP 230.0 to BOB SS 230.0 Circuit 1_ and Line PAHRUMP 230.0 to INNOVATION 230.0 Circuit 1_     | P6       | N-1-1                | N/A              | 0.892            | 0.8906           | N/A                  | > 0.9                  | > 0.9                                  | 0.8893                                |     | Existing UVLS or operational action plan (Swithcing after N-1) |

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.. |                                |
| None |             |          |                      |                                 |          |          |          |          |          |          |                                |

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: **Valley Electric Association**



**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