**2021-2022 ISO Reliability Assessment - Study Results**

**Study Area:** **PG&E Central Coast**

***Thermal Overloads*** **PG&E Los Padres**

**In accordance with TPL-001-4- Requirement R2.6, this area relies on the past studies for the year 5 and year 10 studies from the 2020-21 Transmission Planning Process.**

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| Overloaded Facility | Contingency (All and Worst P6) | Category | Category Description | Loading % (Baseline Scenarios) | | | | | Project & Potential Mitigation Solutions |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 2023 Summer Peak | 2023 Winter Peak | 2023 Spring Off-Peak | 2023 SP Heavy Renewable & Min Gas Gen | 2023 OP Heavy Renewable & Min Gas Gen | |
| Atascadero-Cayucos 70 kV Line (36358 36362) | P5-5:A20:24:_MORRO BAY 230kV Bus (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | Diverge | Diverge | Diverge | 19 | Add Redundant Relay |
| Atascadero-Cayucos 70 kV Line (36362 36364) | P5-5:A20:24:_MORRO BAY 230kV Bus (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | Diverge | Diverge | Diverge | 19 | Add Redundant Relay |
| Atascadero-San Luis Obispo 70 kV Line (36358 36376) | P5-5:A20:24:_MORRO BAY 230kV Bus (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | Diverge | Diverge | Diverge | 12 | Add Redundant Relay |
| Callender Sw. Sta-Mesa 115 kV Line (36256 36280) | P2-4:A20:6:_MORROBAY 230kV - Section 1E & 2E | P2-4 | Internal Breaker Fault(Bus Tie Fault) | Diverge | Diverge | 91 | 94 | 19 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| | MORRO BAY-MESA 230kV [5290] & MORRO BAY-DIABLO 230kV [5260] | P6 | N-1-1 | 140 | 105 | <100 | <100 | <100 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| | P7-1:A20:16:_Morro Bay-Mesa and Morro Bay-Diablo 230 kV Lines | P7 | DCTL | 148 | 115 | 87 | 93 | 18 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| | P7-1:A20:17:_Morro Bay-Mesa and Diablo-Mesa 230 kV Lines | P7 | DCTL | 142 | 109 | 83 | 89 | 14 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| Crazy Horse-Natividad #1 115 kV Line (35910 35914) | P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines | P7 | DCTL | 124 | 70 | 82 | 78 | 37 | Project: RAS Proposed in 2018-2019<br>In-service date: TBD<br>Short term: Action plan |
| Crazy Horse-Natividad #1 115 kV Line (35914 35920) | P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines | P7 | DCTL | 119 | 72 | 75 | 81 | 37 | Project: RAS Proposed in 2018-2019<br>In-service date: TBD<br>Short term: Action plan |
| Crazy Horse-Soledad 115 kV Line (35910 35913) | P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines | P7 | DCTL | 124 | 70 | 82 | 78 | 37 | Project: RAS Proposed in 2018-2019<br>In-service date: TBD<br>Short term: Action plan |
| Crazy Horse-Soledad 115 kV Line (35913 35920) | P7-1:A19:4:_Moss Landing - Salinas #1 and #2 115 kV Lines | P7 | DCTL | 119 | 72 | 75 | 81 | 37 | Project: RAS Proposed in 2018-2019<br>In-service date: TBD<br>Short term: Action plan |
| Green Valley 115/60 Transformer #1 (36008 35901) | P5-5:A19:2:_Salinas 115kV BAAH Bus #2 (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | 212 | 209 | 208 | 169 | Add Redundant Relay |
| | P5-5:A19:1:_Salinas 115kV BAAH Bus #1 (failure of non-redundent relay) | P5 | Non-Redundent Relay | 207 | 198 | 191 | 197 | 154 | Add Redundant Relay |
| | P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines | P7 | DCTL | Diverge | Diverge | 36 | 65 | 30 | Project: Morgan Hill Area Reinforcement<br>In-service date: 2026<br>Short term: Action plan |
| Green Valley-Watsonville 60 kV (36008 36013) | P5-5:A19:2:_Salinas 115kV BAAH Bus #2 (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | 132 | 163 | 164 | 130 | Add Redundant Relay |
| | P5-5:A19:1:_Salinas 115kV BAAH Bus #1 (failure of non-redundent relay) | P5 | Non-Redundent Relay | 164 | 123 | 149 | 155 | 118 | Add Redundant Relay |

**2021-2022 ISO Reliability Assessment - Study Results**
**Study Area:** PG&E Central Coast
***Thermal Overloads*** PG&E Los Padres
**In accordance with TPL-001-4- Requirement R2.6, this area relies on the past studies for the year 5 and year 10 studies from the 2020-21 Transmission Planning Process.**
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| Overloaded Facility | Contingency (All and Worst P6) | Category | Category Description | Loading % (Baseline Scenarios) | | | | | Project & Potential Mitigation Solutions |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 2023 Summer Peak | 2023 Winter Peak | 2023 Spring Off-Peak | 2023 SP Heavy Renewable & Min Gas Gen | 2023 OP Heavy Renewable & Min Gas Gen | |
| | P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines | P7 | DCTL | Diverge | Diverge | 27 | 137 | 22 | Project: Morgan Hill Area Reinforcement<br>In-service date: 2026<br>Short term: Action plan |
| Green Valley-Watsonville 60 kV (36011 36013) | P5-5:A19:2:_Salinas 115kV BAAH Bus #2 (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | 132 | 162 | 162 | 129 | Add Redundant Relay |
| | P5-5:A19:1:_Salinas 115kV BAAH Bus #1 (failure of non-redundent relay) | P5 | Non-Redundent Relay | 161 | 123 | 148 | 153 | 117 | Add Redundant Relay |
| | P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines | P7 | DCTL | Diverge | Diverge | 27 | 139 | 22 | Project: Morgan Hill Area Reinforcement<br>In-service date: 2026<br>Short term: Action plan |
| Green Valley-Watsonville 60 kV (36011 36016) | P5-5:A19:2:_Salinas 115kV BAAH Bus #2 (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | 132 | 162 | 162 | 129 | Add Redundant Relay |
| | P5-5:A19:1:_Salinas 115kV BAAH Bus #1 (failure of non-redundent relay) | P5 | Non-Redundent Relay | 161 | 123 | 148 | 153 | 117 | Add Redundant Relay |
| | P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines | P7 | DCTL | Diverge | Diverge | 27 | 139 | 22 | Project: Morgan Hill Area Reinforcement<br>In-service date: 2026<br>Short term: Action plan |
| Green Valley-Watsonville 60 kV (36012 36016) | P5-5:A19:2:_Salinas 115kV BAAH Bus #2 (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | 132 | 161 | 161 | 129 | Add Redundant Relay |
| | P5-5:A19:1:_Salinas 115kV BAAH Bus #1 (failure of non-redundent relay) | P5 | Non-Redundent Relay | 161 | 123 | 147 | 153 | 117 | Add Redundant Relay |
| | MOSS LANDING-GREEN VALLEY #2 115kV [2860] & MOSS LANDING-GREEN VALLEY #1 115kV [2850] | P6 | N-1-1 | NA | NA | <100 | 132 | <100 | Project: Morgan Hill Area Reinforcement<br>In-service date: 2026<br>Short term: Action plan |
| | P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines | P7 | DCTL | Diverge | Diverge | 27 | 140 | 22 | Project: Morgan Hill Area Reinforcement<br>In-service date: 2026<br>Short term: Action plan |
| Lagunitas 60 kV Tap (36022 36025) | P5-5:A19:2:_Salinas 115kV BAAH Bus #2 (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | 177 | 207 | 221 | 160 | Add Redundant Relay |
| | P5-5:A19:1:_Salinas 115kV BAAH Bus #1 (failure of non-redundent relay) | P5 | Non-Redundent Relay | 221 | 160 | 185 | 206 | 145 | Add Redundant Relay |
| | MOSS LANDING-GREEN VALLEY #1 115kV [2850] & MOSS LANDING-GREEN VALLEY #2 115kV [2860] | P6 | N-1-1 | NA | NA | <100 | 245 | <100 | Project: Morgan Hill Area Reinforcement<br>In-service date: 2026<br>Short term: Action plan |
| | P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines | P7 | DCTL | Diverge | Diverge | 67 | 255 | 41 | Project: Morgan Hill Area Reinforcement<br>In-service date: 2026<br>Short term: Action plan |
| Mesa-Santa Maria 115 kV Line (36256 36267) | MORROBAY 230/115kV TB 6 & TEMPLETN 230/70kV TB 1 | P6 | N-1-1 | 100 | <100 | <100 | <100 | <100 | Project: North Of Mesa Upgrades<br>Short term: Action plan |

**2021-2022 ISO Reliability Assessment - Study Results**

**Study Area:** PG&E Central Coast

***Thermal Overloads*** PG&E Los Padres

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| Overloaded Facility | Contingency (All and Worst P6) | Category | Category Description | Loading % (Baseline Scenarios) | | | | | Project & Potential Mitigation Solutions |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 2023 Summer Peak | 2023 Winter Peak | 2023 Spring Off-Peak | 2023 SP Heavy Renewable & Min Gas Gen | 2023 OP Heavy Renewable & Min Gas Gen | |
| Morro Bay 230/115 Transformer No. 6 (36252 30915) | P2-4:A20:4:_MESA_PGE 115kV - Section 2D & 1D | P2-4 | Internal Breaker Fault(Bus Tie Fault) | Diverge | Diverge | 32 | 91 | 26 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| | P2-4:A20:6:_MORROBAY 230kV - Section 1E & 2E | P2-4 | Internal Breaker Fault(Bus Tie Fault) | Diverge | Diverge | 74 | 85 | 19 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| | MORRO BAY-DIABLO 230kV [5260] & MORRO BAY-MESA 230kV [5290] | P6 | N-1-1 | 143 | 112 | <100 | <100 | <100 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| | P7-1:A20:16:_Morro Bay-Mesa and Morro Bay-Diablo 230 kV Lines | P7 | DCTL | 152 | 118 | 87 | 93 | 26 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| | P7-1:A20:17:_Morro Bay-Mesa and Diablo-Mesa 230 kV Lines | P7 | DCTL | 151 | 118 | 85 | 91 | 25 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| Oceano-Callender Sw. Sta 115 kV Line (36278 36280) | P2-4:A20:6:_MORROBAY 230kV - Section 1E & 2E | P2-4 | Internal Breaker Fault(Bus Tie Fault) | Diverge | Diverge | 94 | 93 | 22 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| | MORRO BAY-MESA 230kV [5290] & MORRO BAY-DIABLO 230kV [5260] | P6 | N-1-1 | 139 | 106 | <100 | <100 | <100 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| | P7-1:A20:16:_Morro Bay-Mesa and Morro Bay-Diablo 230 kV Lines | P7 | DCTL | 147 | 115 | 90 | 89 | 21 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| | P7-1:A20:17:_Morro Bay-Mesa and Diablo-Mesa 230 kV Lines | P7 | DCTL | 142 | 109 | 86 | 86 | 18 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| Salinas-Firestone #1 60 kV Line (36027 36046) | MOSS LANDING-SALINAS #2 115kV [2890] & SALINAS-FIRESTONE #2 60kV [7910] COPY1 | P6 | N-1-1 | 101 | <100 | <100 | <100 | <100 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| San Luis Obispo-Oceano 115 kV Line (36254 36278) | P2-4:A20:6:_MORROBAY 230kV - Section 1E & 2E | P2-4 | Internal Breaker Fault(Bus Tie Fault) | Diverge | Diverge | 88 | 81 | 14 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| San Luis Obispo-Oceano 115 kV Line (36254 36278) | MORRO BAY-MESA 230kV [5290] & MORRO BAY-DIABLO 230kV [5260] | P6 | N-1-1 | 139 | 116 | <100 | <100 | <100 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| San Luis Obispo-Oceano 115 kV Line (36254 36278) | P7-1:A20:16:_Morro Bay-Mesa and Morro Bay-Diablo 230 kV Lines | P7 | DCTL | 145 | 124 | 85 | 78 | 14 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| San Luis Obispo-Oceano 115 kV Line (36254 36278) | P7-1:A20:17:_Morro Bay-Mesa and Diablo-Mesa 230 kV Lines | P7 | DCTL | 143 | 121 | 82 | 75 | 12 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| San Luis Obispo-Santa Maria 115 kV Line (36254 36266) | P2-4:A20:4:_MESA_PGE 115kV - Section 2D & 1D | P2-4 | Internal Breaker Fault(Bus Tie Fault) | Diverge | Diverge | NA | 175 | 34 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| San Luis Obispo-Santa Maria 115 kV Line (36254 36266) | P2-4:A20:6:_MORROBAY 230kV - Section 1E & 2E | P2-4 | Internal Breaker Fault(Bus Tie Fault) | Diverge | Diverge | 120 | 114 | 24 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| San Luis Obispo-Santa Maria 115 kV Line (36254 36266) | P5-5:A20:24:_MORRO BAY 230kV Bus (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | Diverge | Diverge | Diverge | 47 | Add Redundant Relay |
| San Luis Obispo-Santa Maria 115 kV Line (36254 36266) | MORRO BAY-DIABLO 230kV [5260] & MORRO BAY-MESA 230kV [5290] | P6 | N-1-1 | 183 | 139 | 116 | <100 | <100 | Project: North Of Mesa Upgrades<br>Short term: Action plan |

**2021-2022 ISO Reliability Assessment - Study Results**

**Study Area:** **PG&E Central Coast**

***Thermal Overloads*** **PG&E Los Padres**

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| Overloaded Facility | Contingency (All and Worst P6) | Category | Category Description | Loading % (Baseline Scenarios) | | | | | Project & Potential Mitigation Solutions |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 2023 Summer Peak | 2023 Winter Peak | 2023 Spring Off-Peak | 2023 SP Heavy Renewable & Min Gas Gen | 2023 OP Heavy Renewable & Min Gas Gen | |
| San Luis Obispo-Santa Maria 115 kV Line (36254 36266) | P7-1:A20:16:_Morro Bay-Mesa and Morro Bay-Diablo 230 kV Lines | P7 | DCTL | 191 | 150 | 116 | 111 | 24 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| San Luis Obispo-Santa Maria 115 kV Line (36254 36266) | P7-1:A20:17:_Morro Bay-Mesa and Diablo-Mesa 230 kV Lines | P7 | DCTL | 188 | 146 | 112 | 107 | 20 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| San Miguel-Paso Robles 70 kV Line (36356 36354) | MORRO BAY-TEMPLETON 230kV [5933] & SN LS OB 115/70kV TB 3 | P6 | N-1-1 | <100 | <100 | <100 | <100 | 132 | Sensitivity Only |
| Santa Maria-Sisquoc 115 kV Line (36266 36269) | P2-4:A20:4:_MESA_PGE 115kV - Section 2D & 1D | P2-4 | Internal Breaker Fault(Bus Tie Fault) | Diverge | Diverge | NA | 82 | 7 | Project: South Of Mesa Upgrades<br>In-service date: 2027<br>Short term: Action plan |
| Sisquoc-Santa Ynez 115 kV (36286 36287) | P2-4:A20:4:_MESA_PGE 115kV - Section 2D & 1D | P2-4 | Internal Breaker Fault(Bus Tie Fault) | Diverge | Diverge | NA | 83 | 8 | Project: South Of Mesa Upgrades<br>In-service date: 2027<br>Short term: Action plan |
| Sisquoc-Santa Ynez 115 kV (36286 36287) | P7-1:A20:6:_Mesa-Divide #1 and #2 115 kV Lines | P7 | DCTL | 106 | 102 | 83 | 68 | 17 | Project: South Of Mesa Upgrades<br>In-service date: 2027<br>Short term: Action plan |
| Sisquoc-Santa Ynez Sw.Sta. 115 kV Line (36260 36286) | P2-4:A20:4:_MESA_PGE 115kV - Section 2D & 1D | P2-4 | Internal Breaker Fault(Bus Tie Fault) | Diverge | Diverge | NA | 88 | 5 | Project: South Of Mesa Upgrades<br>In-service date: 2027<br>Short term: Action plan |
| Sisquoc-Santa Ynez Sw.Sta. 115 kV Line (36260 36286) | P7-1:A20:6:_Mesa-Divide #1 and #2 115 kV Lines | P7 | DCTL | 111 | 105 | 86 | 71 | 16 | Project: South Of Mesa Upgrades<br>In-service date: 2027<br>Short term: Action plan |
| Sisquoc-Santa Ynez Sw.Sta. 115 kV Line (36264 36288) | P2-4:A20:4:_MESA_PGE 115kV - Section 2D & 1D | P2-4 | Internal Breaker Fault(Bus Tie Fault) | Diverge | Diverge | <100 | 76 | <100 | Project: South Of Mesa Upgrades<br>In-service date: 2027<br>Short term: Action plan |
| Sisquoc-Santa Ynez Sw.Sta. 115 kV Line (36264 36288) | P7-1:A20:6:_Mesa-Divide #1 and #2 115 kV Lines | P7 | DCTL | 98 | 102 | <100 | 57 | <100 | Project: South Of Mesa Upgrades<br>In-service date: 2027<br>Short term: Action plan |
| Temblor-San Luis Obispo 115 kV Line (36254 34796) | P2-4:A20:6:_MORROBAY 230kV - Section 1E & 2E | P2-4 | Internal Breaker Fault(Bus Tie Fault) | Diverge | Diverge | 100 | 55 | 25 | Project: North Of Mesa Upgrades<br>Short term: Action plan |
| Temblor-San Luis Obispo 115 kV Line (36254 34796) | P5-5:A20:24:_MORRO BAY 230kV Bus (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | Diverge | Diverge | Diverge | 51 | Add Redundant Relay |
| Templeton 230/70 kV Transformer (36310 30905) | P5-5:A20:24:_MORRO BAY 230kV Bus (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | Diverge | Diverge | Diverge | 17 | Add Redundant Relay |
| Templeton-Atascadero 70 kV Line (36310 36316) | P5-5:A20:24:_MORRO BAY 230kV Bus (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | Diverge | Diverge | Diverge | 21 | Add Redundant Relay |
| Templeton-Atascadero 70 kV Line (36316 36358) | P5-5:A20:24:_MORRO BAY 230kV Bus (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | Diverge | Diverge | Diverge | 21 | Add Redundant Relay |
| | P5-5:A19:2:_Salinas 115kV BAAH Bus #2 (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | 183 | 219 | 220 | 175 | Add Redundant Relay |

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|---|---|---|---|---|---|---|---|---|---|
| | | | | 2023 Summer Peak | 2023 Winter Peak | 2023 Spring Off-Peak | 2023 SP Heavy Renewable & Min Gas Gen | 2023 OP Heavy Renewable & Min Gas Gen | |
| Watsonville-Salinas 60 kV (36012 36014) | P5-5:A19:1:_Salinas 115kV BAAH Bus #1 (failure of non-redundent relay) | P5 | Non-Redundent Relay | 218 | 171 | 200 | 208 | 159 | Add Redundant Relay |
| | MOSS LANDING-GREEN VALLEY #2 115kV [2860] & MOSS LANDING-GREEN VALLEY #1 115kV [2850] | P6 | N-1-1 | NA | NA | <100 | 182 | <100 | Project: Morgan Hill Area Reinforcement<br>In-service date: 2026<br>Short term: Action plan |
| | P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines | P7 | DCTL | Diverge | Diverge | 46 | 191 | 30 | Project: Morgan Hill Area Reinforcement<br>In-service date: 2026<br>Short term: Action plan |
| Watsonville-Salinas 60 kV (36018 36014) | P5-5:A19:2:_Salinas 115kV BAAH Bus #2 (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | 170 | 186 | 211 | 144 | Add Redundant Relay |
| | P5-5:A19:1:_Salinas 115kV BAAH Bus #1 (failure of non-redundent relay) | P5 | Non-Redundent Relay | 209 | 155 | 166 | 196 | 130 | Add Redundant Relay |
| | MOSS LANDING-GREEN VALLEY #2 115kV [2860] & MOSS LANDING-GREEN VALLEY #1 115kV [2850] | P6 | N-1-1 | NA | NA | <100 | 228 | <100 | Project: Morgan Hill Area Reinforcement<br>In-service date: 2026<br>Short term: Action plan |
| | P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines | P7 | DCTL | Diverge | Diverge | 54 | 238 | 32 | Project: Morgan Hill Area Reinforcement<br>In-service date: 2026<br>Short term: Action plan |
| Watsonville-Salinas 60 kV (36018 36022) | P5-5:A19:2:_Salinas 115kV BAAH Bus #2 (failure of non-redundent relay) | P5 | Non-Redundent Relay | Diverge | 176 | 207 | 221 | 160 | Add Redundant Relay |
| | P5-5:A19:1:_Salinas 115kV BAAH Bus #1 (failure of non-redundent relay) | P5 | Non-Redundent Relay | 220 | 160 | 185 | 206 | 145 | Add Redundant Relay |
| | MOSS LANDING-GREEN VALLEY #2 115kV [2860] & MOSS LANDING-GREEN VALLEY #1 115kV [2850] | P6 | N-1-1 | NA | NA | <100 | 247 | <100 | Project: Morgan Hill Area Reinforcement<br>In-service date: 2026<br>Short term: Action plan |
| | P7-1:A19:1:_Moss Landing - Green Valley #1 and #2 115 kV Lines | P7 | DCTL | Diverge | Diverge | 67 | 257 | 41 | Project: Morgan Hill Area Reinforcement<br>In-service date: 2026<br>Short term: Action plan |
| Salinas-Firestone #1 60 kV Line (36048 36050) | P1-2:A19:45:_SALINAS-FIRESTONE #2 60kV [7910] COPY1 | P1 | N-1 | 134 | 73 | 50 | 129 | 46 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| Salinas-Firestone #2 60 kV Line (36050 36052) | P1-2:A19:45:_SALINAS-FIRESTONE #2 60kV [7910] COPY1 | P1 | N-1 | 119 | 63 | 40 | 114 | 35 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| Salinas-Firestone #2 60 kV Line (36051 36053) | P1-2:A19:46:_SALINAS-FIRESTONE #2 60kV [7910] COPY2 | P1 | N-1 | 127 | 68 | 42 | 122 | 38 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |

**2021-2022 ISO Reliability Assessment - Study Results**
**Study Area:** PG&E Central Coast
***Thermal Overloads*** PG&E Los Padres
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|---|---|---|---|---|---|---|---|---|---|
| | | | | 2023 Summer Peak | 2023 Winter Peak | 2023 Spring Off-Peak | 2023 SP Heavy Renewable & Min Gas Gen | 2023 OP Heavy Renewable & Min Gas Gen | |
| Salinas-Firestone #2 60 kV Line (36051 36054) | P1-2:A19:52:_SALINAS1-FIRESTNE 60kV [0] | P1 | N-1 | 136 | 73 | 51 | 131 | 46 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| Salinas-Firestone #2 60 kV Line (36051 36054) | P1-2:A19:46:_SALINAS-FIRESTONE #2 60kV [7910] COPY2 | P1 | N-1 | 127 | 68 | 42 | 122 | 38 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| Salinas-Firestone #2 60 kV Line (36051 36054) | P1-2:A19:52:_SALINAS1-FIRESTNE 60kV [0] | P1 | N-1 | 136 | 73 | 51 | 131 | 46 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| Salinas-Firestone #2 60 kV Line (36052 36053) | P1-2:A19:45:_SALINAS-FIRESTONE #2 60kV [7910] COPY1 | P1 | N-1 | 126 | 67 | 42 | 121 | 38 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| 36354 SAN MIGL 70.0 34574 COLNGA 1 70.0 1 1 | P1-3:A20:101:_TEMPLETN 230/70kV TB 1 | P1 | N-1 | 102 | 57 | 51 | 53 | 25 | Project: Estrella<br>In-service date: 2026<br>Short term: Action plan |
| Salinas-Firestone #1 60 kV Line (36027 36046) | P1-1:A19:6:_DUKMOSS1 18.00kV & DUKMOSS2 18.00kV & DUKMOSS3 18.00kV Gen Units & P1-2:A19:4 | P3 | G-1/N-1 | 100.05 | <100 | <100 | 91.43 | <100 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |

**Study Area:** PG&E Central Coast
PG&E Los Padres

***High/Low Voltages***

**In accordance with TPL-001-4- Requirement R2.6, this area relies on the past studies for the year 5 and year 10 studies from the 2020-21 Transmission Planning Process.**

http://www.caiso.com/Documents/BoardApproved2020-2021TransmissionPlan.pdf

| Substation | Contingency (All and Worst P6) | Category | Category Description | Voltage PU (Baseline Scenarios) | | | Voltage PU (Sensitivity Scenarios) | | Project & Potential Mitigation Solutions |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 2023 Summer Peak | 2023 Winter Peak | 2023 Spring Off-Peak | 2023 SP Heavy Renewable & Min Gas Gen | 2023 OP Heavy Renewable & Min Gas Gen | |
| BNA VSTA 60 | P2-1:A19:71:_SALINAS-FIRESTONE #1 60kV [7900] (FREXP JT-B.VSTA J) | P2-1 | Line Section w/o Fault | 0.85 | 0.96 | 0.93 | 0.85 | 0.95 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| BNA VSTA 60 | P2-1:A19:72:_SALINAS-FIRESTONE #1 60kV [7900] (SALINAS1-FREXP JT) | P2-1 | Line Section w/o Fault | 0.81 | 0.94 | 0.91 | 0.82 | 0.93 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| FIRESTNE 60 | P2-1:A19:71:_SALINAS-FIRESTONE #1 60kV [7900] (FREXP JT-B.VSTA J) | P2-1 | Line Section w/o Fault | 0.86 | 0.97 | 0.94 | 0.87 | 0.96 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| FIRESTNE 60 | P2-1:A19:72:_SALINAS-FIRESTONE #1 60kV [7900] (SALINAS1-FREXP JT) | P2-1 | Line Section w/o Fault | 0.83 | 0.95 | 0.93 | 0.84 | 0.94 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| FRSHXPRS 60 | P2-1:A19:72:_SALINAS-FIRESTONE #1 60kV [7900] (SALINAS1-FREXP JT) | P2-1 | Line Section w/o Fault | 0.81 | 0.94 | 0.91 | 0.82 | 0.93 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| SAN MIGL 70 | P2-2:A20:21:_PSA RBLS 70kV Section 1D | P2-2 | Bus | 0.89 | 0.94 | 1.02 | 0.94 | 1.07 | Project: Estrella<br>In-service date: 2026<br>Short term: Action plan |
| SAN MIGL 70 | P2-3:A20:23:_PSA RBLS - 1D 70kV & PASO ROBLES-TEMPLETON line | P2-3 | Non-Bus Tie Breaker | 0.89 | 0.94 | 1.02 | 0.94 | 1.07 | Project: Estrella<br>In-service date: 2026<br>Short term: Action plan |
| SPENCE 60 | P2-1:A19:71:_SALINAS-FIRESTONE #1 60kV [7900] (FREXP JT-B.VSTA J) | P2-1 | Line Section w/o Fault | 0.87 | 0.97 | 0.95 | 0.87 | 0.97 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| SPENCE 60 | P2-1:A19:72:_SALINAS-FIRESTONE #1 60kV [7900] (SALINAS1-FREXP JT) | P2-1 | Line Section w/o Fault | 0.85 | 0.96 | 0.94 | 0.85 | 0.95 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| AGRILINK 60 | P1-3:A19:23:_SALINAS 115/60kV TB 2 & P1-3:A19:24:_SALINAS 115/60kV TB 3 | P6 | N-1-1 | 0.80 | 0.80 | 0.83 | 0.82 | 0.89 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| ATASCDRO 70 | P1-2:A20:2:_ATASCADERO-SAN LUIS OBISPO 70kV [8490] & P1-2:A20:47:_TEMPLETON-ATASCADERO 70kV [9410] | P6 | N-1-1 | 0.89 | >0.9 | >0.9 | >0.9 | >0.9 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| BAYWOOD 70 | P1-3:A20:101:_TEMPLETN 230/70kV TB 1 & P1-2:A20:2:_ATASCADERO-SAN LUIS OBISPO 70kV [8490] | P6 | N-1-1 | 0.80 | >0.9 | >0.9 | >0.9 | >0.9 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| CAMBRIA 70 | P1-2:A20:2:_ATASCADERO-SAN LUIS OBISPO 70kV [8490] & P1-3:A20:101:_TEMPLETN 230/70kV TB 1 | P6 | N-1-1 | 0.72 | >0.9 | 0.89 | >0.9 | >0.9 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| CAYUCOS 70 | P1-3:A20:101:_TEMPLETN 230/70kV TB 1 & P1-2:A20:2:_ATASCADERO-SAN LUIS OBISPO 70kV [8490] | P6 | N-1-1 | 0.73 | >0.9 | 0.89 | >0.9 | >0.9 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| ERTA 60 | P1-3:A19:23:_SALINAS 115/60kV TB 2 & P1-3:A19:24:_SALINAS 115/60kV TB 3 | P6 | N-1-1 | 0.85 | 0.85 | 0.87 | 0.86 | >0.9 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| PERRY 70 | P1-2:A20:2:_ATASCADERO-SAN LUIS OBISPO 70kV [8490] & P1-3:A20:101:_TEMPLETN 230/70kV TB 1 | P6 | N-1-1 | 0.72 | >0.9 | 0.89 | >0.9 | >0.9 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |

**Study Area:** PG&E Central Coast
PG&E Los Padres

***High/Low Voltages***

**In accordance with TPL-001-4- Requirement R2.6, this area relies on the past studies for the year 5 and year 10 studies from the 2020-21 Transmission Planning Process.**

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| Substation | Contingency (All and Worst P6) | Category | Category Description | Voltage PU (Baseline Scenarios) | | | Voltage PU (Sensitivity Scenarios) | | Project & Potential Mitigation Solutions |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 2023 Summer Peak | 2023 Winter Peak | 2023 Spring Off-Peak | 2023 SP Heavy Renewable & Min Gas Gen | 2023 OP Heavy Renewable & Min Gas Gen | |
| PSA RBLS 70 | P1-2:A20:32:_SAN LUIS OBISPO-CAYUCOS 70kV [9090] MOAS OPENED on CAYUCOS_BAYWOOD COPY1 & P1-3:A20:101:_TEMPLETN 230/70kV TB 1 | P6 | N-1-1 | 0.90 | >0.9 | >0.9 | >0.9 | >0.9 | Project: Estrella<br>In-service date: 2026<br>Short term: Action plan |
| SAN MIGL 70 | P1-2:A20:48:_TEMPLETON-GATES 230kV [5934] & P1-2:A20:37:_SAN MIGUEL-PASO ROBLES 70kV [9390] | P6 | N-1-1 | 0.88 | >0.9 | >0.9 | >0.9 | >0.9 | Project: Estrella<br>In-service date: 2026<br>Short term: Action plan |
| WTSNVLLE 60 | P1-3:A19:23:_SALINAS 115/60kV TB 2 & P1-3:A19:24:_SALINAS 115/60kV TB 3 | P6 | N-1-1 | 0.79 | 0.80 | 0.82 | 0.81 | 0.88 | Project: Salinas- Firestone #1 and #2 reconductor<br>In-service date: 2026<br>Short term: Action plan |
| SAN MIGL 70 | P1-2:A20:37:_SAN MIGUEL-PASO ROBLES 70kV [9390] | P1 | N-1 | 0.89 | 0.94 | 1.02 | 0.94 | 1.07 | Project: Estrella<br>In-service date: 2026<br>Short term: Action plan |

**2021-2022 ISO Reliability Assessment - Study Results**

**Study Area:** **PG&E Central Coast**

**PG&E Los Padres**

***Voltage Deviation***

**In accordance with TPL-001-4- Requirement R2.6, this area relies on the past studies for the year 5 and year 10 studies from the 2020-21 Transmission Planning Process.**

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| Substation | Contingency (All and Worst P6) | Category | Category Description | Post Cont. Voltage Deviation % (Baseline Scenarios) | | | | | Project & Potential Mitigation Solutions |
|---|---|---|---|---|---|---|---|---|---|
| | | | | 2023 Summer Peak | 2023 Winter Peak | 2023 Spring Off-Peak | 2023 SP Heavy Renewable & Min Gas Gen | 2023 OP Heavy Renewable & Min Gas Gen | |
| SAN MIGL 70 kV | SAN MIGUEL-PASO ROBLES 70kV [9390] | P1 | N-1 | 11 | 7 | <8 | 8 | <8 | Project: Estrella<br>In-service date: 2026<br>Short term: Action plan |

**Study Area:** PG&E Central Coast
PG&E Los Padres

***Transient Stability***

| Contingency | Category | Category Description | Transient Stability Performance | | | | | | Potential Mitigation Solutions |
|---|---|---|---|---|---|---|---|---|---|
| | | | Baseline Scenarios | | | | Sensitivity Scenarios | | |
| | | | 2023 Spring Off-Peak | 2026 Summer Peak | 2031 Summer Peak | 2031 Spring Off-Peak | 2026 SP High CEC Forecast | 2023 OP Heavy Renewable & Min Gas Gen | |
| | | | | | | | | | |
| | | | | | | | | | |

**In accordance with TPL-001-4- Requirement R2.6, this area relies on the past studies from the 2020-21 Transmission Planning Process.**
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**Study Area:** **PG&E Central Coast**
**PG&E Los Padres**

***Single Contingency Load Drop***

| Worst Contingency | Category | Category Description | Amount of Load Drop (MW) | | | | | | | | | Potential Mitigation Solutions |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 2023 Summer Peak | 2026 Summer Peak | 2031 Summer Peak | 2023 Spring Off-Peak | 2026 Spring Off-Peak | 2031 Spring Off-Peak | 2026 SP High CEC Forecast | 2023 SP Heavy Renewable & Min Gas Gen | 2023 OP Heavy Renewable & Min Gas Gen | |
| | | | | | | | | | | | | |

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

**2021-2022 ISO Reliability Assessment - Study Results**

**Study Area:** **PG&E Central Coast**
**PG&E Los Padres**

***Single Source Substation with more than 100 MW Load***

| Substation | Load Served (MW) | | | | | | | | | Potential Mitigation Solutions |
|---|---|---|---|---|---|---|---|---|---|---|
| | 2023 Summer Peak | 2026 Summer Peak | 2031 Summer Peak | 2023 Spring Off-Peak | 2026 Spring Off-Peak | 2031 Spring Off-Peak | 2026 SP High CEC Forecast | 2023 SP Heavy Renewable & Min Gas Gen | 2023 OP Heavy Renewable & Min Gas Gen | |
| | | | | | | | | | | |

No single source substation with more than 100 MW