

Project Title

Border Sub Area LCR Reduction

District

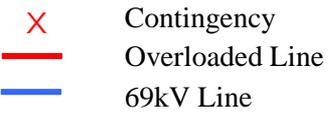
Metro

Proposed ISD

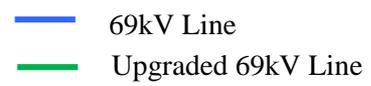
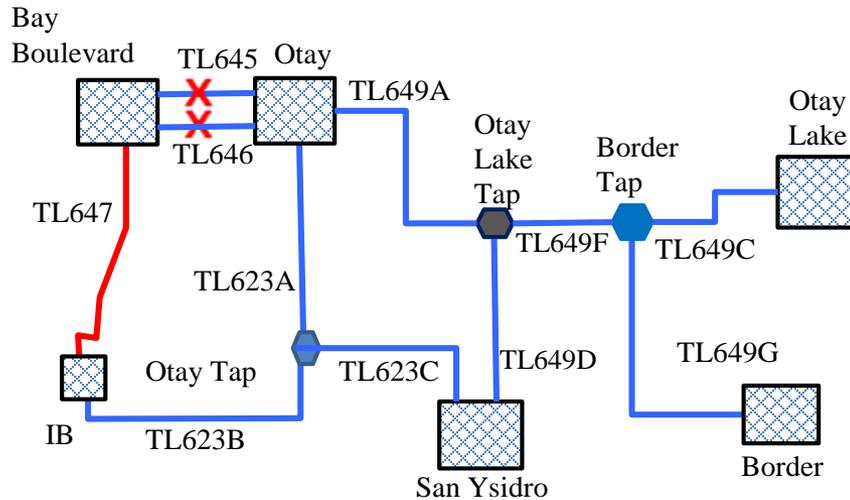
2021

Project

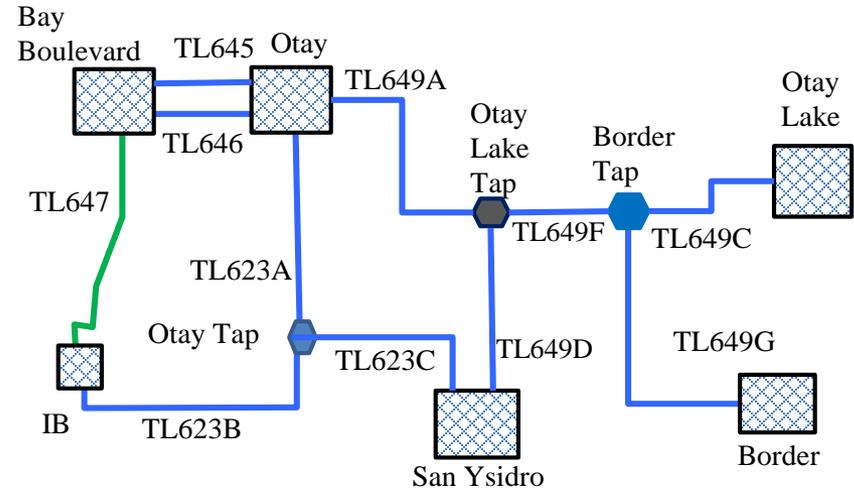
2018-0178



Existing



Proposed



Drivers:

- According to the CAISO's 2019/2023 LCR report, the N-1-1 of both TL645 and TL646 (Bay Boulevard - Otay) overloads TL647 (Bay Boulevard – Imperial Beach) to 162% of its emergency rating. This limiting contingency establishes a local capacity need of 100 MW.
- Candidate for the policy-driven initiative regarding the anticipated “LCR Potential Reduction Study”

Scope:

- Upgrade TL647 to a minimum continuous rating of 110 MVA

Benefits:

- Potential LCR Reduction

Cost:

- \$6M – \$10M

Project Title

El Cajon Sub Area LCR Reduction

District

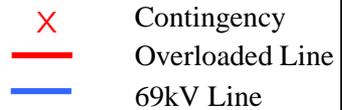
Eastern

Proposed ISD

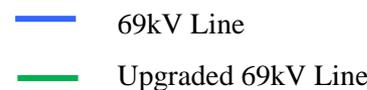
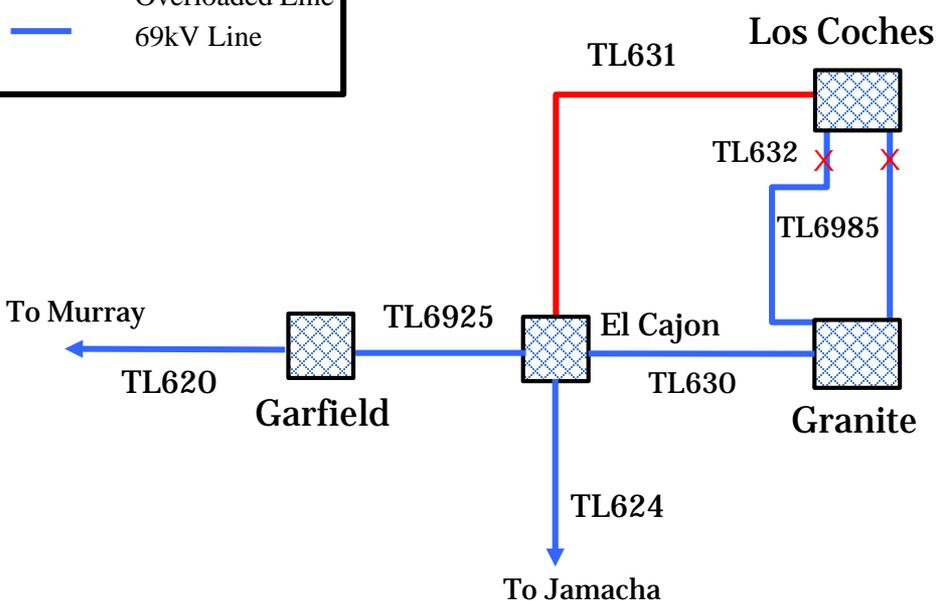
2023

Project

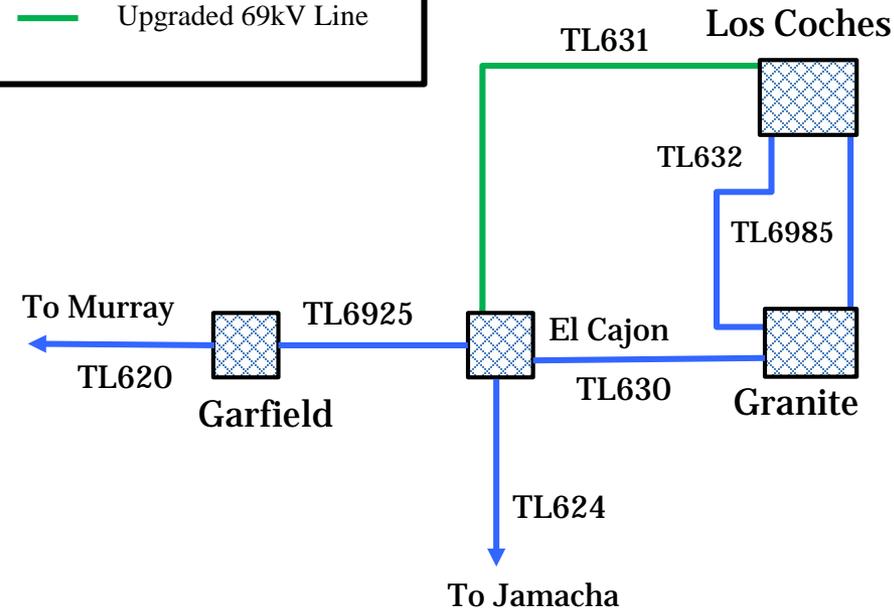
2018-0171



Existing



Proposed



Drivers:

- According to the CAISO’s 2023 LCR report, the N-1-1 of TL632 and TL6985 (Los Coches – Granite) will overload TL631 (Los Coches – El Cajon) to 105.9% of its emergency rating. This limiting contingency establishes a local capacity requirement of 88 MW.
- Candidate for the policy-driven initiative regarding the anticipated “LCR Potential Reduction Study”

Scope:

- Upgrade TL631 to a minimum continuous rating of 77 MVA

Benefits:

- Potential LCR reduction

Cost:

- \$28 – \$43M

Alternatives:

- Build a second El Cajon to Los Coches 69 kV Line (underground) with a rating of 55 MVA (\$53.6M – \$80.4M)
- Storage As a Transmission Asset (SATA) (\$40M - \$60M)

Project Title

ESCO Sub Area LCR Reduction

District

Northeast

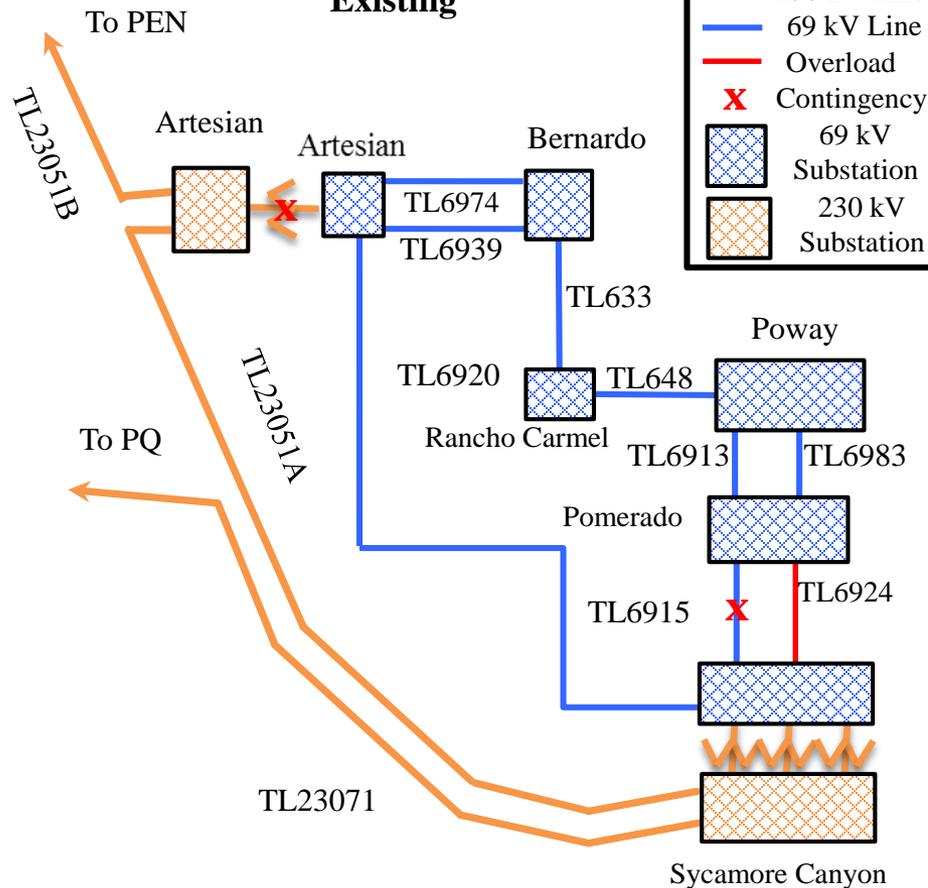
Proposed ISD

2023

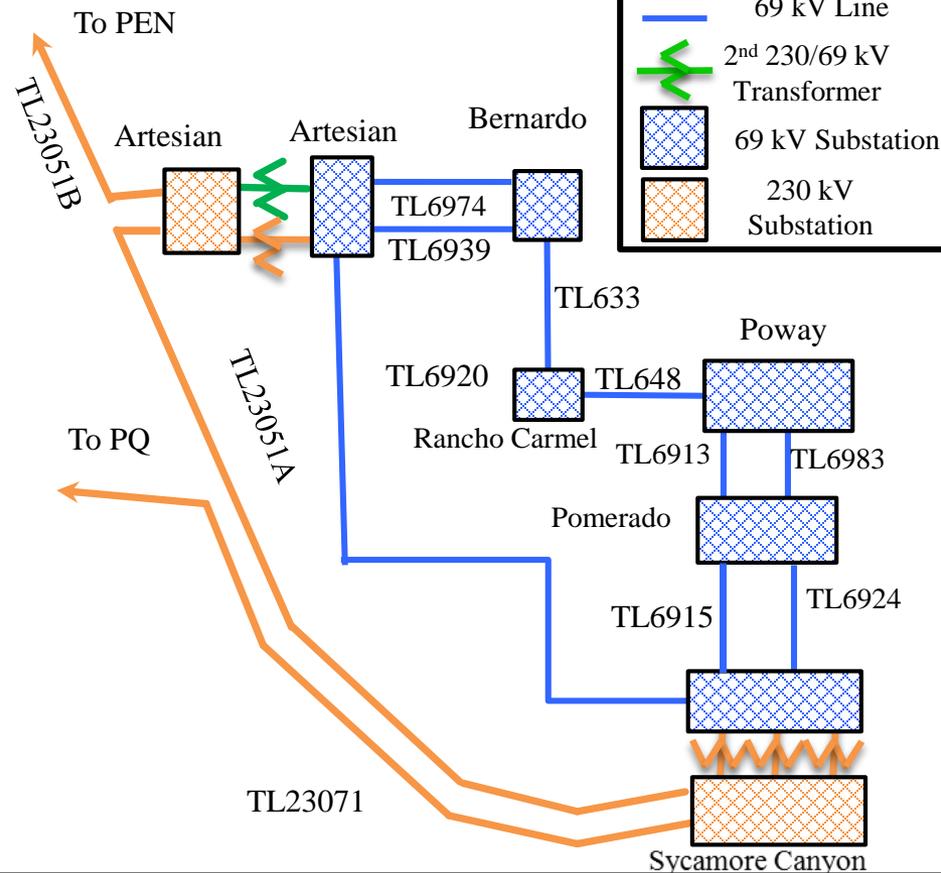
Project

2018-0176

Existing



Proposed



Drivers:

- According to the CAISO's 2023 report, an N-1-1 of TL6915 (Sycamore Canyon - Pomerado) and Artesian 230/69kV Bank will overload TL6924 (Sycamore Canyon - Pomerado) to 118% of its continuous rating. This limiting contingency establishes a Local Capacity Requirement of 20MW
- Candidate for the policy-driven initiative regarding the anticipated "LCR Potential Reduction Study"

Scope:

- Add second 230/69 kV transformer at Artesian

Benefits:

- Potential LCR reduction

Cost:

- \$14M – \$20M

Alternatives:

- Add third 69kV line between Sycamore and Pomerado (\$40M – \$60M)

Project Title

Pala Sub Area LCR Reduction

District

Northeast

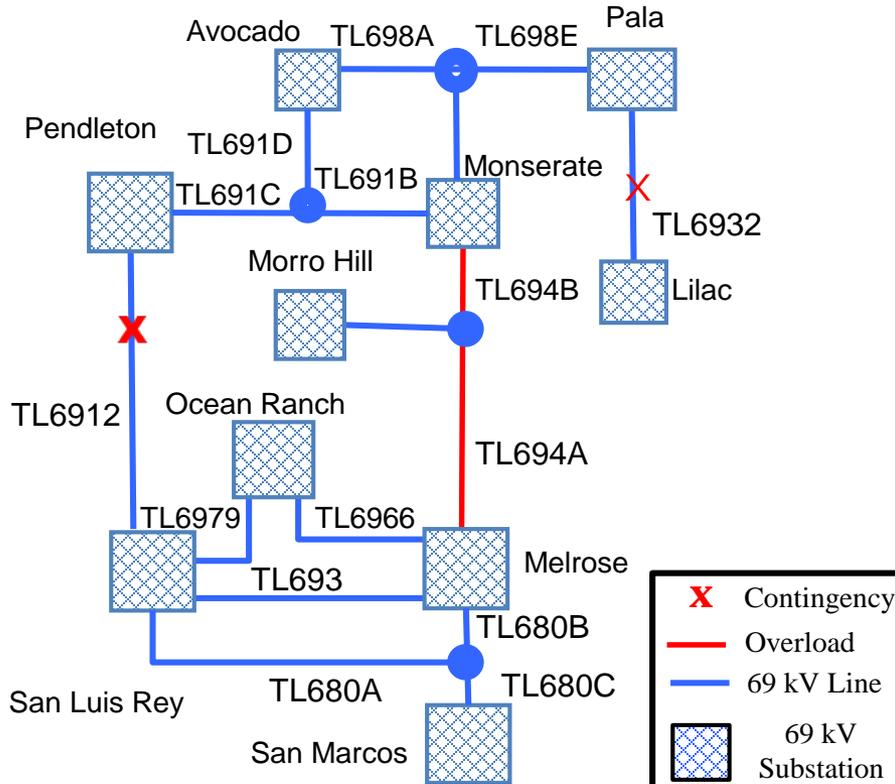
Proposed ISD

2021

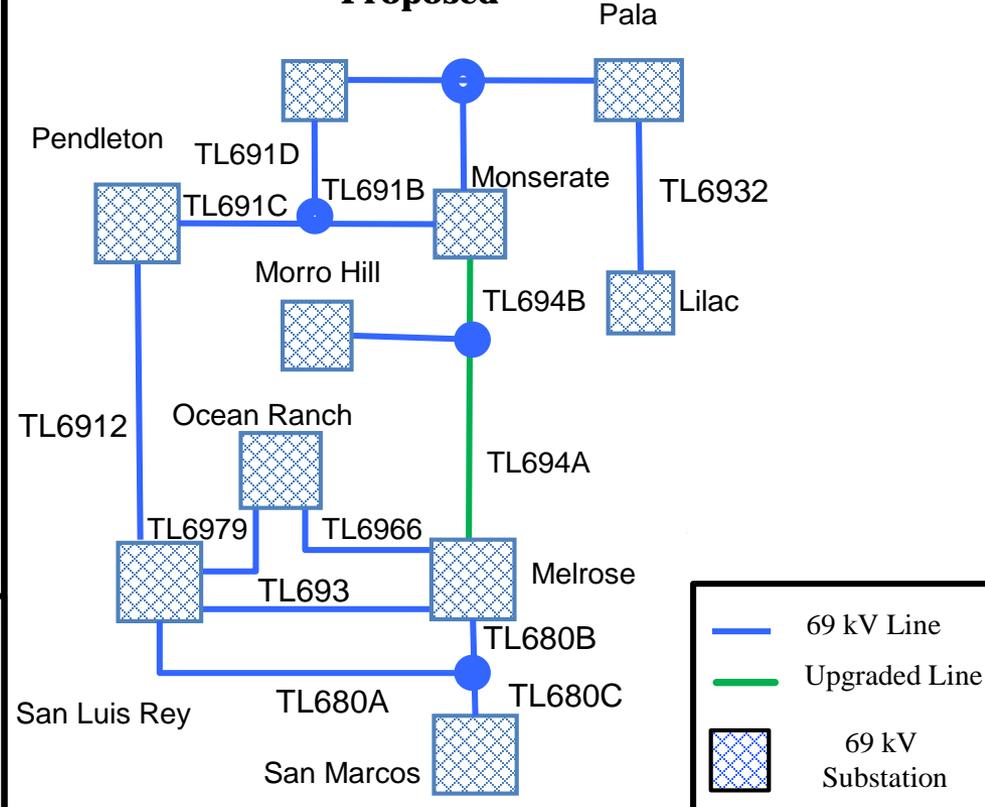
Project

2018-0173

Existing



Proposed



Drivers:

- According to the CAISO’s 2019/2023 report, the N-1-1 of TL6912 (Pendleton – San Luis Rey) and TL6932 (Pala – Lilac) will overload TL694A (Monserate – Morro Hill Tap) and TL694B (Morro Hill Tap - Melrose). This limiting contingency establishes a load capacity requirement of 10 MW.
- Candidate for the policy-driven initiative regarding the anticipated “LCR Potential Reduction Study”

Scope:

- Upgrade TL694A to a minimum continuous rating of 127MVA and TL694B to a minimum continuous rating of 114MVA

Benefits:

- Potential LCR reduction

Cost:

- \$25M – \$37M

Alternatives:

- Pala 230 kV Substation Expansion, Loop-in TL23030 into Pala, and Add 230/69 kV transformer (\$60M – \$88M)

Project Title

Southern California Regional LCR Reduction

District

Beach Cities/North Coast

Proposed ISD

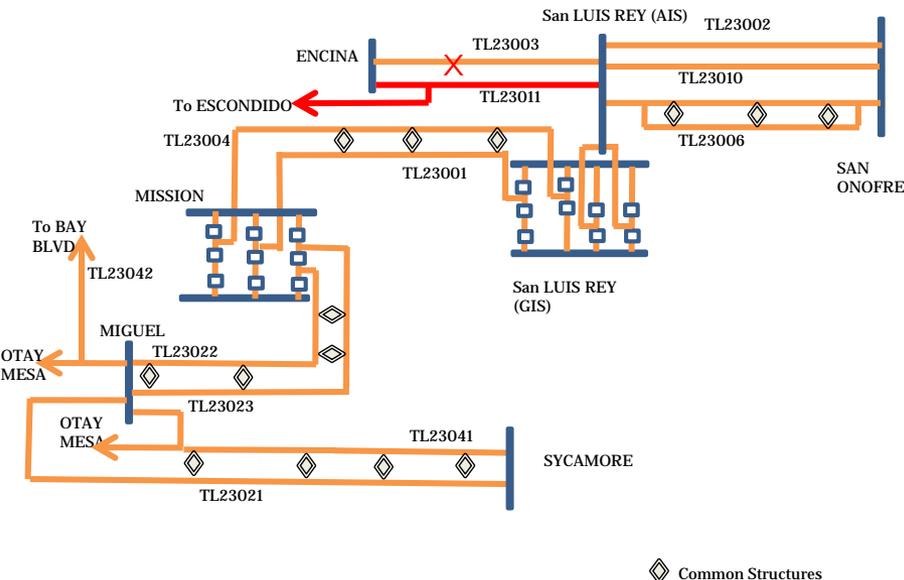
2023

Project

2018-0191

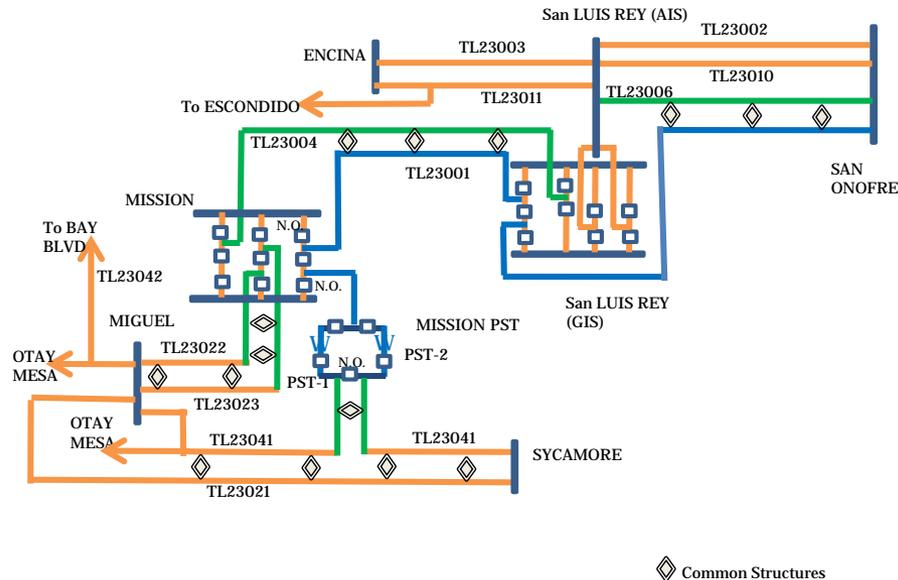
- ✗ Contingency
- Overloaded Line
- 230kV Line

Existing – In 2028



- New Mission-San Onofre 230kV Line
- Upgraded 230kV Line
- 230kV Line

Proposed



Driving Factor:

- Mitigate congestion for high San Onofre north bound flow for the P1 reliability violation of the TL23003 and TL23011
- Reducing regional Capacity Requirements (LCR) of 315 MW generation capacity necessary in 2023 for reliable operation in Orange County area. Increasing the ability to deliver both in-state and out-of-state renewable resources into the load centers.
- Increasing the transmission capacity, system reliability and operation flexibility in San Diego area.

Benefit:

- This project provides both LCR and congestion benefits

Scope:

- Construct a new 230kV line (2-1033ACSR), Mission-San Luis Rey-San Onofre, by utilizing the existing 230kV facilities. Convert half of the existing 138kV switchyard (Bay 5 to Bay 9) to a 230kV Phase Shifter Station at Mission Substation (2–600MW PSTs). Upgrade TL23004, TL23006, TL23022 and TL23023 with 2-1033ACSR.

Cost:

- \$100-200M

Project Title

TL649A Reconductor

District

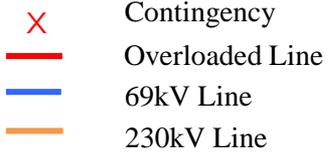
Metro

Proposed ISD

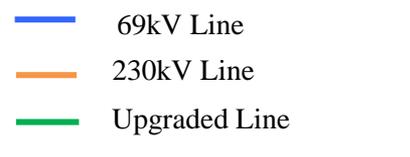
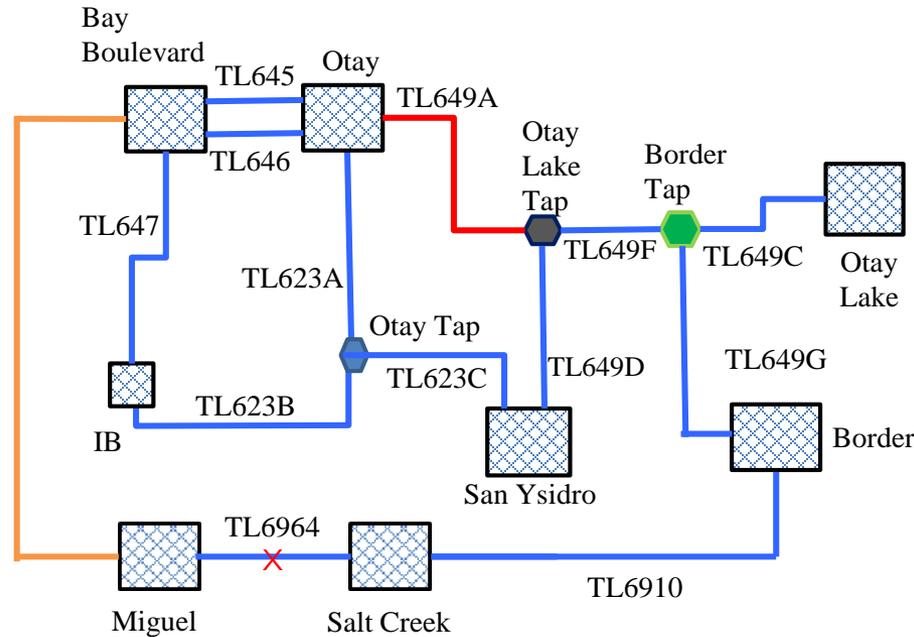
2021

Project

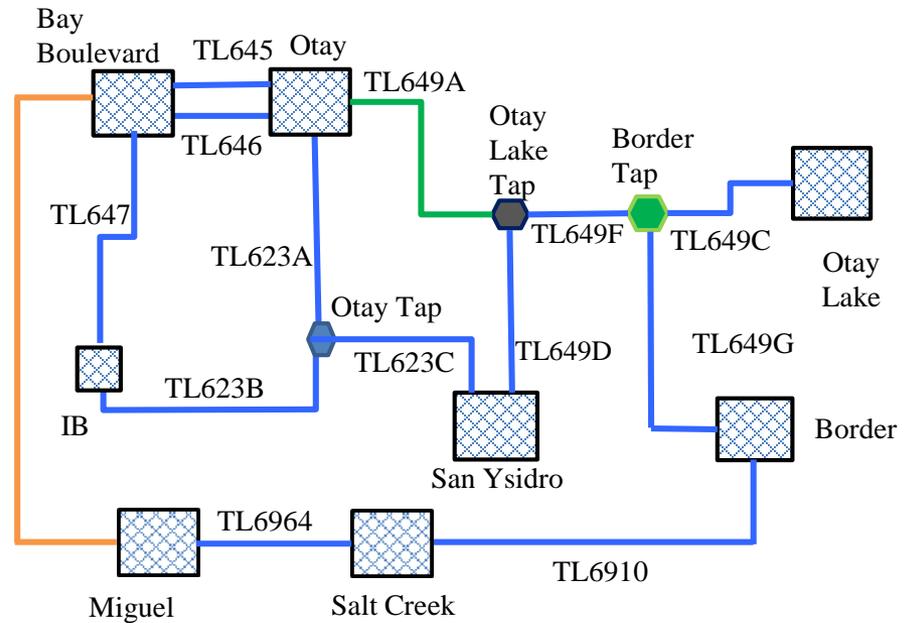
2018-0175



Existing



Proposed



Drivers:

- Category P1 Violation
- Beginning in 2021, an N-1 of TL6964 (Miguel – Salt Creek) overloads TL649A (Otay – Otay Lake Tap) to 114% of its emergency rating.

Scope:

- Upgrade TL649A to achieve a minimum continuous rating of 64 MVA

Benefits:

- Mitigation of a P1 violation

Cost:

- \$4M – \$6M

Alternatives:

- 2nd Miguel – Salt Creek 69kV line (Cost TBD)
- SATA (\$16M - \$24M)