



## 2024-2025 TPP Projects

Transmission Planning – Grid Assessment



# Downtown Reliability Reinforcement

## Drivers:

- Category P0, P1 NERC Violations
- OT Bks will be overloaded under P1 conditions in 2029 and P0 conditions in 2039
- TL604 will be overloaded under P1 conditions

## Scope:

- Energize 230/69kV spare bank at Silvergate by 2029, \$5-10M
- Upgrade Sampson 69kV circuit breakers by 2029, \$10-15M
- Expand existing Vine 69/12 kV Substation to 230/69/12 kV Sub, Loop TL23029 into the expanded substation, Install one new 230/69 kV 350MVA transformers at Vine Sub by 2037, \$385-475M

**Cost:** \$ 400 – 500M

**ISD:** 2029-2037

## Alternatives:

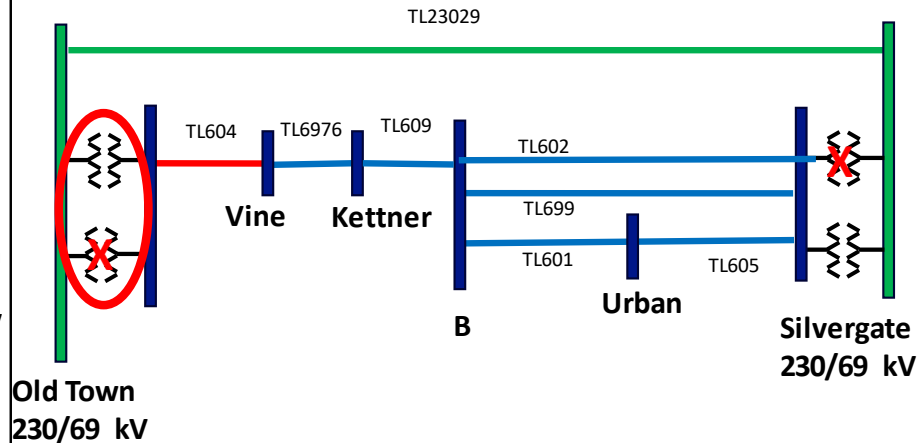
- Energize 230/69kV Spare bank at Silvergate, upgrade Sampson 69kV circuit breakers, upgrade Old Town 230/69kV Banks with 350MVA Bks and rebuild the sub

**Cost:** \$ 400 - 500 M

**ISD:** 2029-2037

- The BESS alternative is not effective due to combination of P0 and P1 contingencies that would become P1 and P3 contingencies. Also, because there is not enough load serving capability in the downtown system, the BESS won't be able to charge in some hours.

## Existing



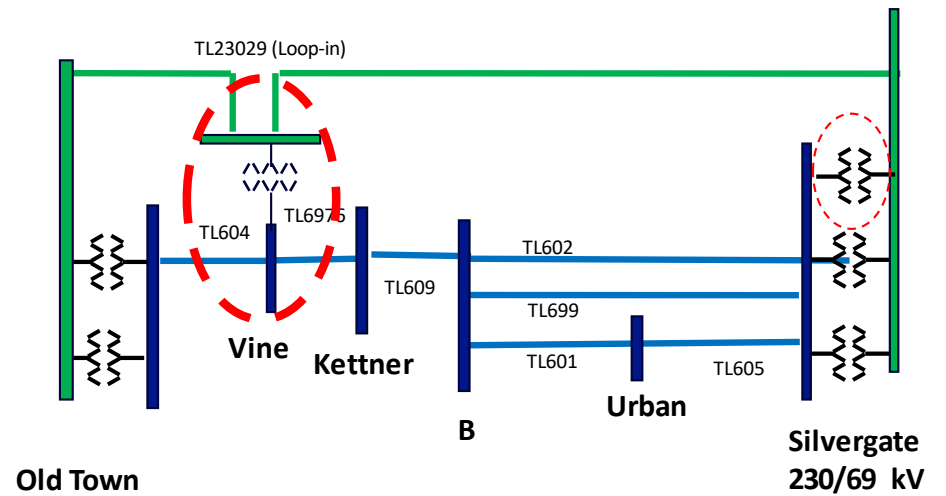
Old Town  
230/69 kV

Silvergate  
230/69 kV

**P0: OT Bks 102% overload in 2039**  
**P1: loss of either bank overloads the other by 112% starting in 2029.**  
**P1: loss of Silvergate bank overloads TL604 by 110% in 2029.**

- 69kV Line
- ✗ Contingency
- Overloaded
- 69 kV Bus
- 230 kV Bus

## Recommended



Old Town  
230/69 kV

Silvergate  
230/69 kV

The recommended Alt 1 provides:

- Additional redundancy and resiliency to Downtown.
- Flexibility for future second 230/69kV Bk at VIN to address additional load growth.
- More sub getaway for new 69kV lines to support potential new distribution subs in Downtown area.

- 69kV Line
- 230kV Line
- - - New Upgrade
- 69 kV Bus
- 230 kV Bus

# Coronado Island Reliability Reinforcement



**Drivers:**

- Category P1 NERC Violation
- TL650 or TL655 will be overloaded under P1 of each other starting in 2028.

**Scope:**

- Build a new 69 kV circuit from Station B to NIM by 2028 (\$42 M)
- Upgrade TL 650 & TL655 to 150MVA (\$66 M)

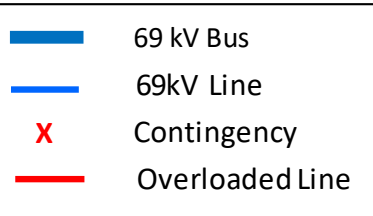
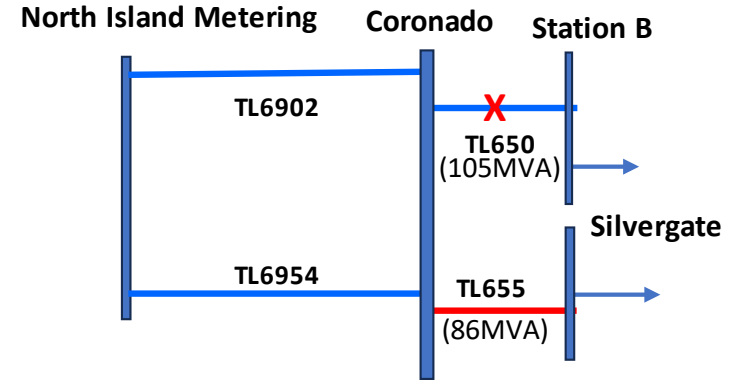
**Total Cost:** \$108 M

**ISD:** 2028

**Alternative:**

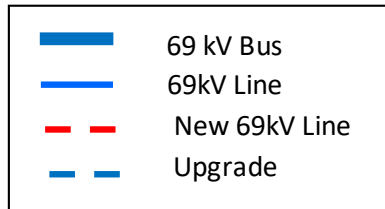
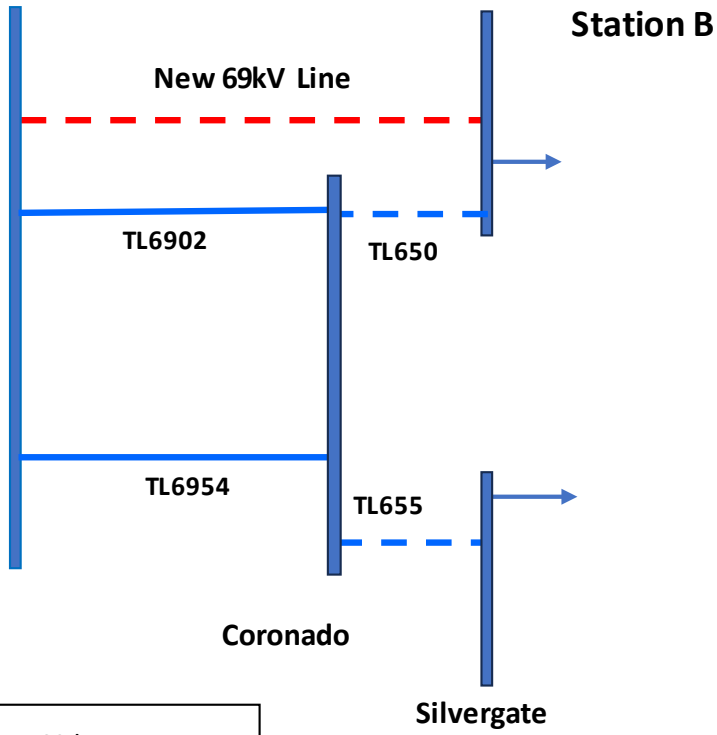
- Build a new underground 69 kV line from Bay Boulevard to existing 69 kV NIM switchyard
- **Cost:** \$300 - 400M
- **ISD:** 2032

**Existing**



**Recommended**

**North Island Metering**



# TL6966 Reconductor (Ocean Ranch – San Luis Rey)

**Drivers:**

- Category P1 and P3 NERC Violations
- P1 overload starting 2026 LSP due to charging Melrose BESS
- P1 (starting 2034 HS) and P3 (starting 2031 HS) overloads

• **Scope:** Reconductor TL6966 to 145 MVA normal continuous rating.

**Cost:** \$9.5M

**ISD:** 2033

**Benefits:**

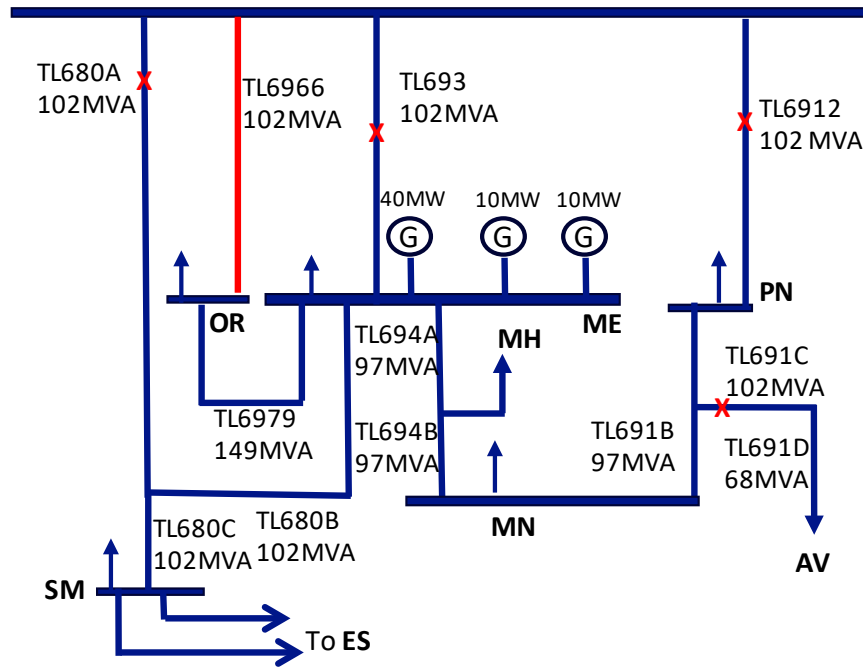
- Mitigation of P1 and P3 violations
- Support area load growth

**Alternatives:**

- 3 Ohm line series reactor
- Build a new 5.5 miles 69kV line (SA-OR #2) with 145MVA normal continuous rating, costs \$67M with ISD of 2034.
- BESS system is not an option due to ME GEN contributed more overload issue to the area.

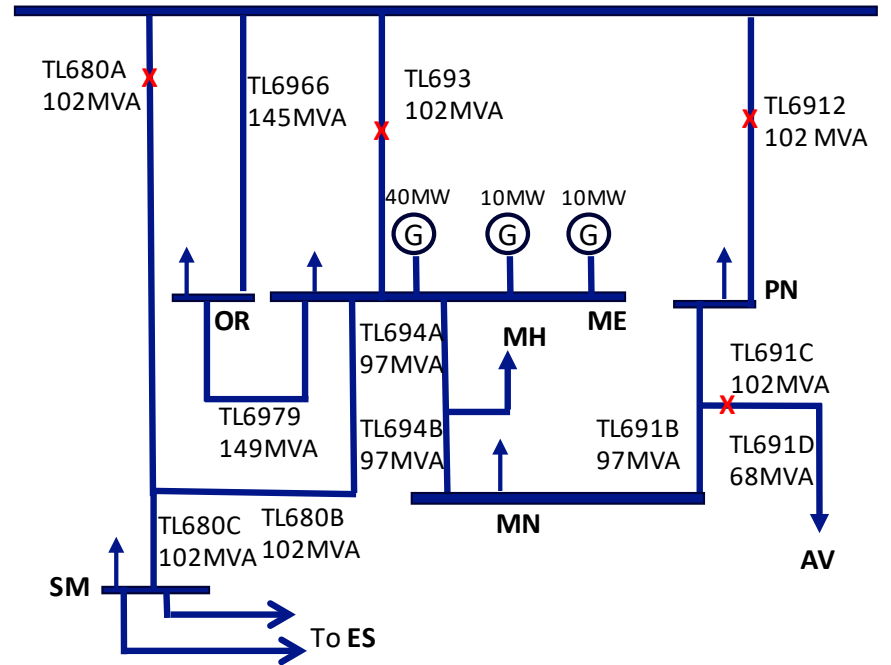
**Existing**

**San Luis Rey**



**Recommended**

**San Luis Rey**



# TL623C Reconductor (San Ysidro - Otay Tap) - Second Project

**Drivers:**

- Category P1 NERC Violation
- TL623C will be overloaded under P1 of TL649D starting in 2032

**Scope:**

- Reconductor TL623C to a 136MVA minimum continuous rating.

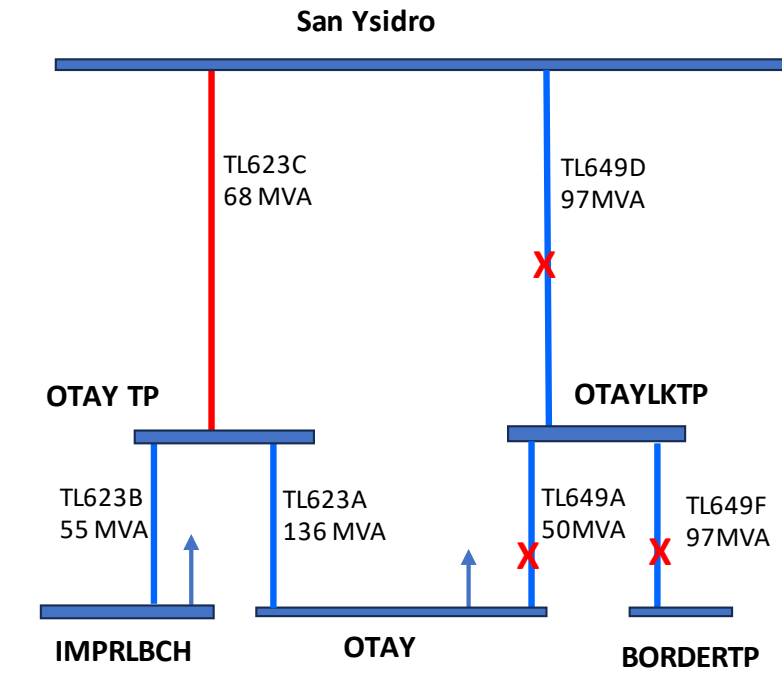
**Cost:** \$5M

**ISD:** 2032

**Alternatives:**

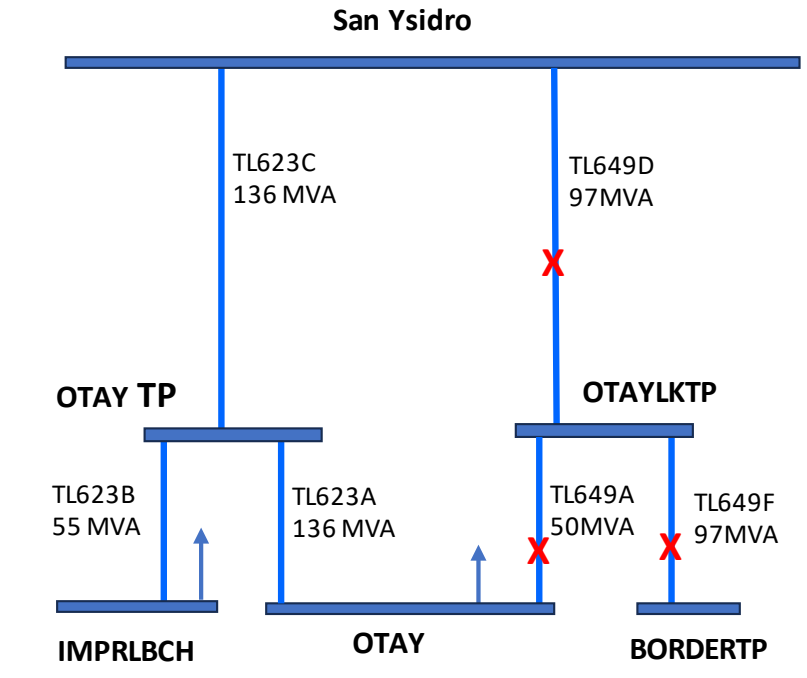
- BESS is not feasible due to the lack of available bay positions in San Ysidro substation

**Existing**



X	Contingency
— (red)	Overloaded Line
— (blue)	69kV Line

**Recommended**



X	Contingency
— (blue)	69kV Line



Question