New 138/24.9 kV Distribution Substation

Presented to the CAISO on September 20-21, 2017
New residential and commercial construction is forecasted to increase local power demand. This new demand cannot be served from existing distribution substation capacity without causing overloads and under-voltages on distribution facilities. A new distribution substation is the low cost most reliable project to serve the forecasted new residential and commercial load.

- **Scope**: Construct a new 138/24.9 kV 80 MVA distribution substation.
- **Energized by looping in the existing Thousandaire-Gamebird 138 kv transmission line.**
- **Conceptual Cost Estimate is**: $10.5m (2017 dollars)
- **Proposed In-Service date**: 12/01/2019
Geographic Location – notice the lot lines prepped for new construction in the area.
SLD of Proposed New Distribution Sub.

To Thousandaire 138 kv Substation

138 kv
24.9 kv
40 MVA

To Gamebird 138 kv Substation

138 kv
24.9 kv
40 MVA
No Impact to Transmission Grid

- Summary of NERC Steady State Contingency Results from Adding a New Distribution Substation to CAISO TPP 2022 Peak Case
  - Ran CAISO contingencies as pre-project cases
  - Add project and new load to PSLF 2022 case (Post project case)
  - Modified CAISO contingency files to run post-project cases
- Found no impact to 138kV or 230kV Transmission
  - Same per unit flow violations and magnitudes (Bob-Mead 220kV)
  - Expected result from adding a new distribution substation