2011 Draft LCR Study Results
Bay Area

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Stakeholder Meeting

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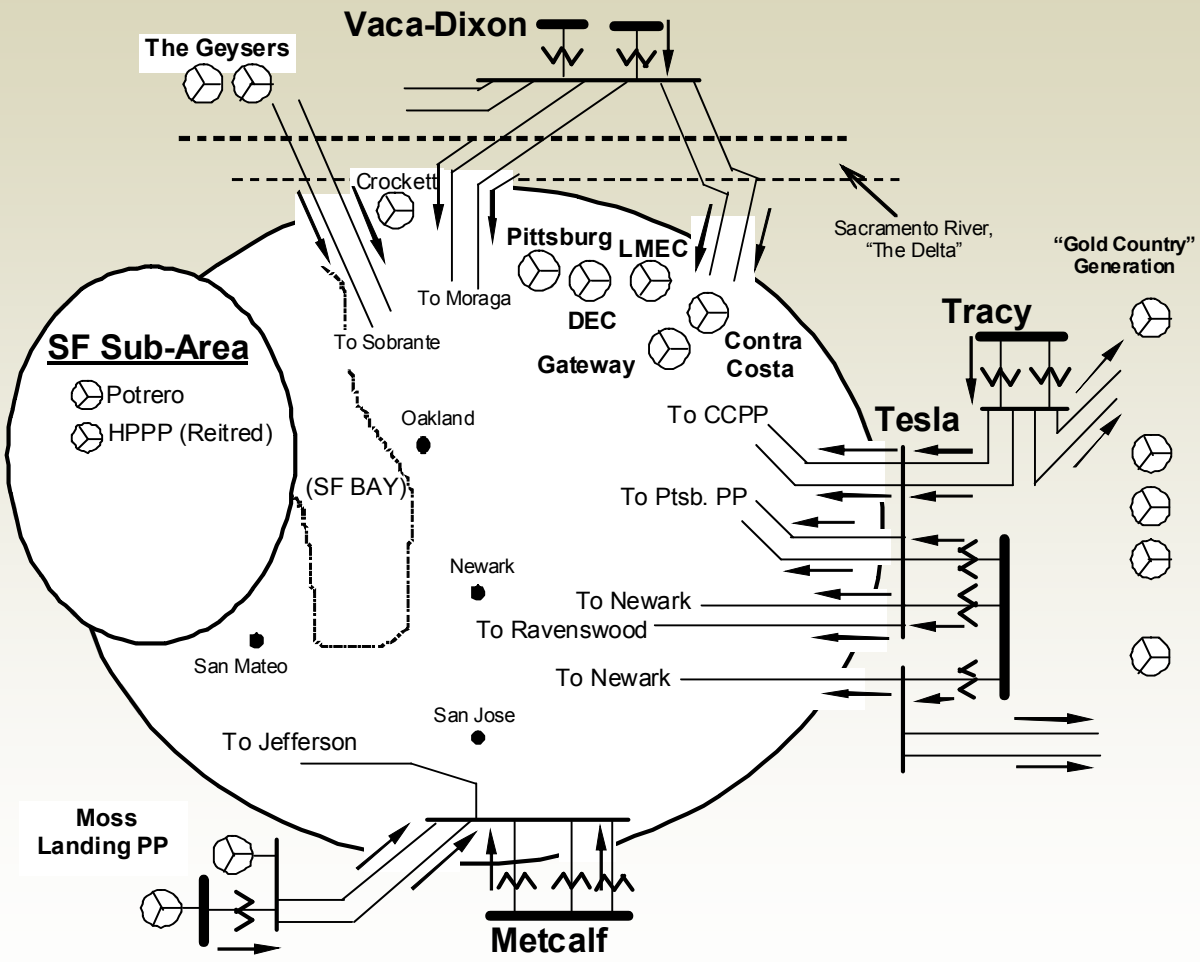
Greater Bay Area Map

Greater Bay Area Transmission System



New major transmission projects

- San Francisco 115kV Recabling
  - Martin-Hunters Point #4 115 kV Cable April-09
  - A-H-W #1 & #2 115kV Re-Cabling October-10
- Transbay DC Cable March-10
- Pittsburg-Tesla 230 kV Lines Reconductoring March-11
- Oakland C-X#3 115kV Cable Addition August-10
- San Mateo - Bay Meadows 115kV #1 & #2 Line Reconductoring May-11

New power plant projects

- No addition
- Potrero #3, #4, #5 and #6 retired.

Greater Bay Area Load

2011 1-in-10 Year Load Representation

Total Load = 9,885 MW

Transmission Losses = 280 MW

Pumps = 157 MW

Total Load + Losses + Pumps = 10,322 MW

San Francisco Sub Area

- All Potrero units are NO LONGER needed after
  - Trans Bay DC Cable is operational, and
  - SF Recabling Project is complete
- LCR Need: 0 MW (includes 0 MW of QF/Muni generation)

San Jose Sub Area

San Jose Sub-area – Category C

- Contingency: Metcalf El Patio #1 or #2 overlapped with the outage of Metcalf-Evergreen #1 115 kV
- LCR need: 516 MW (includes 247 MW of QF/Muni generation, as well as 83 MW of deficiency)
- Limiting component: Thermal overload of Metcalf-Evergreen #2 115 kV

San Jose Sub-area – Category B

- Not binding

Llagas Sub Area

Llagas Sub-area – Category B

- Contingency: Metcalf D-Morgan Hill 115 kV with one of the Gilroy peakers off line
- LCR need: 112 MW (includes 0 MW of QF/Muni generation)
- Limiting component: Thermal overload on the Metcalf-Llagas 115 kV as well as 5% voltage drop at the Morgan Hill substation

Llagas Sub-area – Category C

- Not binding

Oakland Sub Area

Oakland Sub-area – Category C

- Contingency: overlapping C-X #2 and C-X #3 115 kV Cables
- LCR need: 46 MW (includes 49 MW of QF/Muni generation)
- Limiting component: Thermal overload on the Moraga-Claremont 115 kV lines

Oakland Sub-area – Category B

- Not binding

This requirement does not include the need for the Pittsburg/ Oakland sub-area

Pittsburg/Oakland Sub Area

Pittsburg/Oakland Sub-area – Category C

- Contingency: Moraga #3 230/115 kV Bank and Delta Energy Center
- LCR need: 2866 MW (includes 491 MW of QF/Muni generation)
- Limiting component: Thermal overload on Moraga #1 230/115 kV Bank
- 400 MW of Trans Bay Cable run back has been used

Pittsburg/Oakland Sub-area – Category B

- Contingency: Moraga #3 230/115 kV Bank
- LCR need: 2453 MW (includes 491 MW of QF/Muni generation)
- Limiting component: Thermal overload on Moraga #1 230/115 kV Bank

Greater Bay Area Overall

Bay Area Overall – Category C

- Contingency: overlapping Tesla-Metcalf 500 kV line and Tesla-Newark #1 230 kV line
- LCR need: 4804 MW (includes 1087 MW of QF/Muni/Wind generation)
- Limiting component: Thermal overload on the ADCC-Newark section of the Tesla-Newark #2 230 kV line

Bay Area Overall – Category B

- Contingency: Tesla-Metcalf 500 kV line with Delta Energy Center
- LCR need: 4036 MW (includes 1087 MW of QF/Muni/Wind generation)
- Limiting component: Reactive margin within the Bay Area

Greater Bay Area Total LCR

2011	Wind (MW)	QF/Selfgen (MW)	Muni (MW)	Market (MW)	Max. Qualifying Capacity (MW)
Available generation	208	624	255	5292	6379

2011	Existing Generation Capacity Needed (MW)	Deficiency (MW)	Total MW LCR
Category B (Single)	4036	0	4036
Category C (Multiple)	4804	83	4887

Changes

Since our last stakeholder meeting:

1) San Francisco has no LCR needs

2) Changes to the overall needs due to re-dispatch to account for sub-area needs with Metcalf 500 kV capacitors on automatic mode and the assumed Portero retirement

3) Updated NQC

Since last year:

1) Load forecast is higher by 6 MW

2) LCR need has increased by 236 MW from last year

- high LCR is still needed for Pittsburg/Oakland sub-area
- units are not effective in mitigating the Tesla-Newark #2 230 kV line
- units not needed for sub-area LCR are needed to satisfy the overall LCR needs

Your comments and questions are welcome.

For written comments, please send to: RegionalTransmission@caiso.com