

Local Capacity Requirements (LCR) for Year 2009 Study Results for the Greater Bay Area



LCR Stakeholder Meeting, April 10th, 2008, Folsom CA



California ISO
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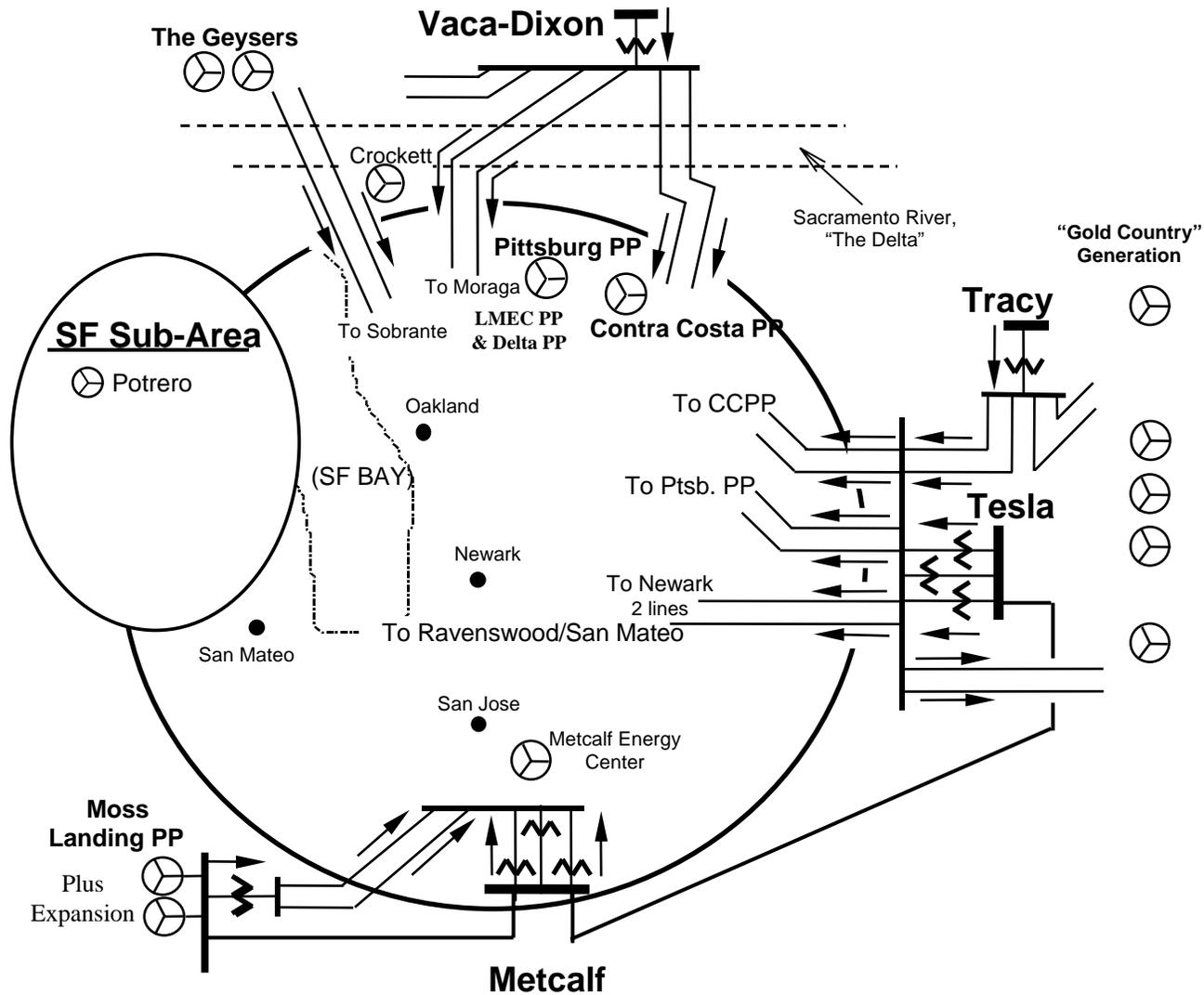
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Changes since March 2008 Results Meeting for 2009 Greater Bay Area LCR

- East Shore Energy Center – Removed, slip from 6/09 to 10/09
- Highwinds 3 – Removed, slip from 6/09 to 12/09
- SF Peakers – Removed, slip from 6/09 to indefinite.
- SF Airport Peaker – Removed, slip from 6/09 to indefinite.
- Small change to San Jose requirement due to QF/Selfgen and Muni NQC counting.
- Gateway Generating Facility – Added 590 MW of generating capacity before 3/09.

2009 LCR Greater Bay Area

Greater San Francisco Bay Area Transmission System



2009 LCR Greater Bay Area Greater Bay Area Power Flow Zones

- The Greater Bay Area LCR Area is described by the following list of Zones defined by PG&E within power flow base cases.
 - San Francisco
 - Peninsula
 - DeAnza
 - San Jose
 - Mission
 - East Bay
 - Diablo
 - Silicon Valley Power
 - Portions of NCPA

2009 LCR Greater Bay Area Greater Bay Area Load

Greater Bay Area 2009 1-in-10 Year Load Representation

Total Load = 10,041 MW
Transmission Losses = 253 MW
Total Load + Losses = 10,295 MW

2009 LCR Greater Bay Area Greater Bay Area LCR

-  The most critical contingency is the loss of the Tesla-Metcalf 500kV line with Delta Energy Center out of service. The area limitation is reactive margin within the Bay Area. Last year's limiting element (Tesla #6 500/230kV) has been re-rated.
-  This limiting contingency establishes an LCR of 4791 MW in 2009 (includes 215 MW of Wind, 641 MW of QF and 255 MW of Muni generation) as the minimum capacity necessary for reliable load serving capability within this area.

2009 LCR Greater Bay Area

Greater Bay Area LCR

2009	Wind (MW)	QF/Selfgen (MW)	Muni (MW)	Market (MW)	Max. Qualifying Capacity (MW)
Available generation	215	641	255	5662	6773

2009	Existing Generation Capacity Needed (MW)	Deficiency (MW)	Total MW LCR
Category B (Single)	4791	0	4791
Category C (Multiple)	4791	0	4791

2009 LCR Greater Bay Area San Francisco Sub Area

- Per the CAISO Revised Action Plan for SF, all Potrero units (360 MW) will continue to be required until completion of the plan as it is presently described.
- The most critical LCR contingency is an overlapping outage of the H-P #3 & #4 115 kV cables between Martin and Hunters Point Substations. The area limitation is thermal overloading of the remaining H-P #1 115 kV cable.

2009 LCR Greater Bay Area Oakland Sub Area

- The most critical contingency is an outage of the D-L 115 kV cable (with one of the Oakland CTs off-line).
- The sub-area area limitation is thermal overloading of the C-X #2 115 kV cable.
- This limiting contingency establishes a LCR of 101 MW (includes 49 MW of Muni generation) as the minimum capacity necessary for reliable load serving capability within this sub-area.

2009 LCR Greater Bay Area Llagas Sub Area

- The most critical contingency is an outage between Metcalf D and Morgan Hill 115 kV (with one of the Gilroy Peakers off-line). The area limitation is voltage at Morgan Hill.
- This limiting contingency establishes a LCR of 112 MW (include 0 MW of QF/Muni generation) as the minimum capacity necessary for reliable load serving capability within this sub-area.

2009 LCR Greater Bay Area San Jose Sub Area

- The most critical contingency in this area is an overlapping outage of either Metcalf-EI Patio #1 or #2 115 kV Lines and the Metcalf-Evergreen #1 115 kV line.
- The limiting element is overloading of the Metcalf-Evergreen #2 115 kV line.
- This establishes a LCR of 259 MW (includes 48 MW QF and 202 MW Muni) as the minimum capacity necessary for reliable load serving capability within this sub-area.
- Reconductor of Metcalf-EI Patio 115 kV lines shifted problem to the Metcalf-Evergreen 115 kV lines.

2009 LCR Greater Bay Area Pittsburg Sub Area

- The most critical contingency is an outage of the Pittsburg-Tesla #1 or #2 230 kV line (with Delta Energy Center off-line).
- The sub-area area limitation is thermal overloading of the parallel Pittsburg-Tesla 230 kV line.
- This limiting contingency establishes a LCR of 2160 MW (including 504 MW QF) as the minimum capacity necessary for reliable load serving capability within this sub-area.

Changes since the 2008 LCR study

Total Bay Area LCR has slightly increased

- Load forecast is up by 424 MW
- A few small resources modeled in the area
- Gateway Power Plant modeled in the area
- Re-rate of Tesla #4 & #6 banks (old 1122 MVA, new 1346 MVA 4 Hr. Emergency Rating)
- Addition of H-P #4 115kV Cable in San Francisco. (4/1/2009).
- Major path flows in Northern California have changed slightly with COI up 500 MW N-S and Path 15 down 300 S-N. No clear correlation has been established before on major path flows vs. reactive margin in the Bay Area.
- Reactive Margin is a non-linear function
- Overall the LCR has increased by 103 MW

Stakeholder Comments



Your comments and questions are welcome

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