

Year 2008 Local Capacity Requirements Study Greater Bay Area

Summary of Findings

Joseph Meier
jmeier@caiso.com
Regional Transmission Engineer
March 21, 2007

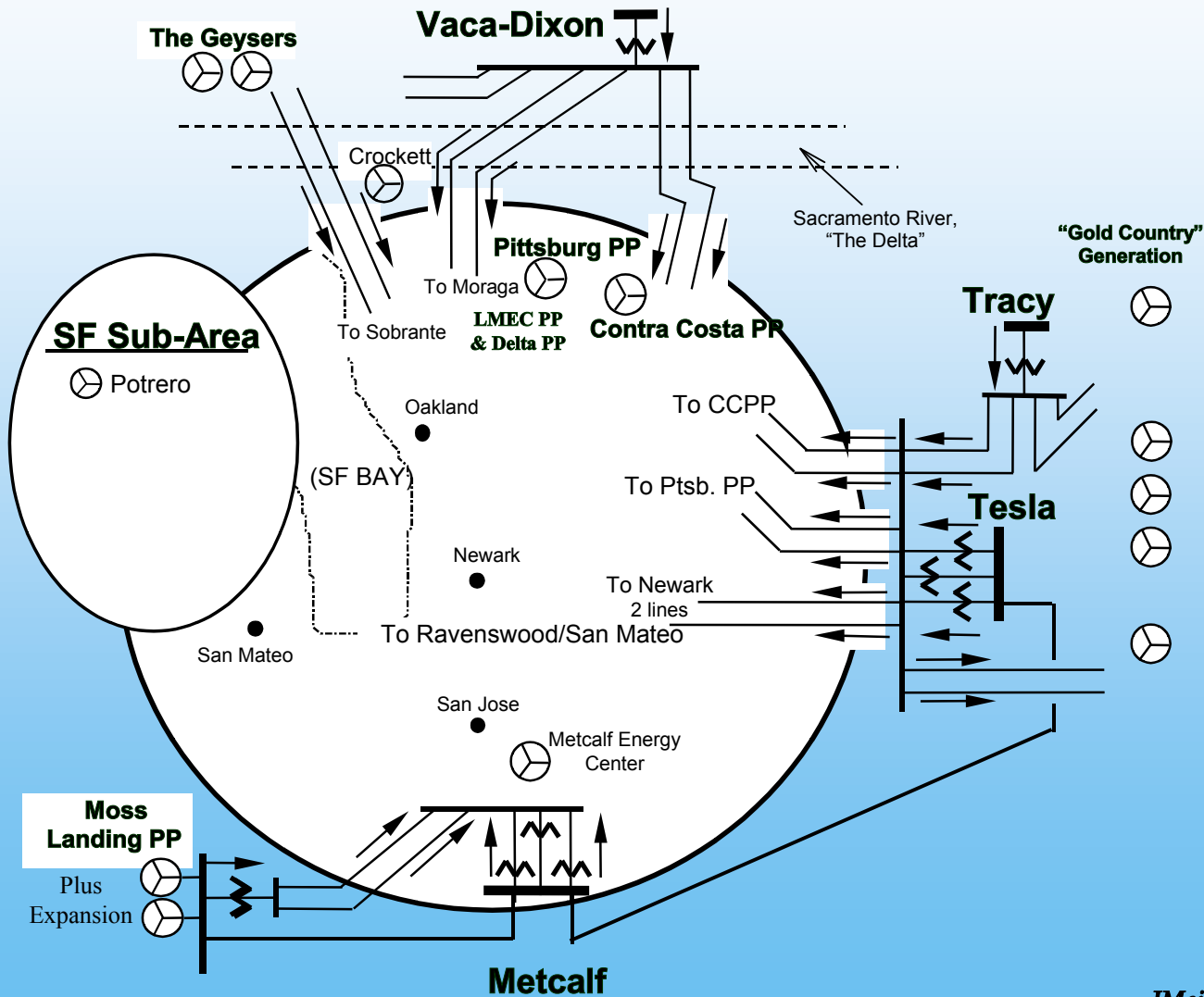


General Greater Bay Area Geographic Area





Greater Bay Area Transmission System





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.

1. San Francisco
2. Peninsula
3. DeAnza
4. San Jose
5. Mission
6. East Bay
7. Diablo
8. Silicon Valley Power
9. Portions of NCPA

Greater Bay Area

2008 1-in-10 Year Load Representation

Total Load = 9602 MW

Transmission Losses = 268 MW

Total Load + Losses = 9870 MW

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 thermal overloading of the Tesla #6 500/230 kV transformer and reactive margin within the Bay Area.

This limiting contingency establishes a Local Capacity Requirement of 4668 MW in 2008 (includes 150 MW of Wind, 722 MW of QF and 244 MW of Muni generation) as the minimum capacity necessary for reliable load serving capability within this area.

Greater Bay Area LCR

2008	Wind (MW)	QF/Selfgen (MW)	Muni (MW)	Market (MW)	Max. Qualifying Capacity (MW)
Available generation	150	722	244	5098	6214

2008	Existing Generation Capacity Needed (MW)	Deficiency (MW)	Total MW Requirement
Category B (Single)	4688	0	4688
Category C (Multiple)	4688	0	4688

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 two 115 kV cables between Martin and Hunters Point Substations. The area limitation is thermal overloading of the Martin-Bay Shore-Potrero 115 kV #1 and #2 cables. (A-H-W #1 & #2)

This limiting contingency requires all of the existing Potrero Power plant generation (Potrero units 3-6) 360 MW be on-line as the minimum capacity necessary for reliable load serving capability within this sub-area.

JMeier/CAISO

Regional Transmission

Oakland Sub-Area

The most critical contingency is an outage of the D-L 115 kV cable (with one of the Oakland CT's off-line).

The sub-area area limitation is thermal overloading of the C-X #2 115 kV cable.

This limiting contingency establishes a Local Capacity Requirement of 110 MW. This includes 50 MW of Alameda Muni generation as the minimum capacity necessary for reliable load serving capability within this sub-area.

Llagas Sub-Area

The most critical contingency is an outage between Metcalf D and Morgan Hill 115 kV (with one of the Gilroy Peaker off-line).

The area limitation is thermal overloading of the Metcalf-Llagas 115 kV line. As documented within a CAISO Operating Procedure, this limitation is dependent on power flowing in the direction from Metcalf to Llagas/Morgan Hill.

This limiting contingency establishes a Local Capacity Requirement of 112 MW as the minimum capacity necessary for reliable load serving capability within this sub-area.



San Jose Sub-Area

No LCR issues in this area mainly because of Metcalf-El Patio 115kV line reconductoring project.

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 Local Capacity Requirement of 2123 MW (including 678 MW of QF generation) as the minimum capacity necessary for reliable load serving capability within this sub-area.

GBA System Changes Between 2007 & 2008

1. Addition of new 500/230kV bank at Vaca Tesla substation.
2. NQC Changes – QF units adjusted to historical levels.
3. Greater Bay Area load growth from 9633 MW in 2007 to 9870 MW in 2008.



California ISO
Your Link to Power

California Independent
System Operator Corporation

Stakeholder Comments

JMeier/CAISO
Regional Transmission