

2012 Final LCR Study Results Greater Bay Area

Bryan Fong

Sr. Regional Transmission Engineer

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 November-10
- Transbay DC Cable November-10
- Oakland C-X#3 115kV Cable Addition August-10
- San Mateo Bay Meadows 115kV #1 & #2 Line Reconductoring May-11





Power plant changes

Additions:

• Four Wind farms connected to Birds Landing (~ 340 MW P max)

Retirements:

• Potrero #3, #4, #5 and #6





Greater Bay Area Load

2012 1-in-10 Year Load Representation

Total Load = 9493 MW Transmission Losses = 197 MW Pumps = 264 MW Total Load + Losses + Pumps = 9954 MW



San Francisco Sub Area

San Francisco Sub-area

- Potrero units are no longer needed after completion of
 - Trans Bay DC Cable Project, and
 - SF Recabling Project
- LCR Need: 0 MW (includes 0 MW of QF/Muni generation)





San Jose Sub Area

San Jose Sub-area – Category B

No LCR needs

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: 352 MW (includes 255 MW of QF/Muni generation)
- Limiting component: Thermal overload of Evergreen–San Jose B 115 kV



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: 100 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 B

No LCR needs

Oakland Sub-area – Category C

- Contingency: overlapping C-X #2 and C-X #3 115 kV Cables
- LCR need: 55 MW (includes 49 MW of QF/Muni generation)
- Limiting component: Thermal overload on the D-L 115kV line

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



Pittsburg/Oakland Sub Area

Pittsburg/Oakland Sub-area – Category B

- Contingency: Moraga #3 230/115 kV Bank
- LCR need: 2729 MW (includes 448 MW of QF/Muni generation)
- Limiting component: Thermal overload on Moraga #1 230/115 kV Bank

Pittsburg/Oakland Sub-area – Category C

- Contingency: Moraga #3 230/115 kV Bank and Delta Energy Center
- LCR need: 3008 MW (includes 448 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



Contra Costa Sub Area (new)

Contra Costa Sub-area – Category B

- Contingency: Kelso-Tesla 230 kV with the Gateway off line
- LCR need: 875 MW (includes 311 MW of QF/Muni generation and 264 MW of Muni pump load)
- Limiting component: Thermal overload on the Delta Switching Yard-Tesla 230 kV Line

Contra Costa Sub-area – Category C

Not binding





Greater Bay Area Overall

Bay Area Overall – Category B

Sum of sub-area Category B is binding at: 3647 MW

Bay Area Overall – Category C

Sum of sub-area Category C is binding at: 4278 MW





Greater Bay Area Total LCR

2012	Wind	QF/Selfgen	Muni	Market	Max. Qualifying
	(MW)	(MW)	(MW)	(MW)	Capacity (MW)
Available generation	261	532	519	5276	6588

2012	Existing Generation	Deficiency	Total MW
	Capacity Needed (MW)	(MW)	LCR
Category B (Single)	3647	0	3647
Category C (Multiple)	4278	0	4278



Changes

Since our last stakeholder meeting:

1) Revised Generation Profile

- Removed Russell City Generation due to construction delay
- Revised NQC

2) Adjusted load to match CEC forecast

- Load forecast increased by 345 MW
- Thee are about 600 MW of load behind the meter modeled

3) Revised LCR

- LCR need increased by 97 MW for Category B
- LCR need increased by 184 MW for Category C



Changes

Since last year:

- 1) Load forecast is lower by 368 MW
- 2) LCR need has decreased by 426 MW from last year
- 3) New Contra Costa Pocket due to the increased Delta pump load and the required pocket generation for mitigation
- 4) Sum of sub-area LCR needs is enough to satisfy the overall Bay Area requirement (57 MW are common for Pittsburg and Contra Costa sub-areas)

Your comments and questions are welcome.

For written comments, please send to: <u>RegionalTransmission@caiso.com</u>

