

# 2011 Final 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 256 MW of QF/Muni generation, as well as 74 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 531 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 531 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 1210 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 1210 MW of QF/Muni/Wind generation)
- Limiting component: Reactive margin within the Bay Area



# **Greater Bay Area Total LCR**

2011	Wind	QF/Selfgen	Muni	Market	Max. Qualifying
	(MW)	(MW)	(MW)	(MW)	Capacity (MW)
Available generation	174	624	412	5296	6506

2011	Existing Generation	Deficiency	Total MW
	Capacity Needed (MW)	(MW)	LCR
Category B (Single)	4036	0	4036
Category C (Multiple)	4804	74	4878



# 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 227 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



California ISO