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# 2011 Draft LCR Study Results Humboldt and North Coast/ North Bay

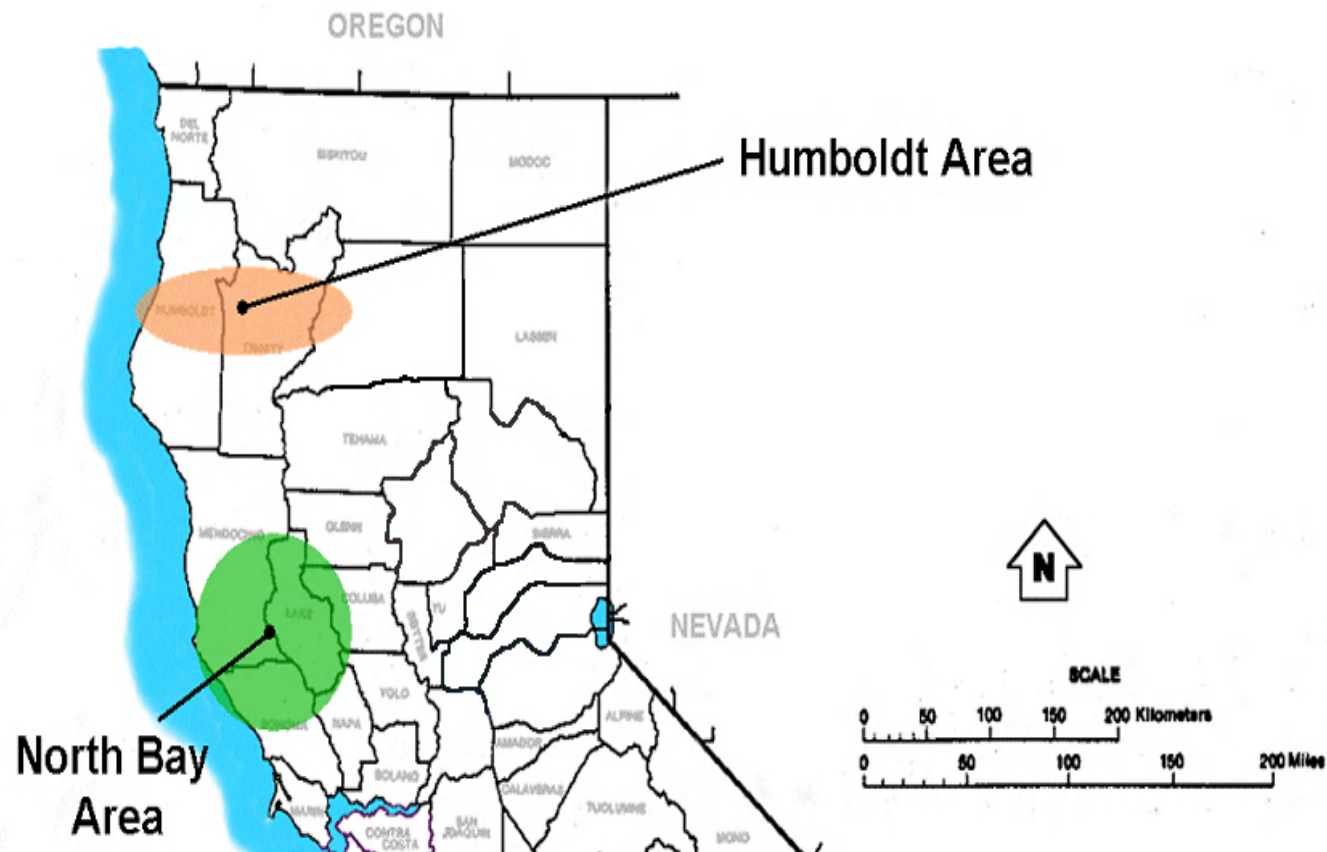
Paul Didsayabutra

Senior Regional Transmission Engineer

Stakeholder Meeting

March 10, 2010

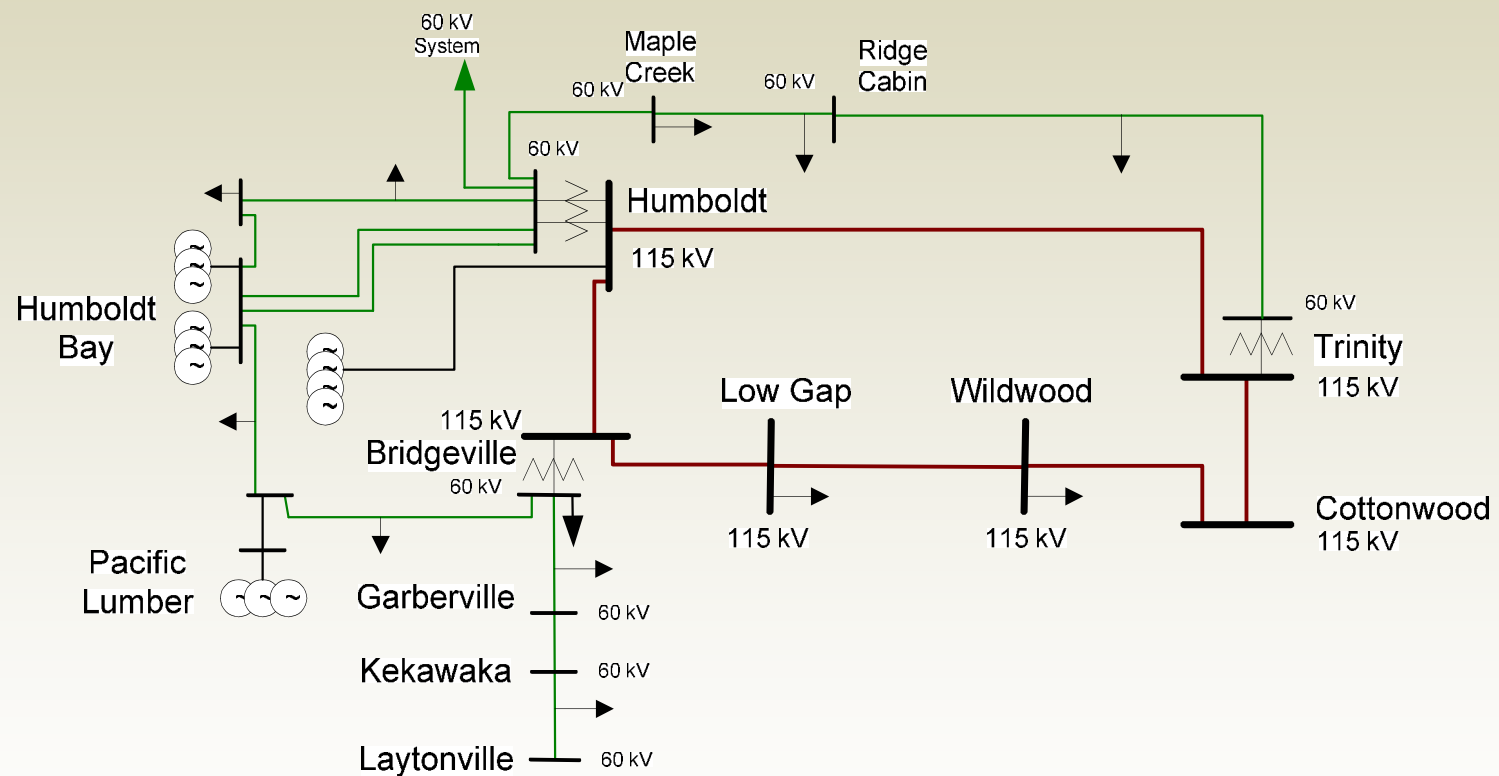
# Humboldt and North Coast/North Bay Areas



# Humboldt Load and Resources (MW)

		<b>2011</b>
Load	=	197
Transmission Losses	=	9
Total Load	=	<b>206</b>
Market Generation	=	166
Muni Generation	=	0
QF/Self-Gen Generation	=	56
Total Qualifying Capacity	=	<b>222</b>

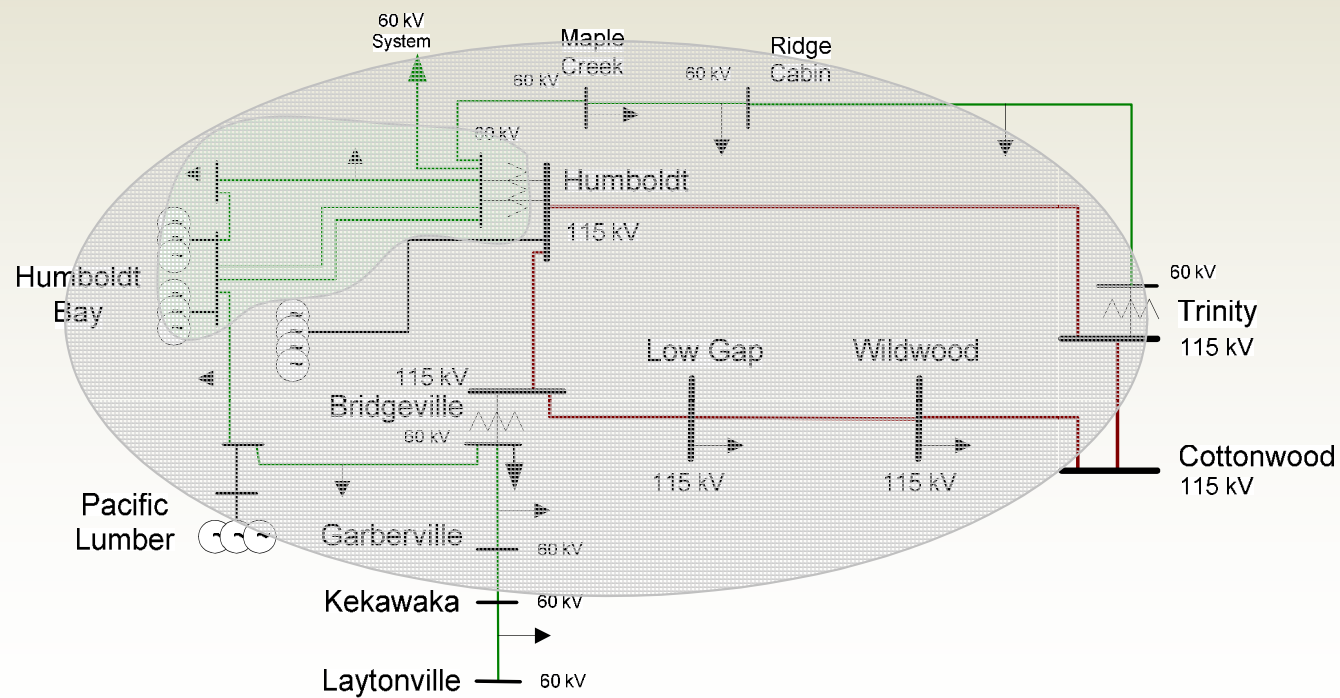
# Critical Contingencies Humboldt Area



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Two types of requirements:

- Humboldt 60 kV Pocket
- Entire Humboldt area



# Critical Contingencies

## Humboldt 60 kV Sub-area

### **Humboldt 60 kV Sub-area – Category B**

Contingency: The outages of one Humboldt 115/60 kV Transformer and one unit of the New Humboldt Bay (on 60 kV side)

LCR need: 163 MW (including 56 MW of QF/Self generation and 7 MW of deficiency)

Limiting component: Thermal overload on the parallel Humboldt 115/60 kV Transformer

### **Humboldt 60 kV Sub-area – Category C**

Contingency: The outages of one Humboldt 115/60 kV Transformer and one of the tie-line connecting the New Humboldt Bay units (on 60 kV side)

LCR need: 174 MW (including 56 MW of QF/Self generation and 18 MW of deficiency)

Limiting component: Thermal overload on the parallel Humboldt 115/60 kV Transformer

# Critical Contingencies Humboldt Area

## **Humboldt Overall – Category B**

Nothing extra to the single contingency for the 60 kV pocket.

## **Humboldt Overall – Category C**

Contingency: The outages of Cottonwood – Bridgeville 155 kV line overlapping with an outage of one of the tie-line connecting the New Humboldt Bay Units

LCR need: 188 MW (including 56 MW of QF/Self generation)

Limiting component: Thermal overload on the Humboldt -Trinity 115kV Line

# Changes

## Since last year:

- 1) The new Humboldt Bay Repowering Project (HBPP) is modeled
- 2) Two new transmission projects are modeled
  - Maple Creek Reactive Support
  - Garberville

While load is lower but total LCR need has increased since system conditions have changed and different limitation is identified

- Reactive power is no longer the most critical contingency
- The HBPP project changes the amount of generation on 115 and 60 kV sides

**Your comments and questions are welcome.**

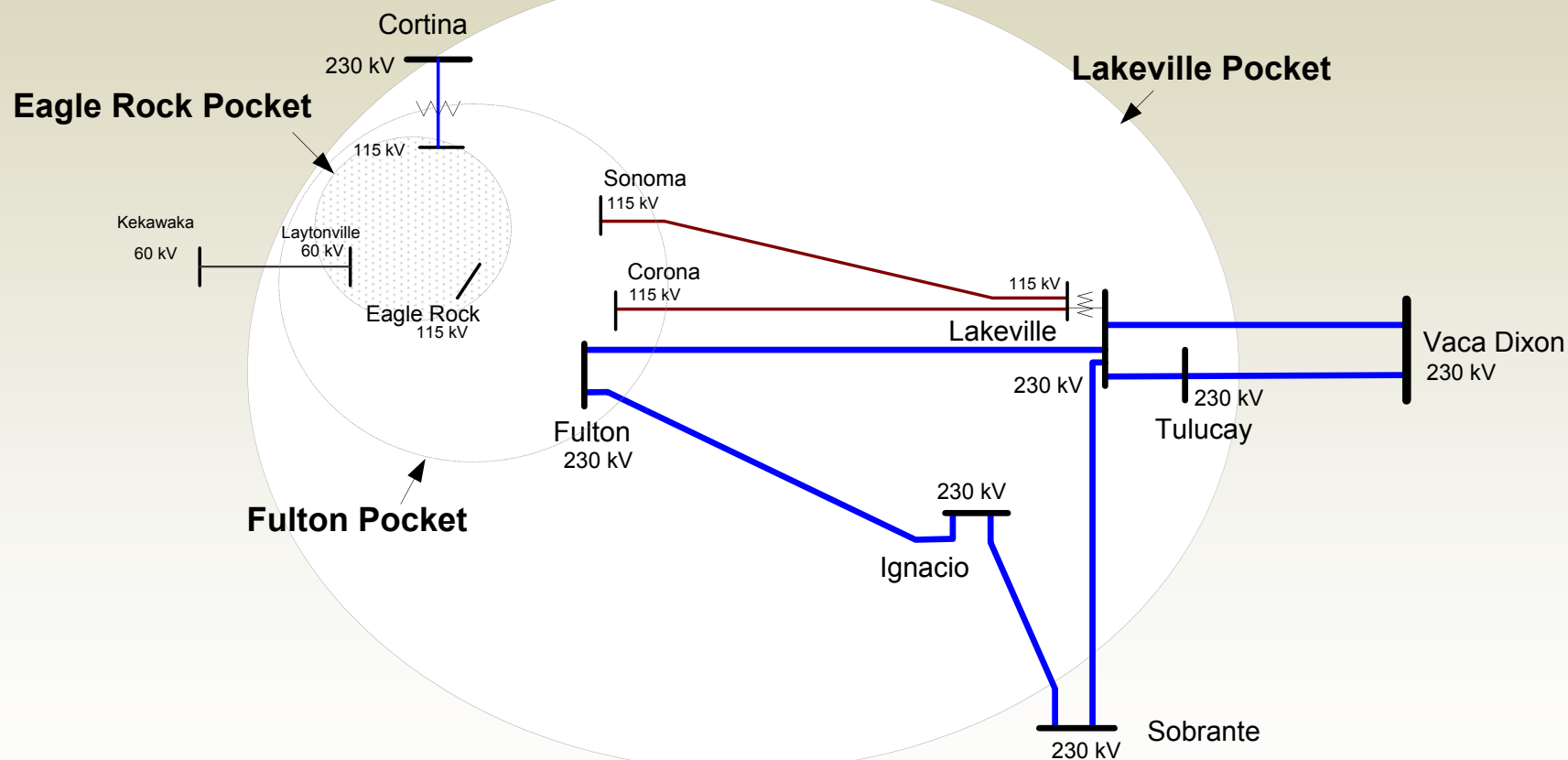
**For written comments, please send to: [RegionalTransmission@caiso.com](mailto:RegionalTransmission@caiso.com)**



## North Coast/Bay Load and Resources (MW)

		<b>2011</b>
Load	=	1511
Transmission Losses	=	63
Total Load	=	<b>1574</b>
Market Generation	=	736
Muni Generation	=	131
QF Generation	=	18
Total Qualifying Capacity	=	<b>885</b>

# North Coast and North Bay



# Eagle Rock Sub-Area

## **Eagle Rock Sub-area – Category C**

Contingency: Eagle Rock-Silverado- Fulton 115 kV line and Cortina #4 230/115 kV bank.

LCR need: 217 MW (includes 3 MW of QF/Muni generation)

Limiting component: Thermal overload on Fulton-Hopland 60 kV line

## **Eagle Rock Sub-area – Category B**

Contingency: Cortina #4 230/115 kV bank.

LCR need: 93 MW (includes 3 MW of QF/Muni generation)

Limiting component: Thermal overload on Fulton-Hopland 60 kV line

# Fulton and Lakeville Sub-areas

## **Fulton Sub-area – Category C**

Contingency: Lakeville-Ignacio #1 230 kV line and Crocket-Sobrante #1 230 kV line.

LCR need: 546 MW (includes 17 of QF and 64 MW of Muni generation)

Limiting component: Thermal overload on Fulton-Lakeville #1 230 kV line

## **Lakeville Sub-area (NC/NB Overall) – Category B**

Contingency: Vaca Dixon-Lakeville 230 kV line and DEC power plant out of service

LCR need: 821 MW (includes 149 MW of QF/Muni generation)

If DC run-back scheme is used, only 734 MW is required

Limiting component: Thermal overload on the Vaca Dixon-Tulucay 230 kV line

# Changes

## Since last year:

- 1) Load forecast is down by 40 MW
- 2) Total LCR need has increased by 38 MW

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