2019 & 23 Draft LCR Study Results Humboldt and North Coast/North Bay Areas

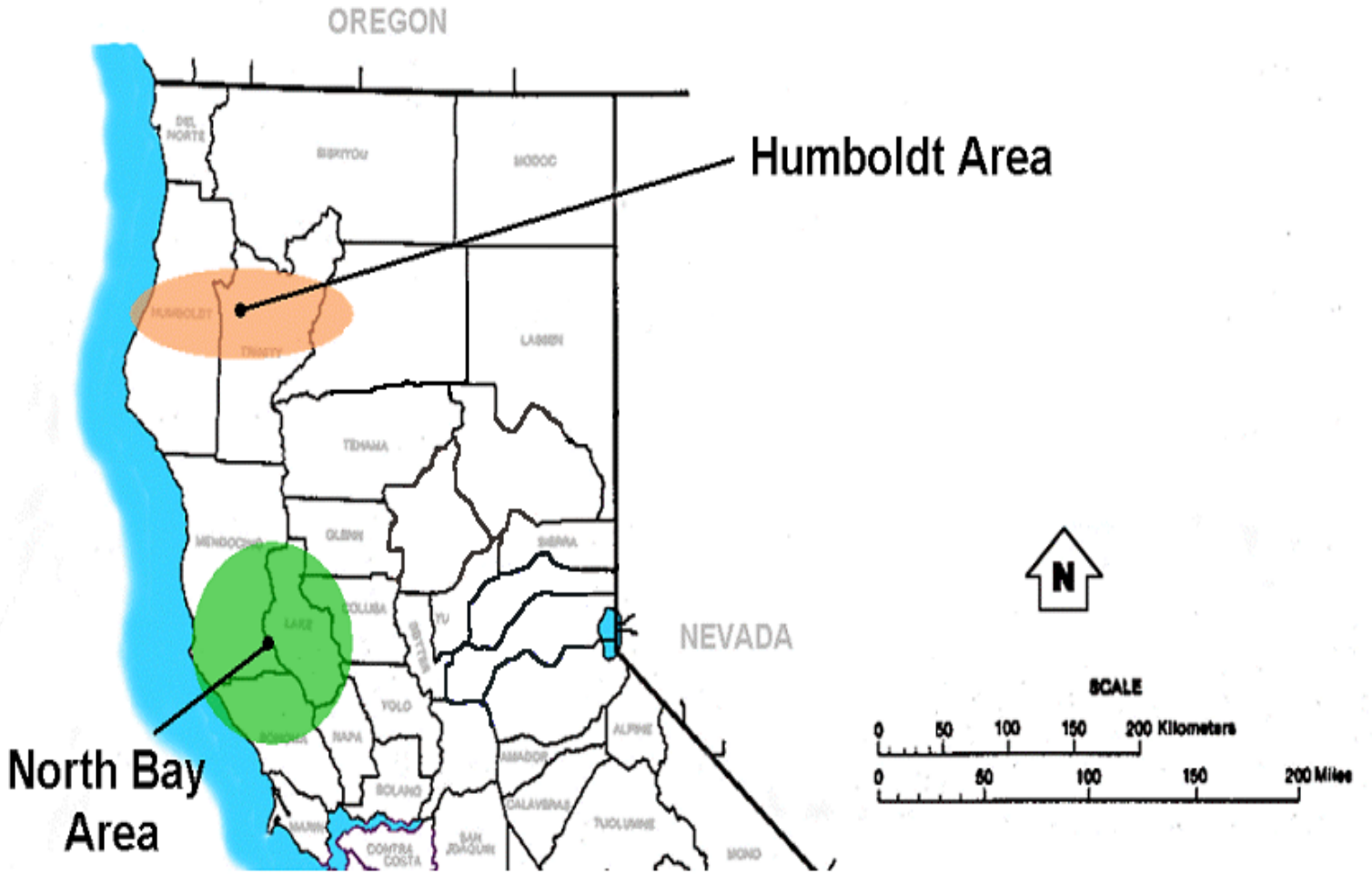
Bryan Fong

Senior Regional Transmission Engineer

Stakeholder Meeting

April 9, 2018

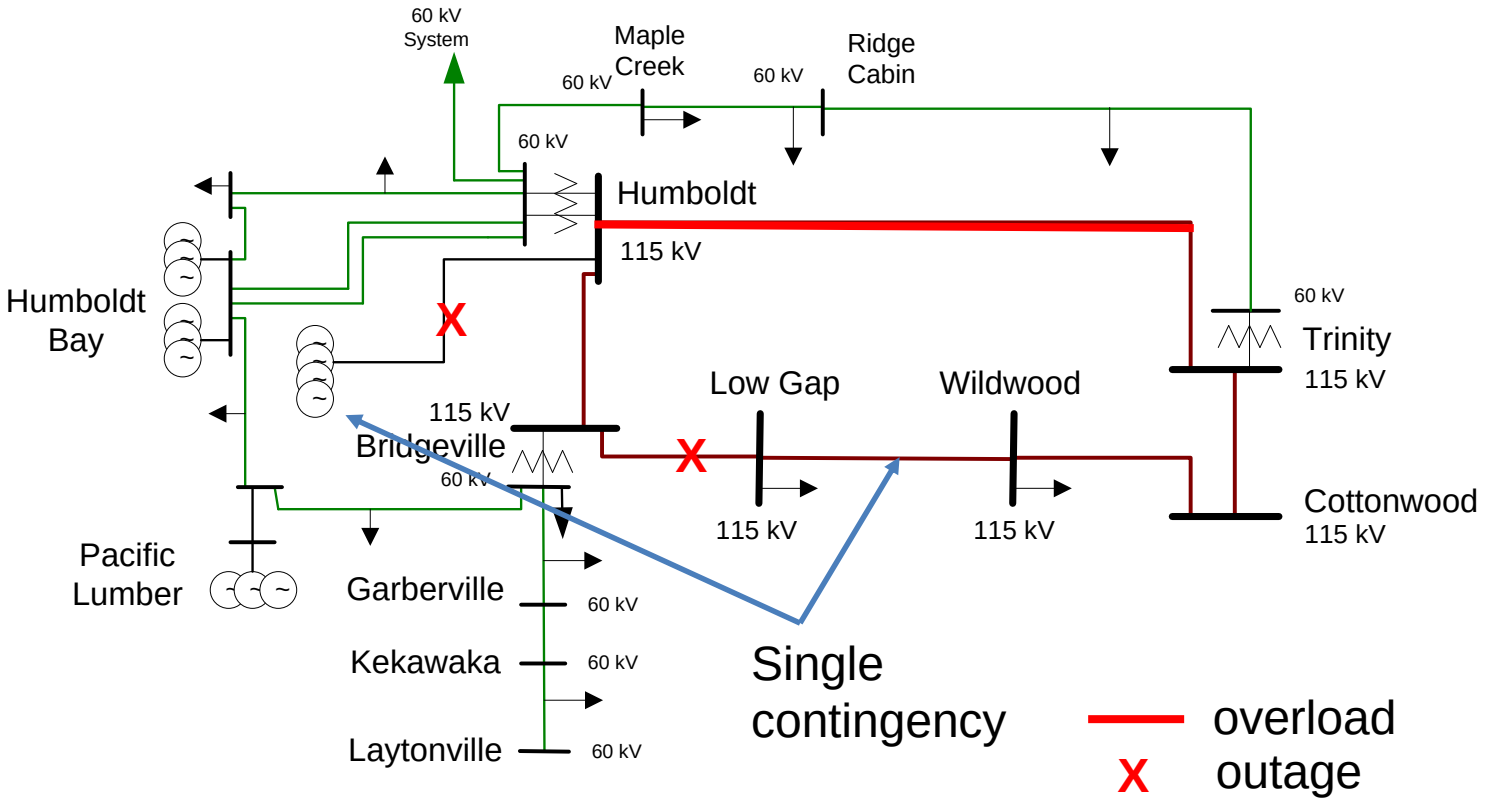
Humboldt and North Coast/North Bay



Humboldt Load and Resources (MW)

		2019	2023
Load	=	180	196
AAEE	=	-5	-19
Transmission Losses	=	12	12
Total Load	=	**187**	**188**
Market Generation	=	202	202
QF/Self-Gen Generation	=	0	0
Total Qualifying Capacity	=	**202**	**202**

Critical Contingencies
Humboldt Area



Critical Contingencies Humboldt Area

Humboldt Overall – Single Contingency Winter Peak

Contingency: Cottonwood-Bridgeville 115 kV line + one Humboldt PP units out of service
Limiting component: Thermal overload on Humboldt -Trinity 115 kV line
2019 LCR Need: 116 MW
2023 LCR Need: 111 MW

Humboldt Overall – Double Contingencies Winter Peak

Contingency: Cottonwood – Bridgeville 115 kV line + Humboldt – Humboldt Bay 115kV line
Limiting component: Thermal overload on Humboldt -Trinity 115 kV line
2019 LCR need: 165 MW
2023 LCR need: 169 MW

Changes

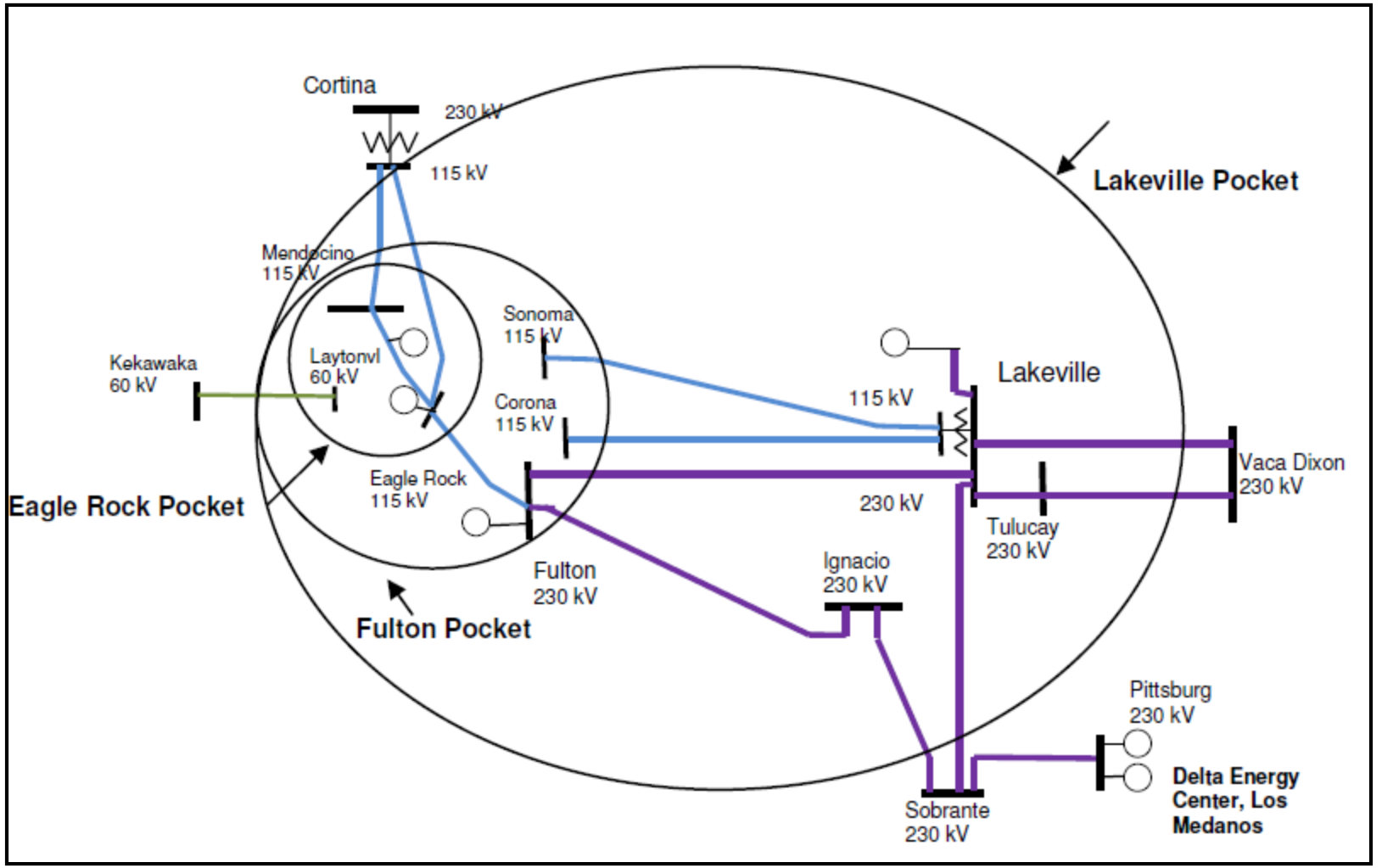
Since last year:

1) Updated NQC.
2) Load did not change in 2019 compared with 2018
3) LCR decreased by 4 MW in 2019 compared to 2018.
4) Load went down by 2 MW in 2023 compared with 2022
5) LCR remained the same in 2023 compared to 2022.

North Coast/North Bay Load and Resources (MW)

		2019	2023
Load	=	1500	1557
AAEE	=	-18	-60
Behind the meter DG	=	-56	-15
Transmission Losses	=	40	42
Total Load	=	**1465**	**1524**
Market Generation	=	736	736
Wind Generation	=	0	0
Muni Generation	=	114	114
QF Generation	=	5	5
Total Qualifying Capacity	=	**855**	**855**

North Coast and North Bay



New major transmission projects

2019:

None

2023:

Vaca Dixon-Lakeville 230 kV Corridor Series Compensation

Eagle Rock Sub-Area

Eagle Rock Sub-area – Single Contingency

Contingency: Cortina-Mendocino 115 kV line, with Geyser #11 unit out

2019 LCR need: 212 MW

2023 LCR need: 238 MW

Limiting component: Thermal overload on Eagle Rock-Cortina 115 kV line

Eagle Rock Sub-area – Double Contingency

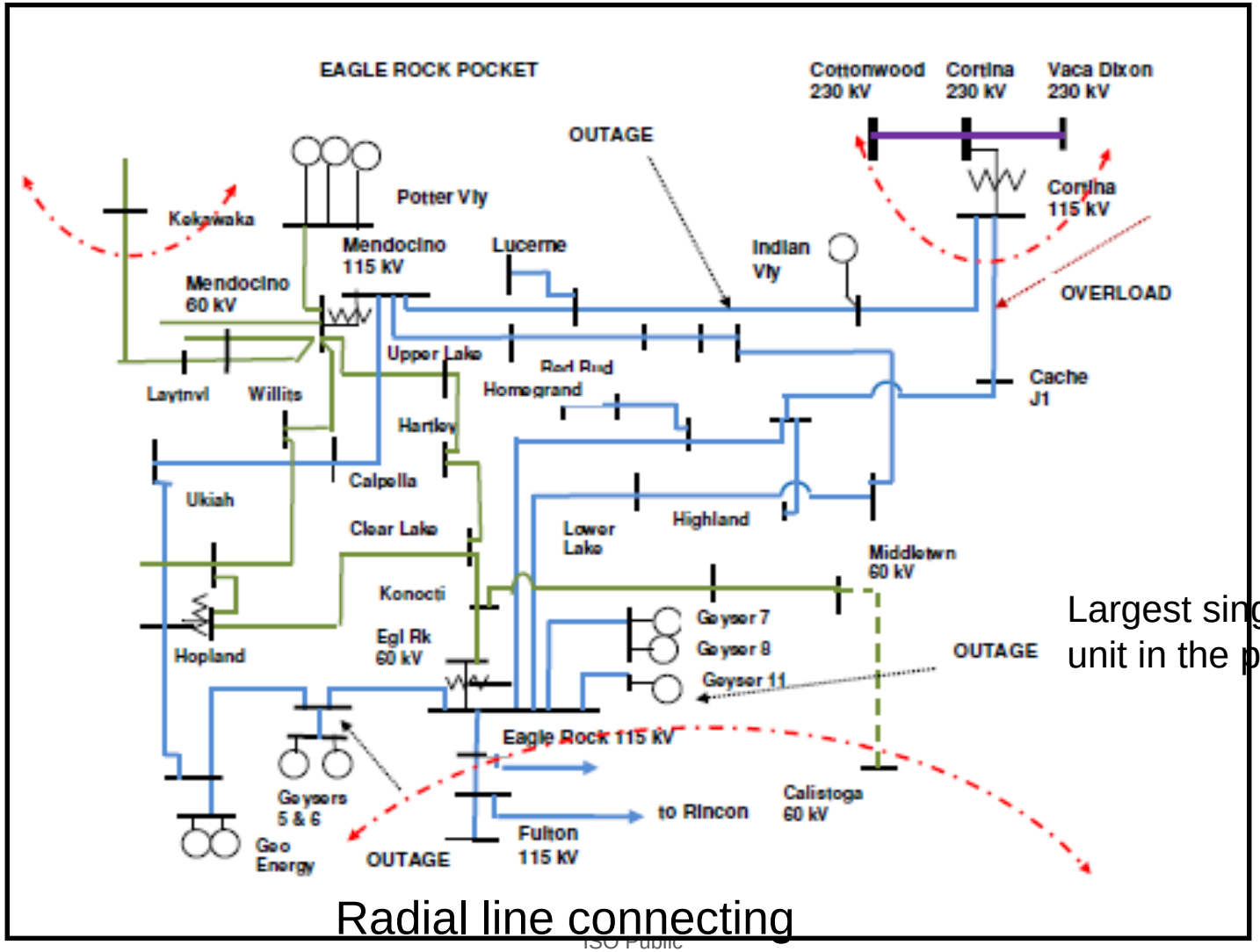
Contingency: Cortina-Mendocino and Geysers #3-Geysers #5 115 kV lines

2019 LCR need: 228 MW

2023 LCR need: 257 MW

Limiting component: Thermal overload on Eagle Rock-Cortina 115 kV line

Eagle Rock Sub-Area



Largest single unit in the pocket

Radial line connecting two units

Fulton Sub-area

Fulton Sub-area – Single Contingency

No requirement

Fulton Sub-area – Double Contingency

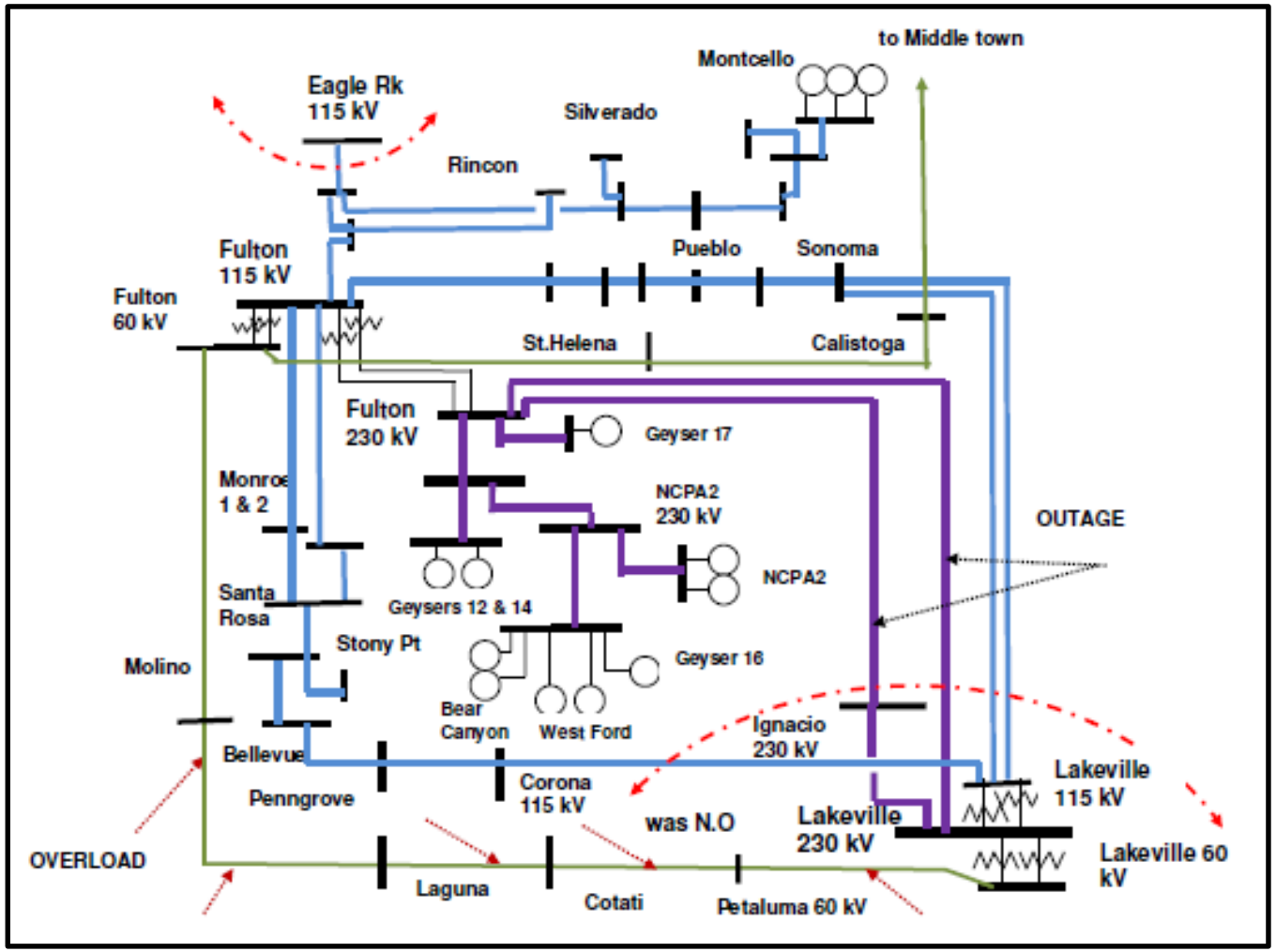
Contingency: Fulton-Lakeville and Fulton-Ignacio 230 kV lines

Limiting component: Thermal overload on Lakeville# 2 60 kV line (Lakeville-Petaluma-Cotati 60 kV)

2019 LCR need: 525 MW

2023 LCR need: 553 MW

Fulton Sub-area



Lakeville Sub-area

Lakeville Sub-area (NCNB Overall) – Category B

Contingency: Vaca Dixon-Tulucay 230 kV line with Delta Energy Center power plant out of service

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

Ames/Pittsburg/Oakland Sub-area – Category C

Contingency1: DCTL Newark-Ravenswood & Tesla-Ravenswood 230 kV

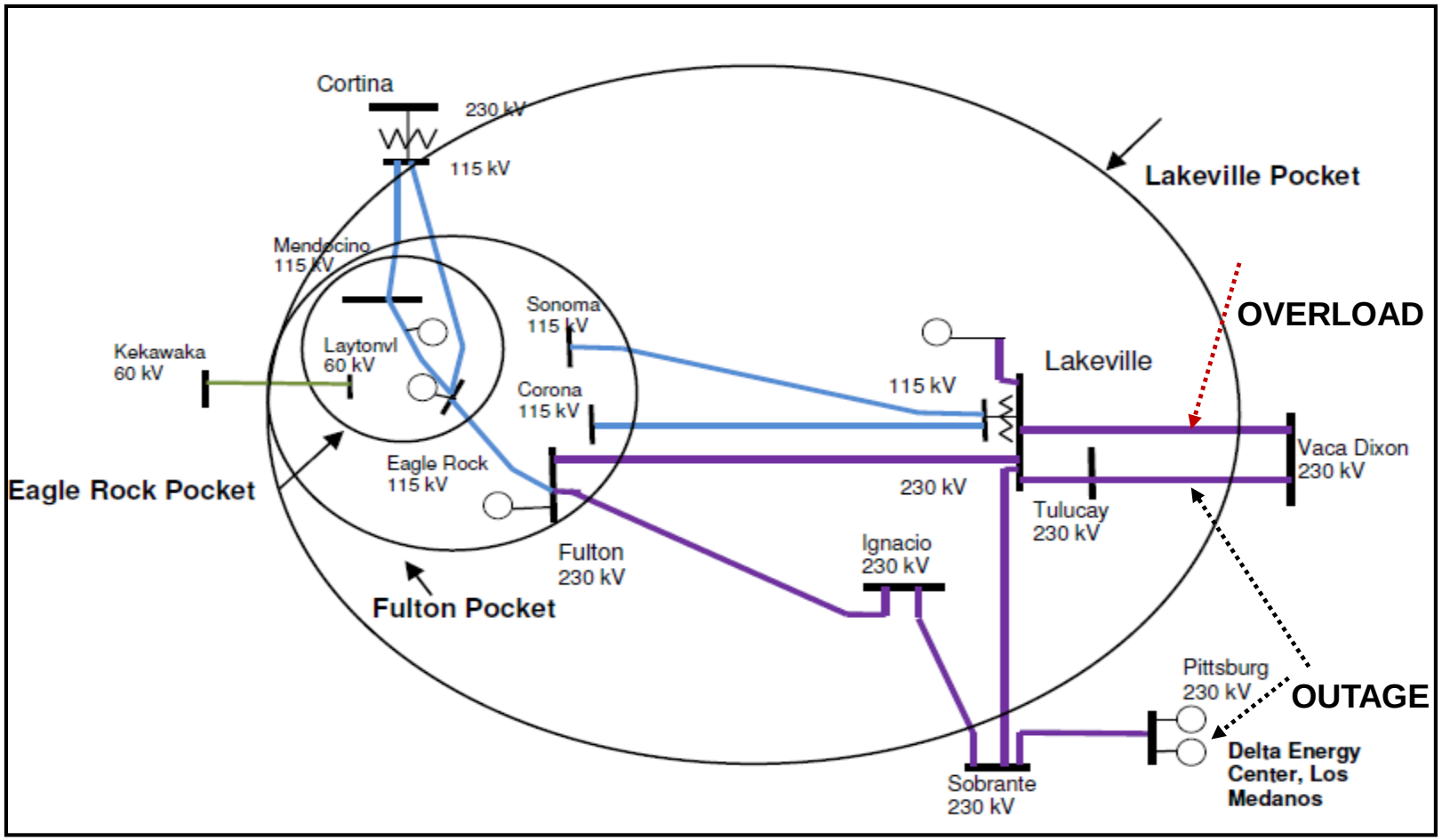
Limiting component: Thermal overload on the Ames-Ravenswood #1 115 kV line

Contingency2: Moraga-Sobrante & Moraga-Claremont #1 115 kV

Limiting component: Thermal overload on the Moraga-Claremont #2 115 kV line

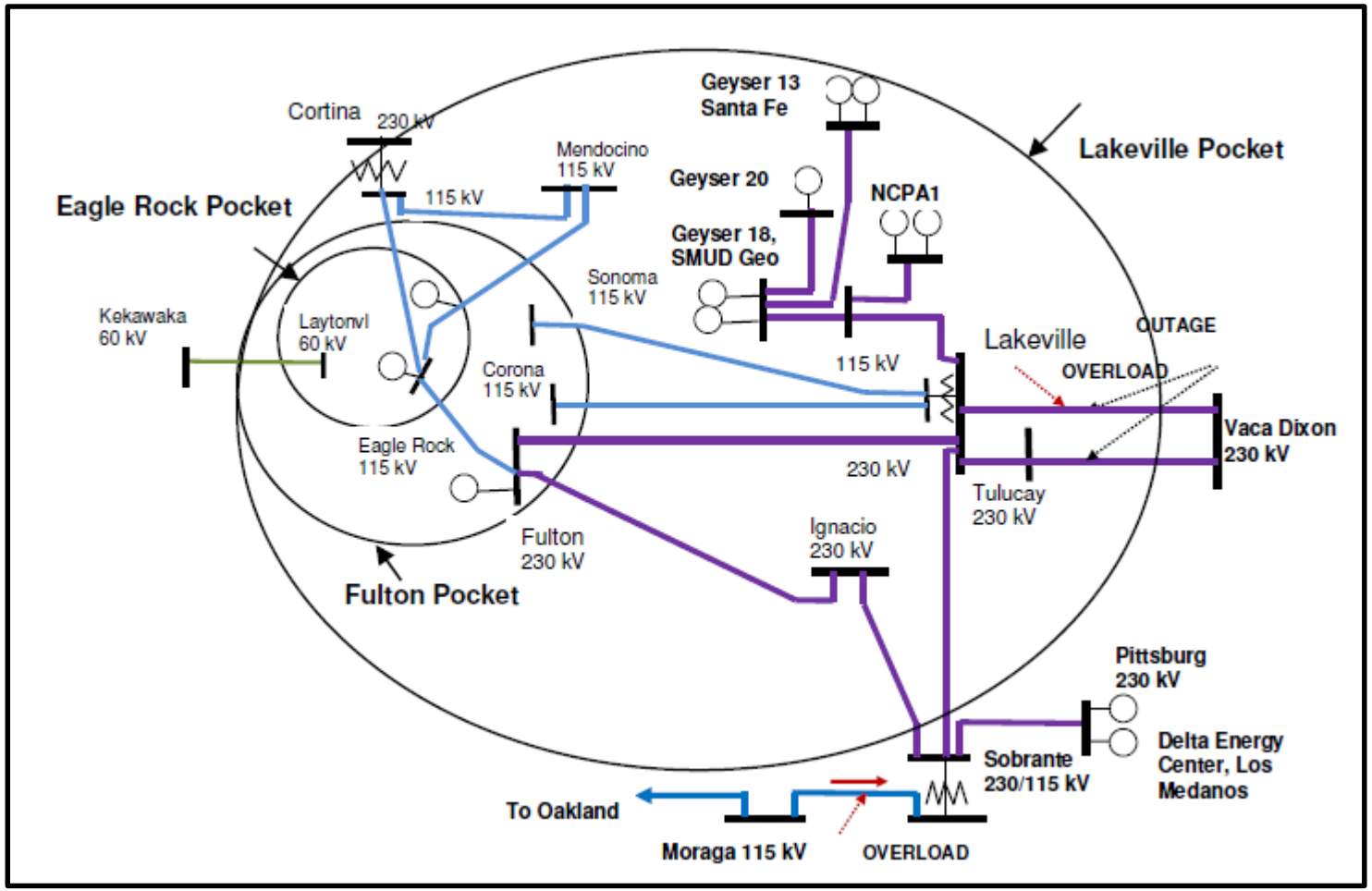
	2019 LCR need:	2023 LCR need:
NCNB:	689 MW	553 MW
Ames/Pittsburg/Oakland :	1741 MW	1630 MW

Lakeville sub-area one line and generator



LCR need depends on the generation in the Pittsburg/Ames/Oakland sub-areas.

Lakeville Sub-area double line outage



LCR need depends on the generation in the Pittsburg/Ames/Oakland sub-areas.

Changes

Since last year:

1) Updated NQC.
2) 2019 load forecast has increased by 167 MW vs. 2018
3) LCR need has increased in 2019 vs. 2018 by 55 MW mainly due to load increase.
4) 2023 load forecast has increased by 275 MW vs. 2022
5) LCR need has increased in 2023 vs. 2022 by 113 MW. In 2022 the Vaca Dixon – Lakeville 230 kV Reconductoring project was assumed in-service, which resulted in lower need identified. In the 2023 study the Vaca Dixon-Lakeville 230kV Line Reactor Project was assumed in-service.

THANK YOU

Your comments and questions are welcome.

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

Stay connected

@California_ISO

Download ISO Today mobile app

Sign up for the Daily Briefing at www.caiso.com