



California ISO
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10 Year
Anniversary 1998-2008

2010 LCR Study Fresno and Kern Local Areas

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Stakeholder Meeting

April 14, 2009

Fresno and Kern LCR Areas



Kern Area Overview

Area Generation, Load and Transmission

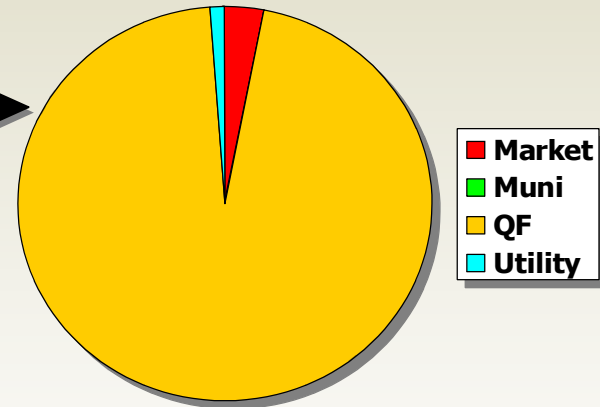
Kern LCR Area

Generation and Load:

- Generation (maximum capacity): **665 MW**
- Load (1-in-10 Summer-Peak): **1240 MW**

Network changes from 2009-2010:

- New Generation: **None**
- Transmission Upgrades: **None**



Kern Area LCR

Kern PP Sub-Area

Limiting Contingencies:

Category B:

- T-1: Kern PP 230/115 kV bank #5

Category C:

- T-1: Kern PP 230/115 kV bank #5
- L-1: Kern PP – Kern Front 115 kV line

Constrained Elements:

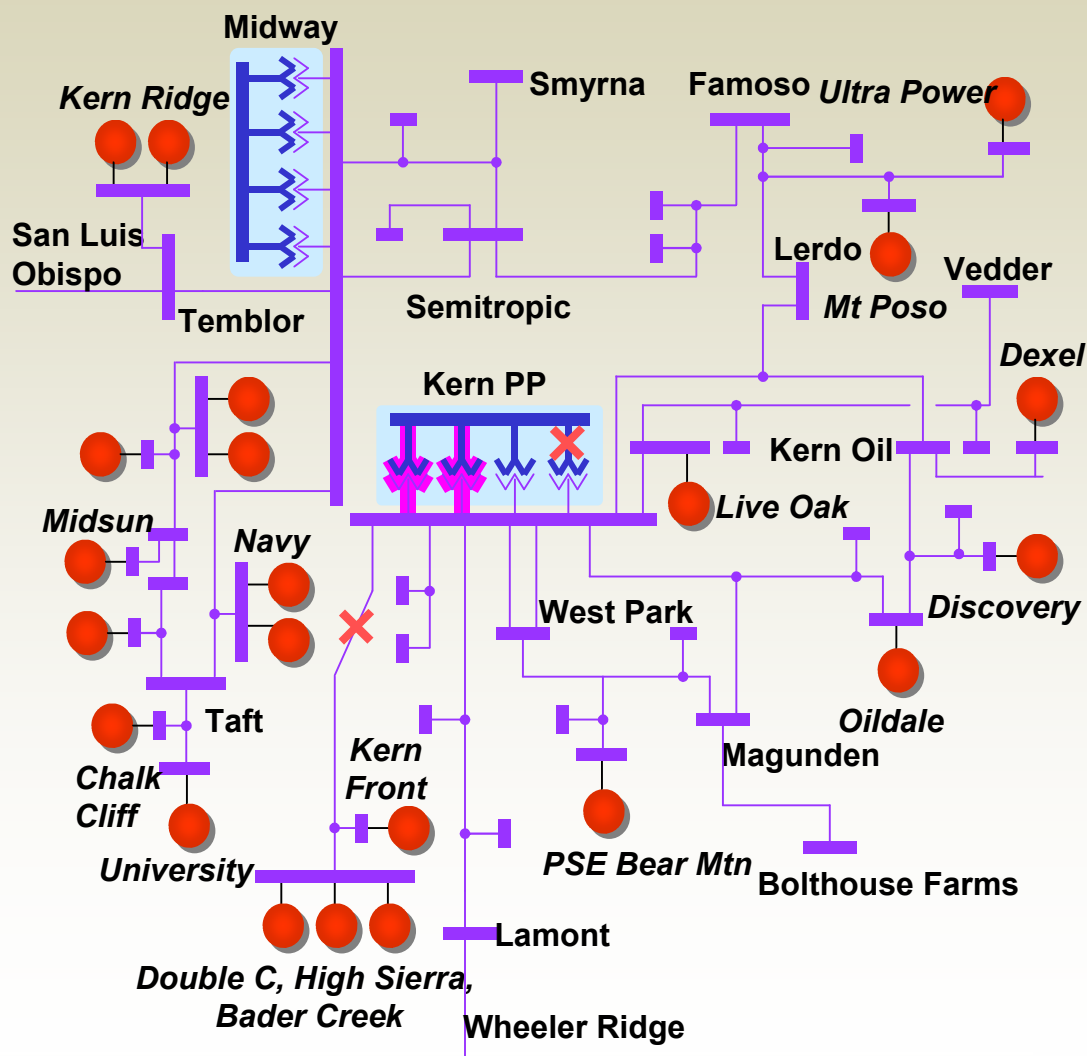
- Kern PP 230/115 kV bank #3
- Kern PP 230/115 kV bank #3a

LCR Results (MW):

Contingency	Cat. B	Cat. C
LCR	187	386

Including:

QF	648	648
Muni	0	0
Deficiency	0	0



Kern Area LCR

Weedpatch Sub-Area

Limiting Contingencies:

Category B:

None

Category C:

- L-1: Wheeler Ridge – San Bernard 70 kV line
- L-1: Wheeler Ridge – Tejon 70 kV line

Constrained Element:

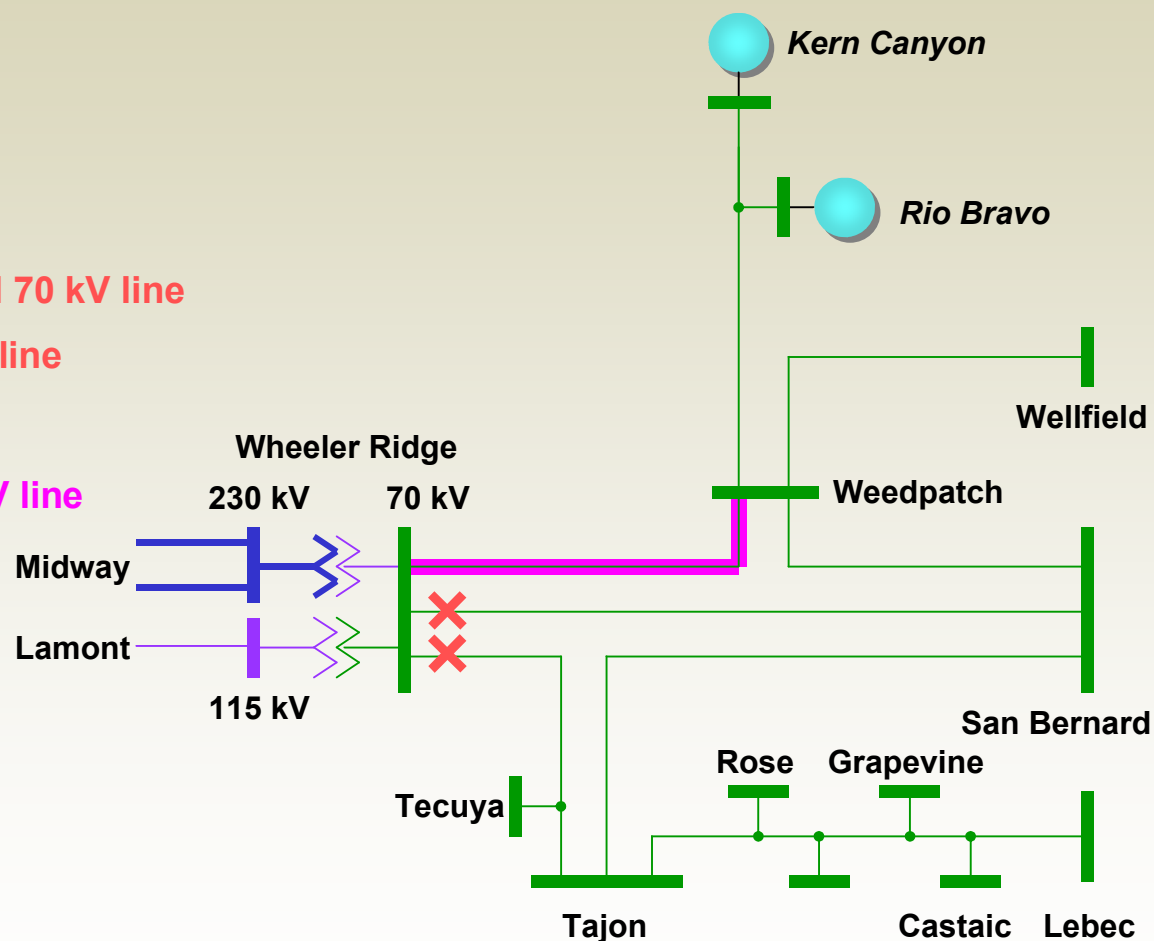
- Wheeler Ridge – Weedpatch 70 kV line

LCR Results (MW):

Contingency	Cat. B	Cat. C
LCR	0	18

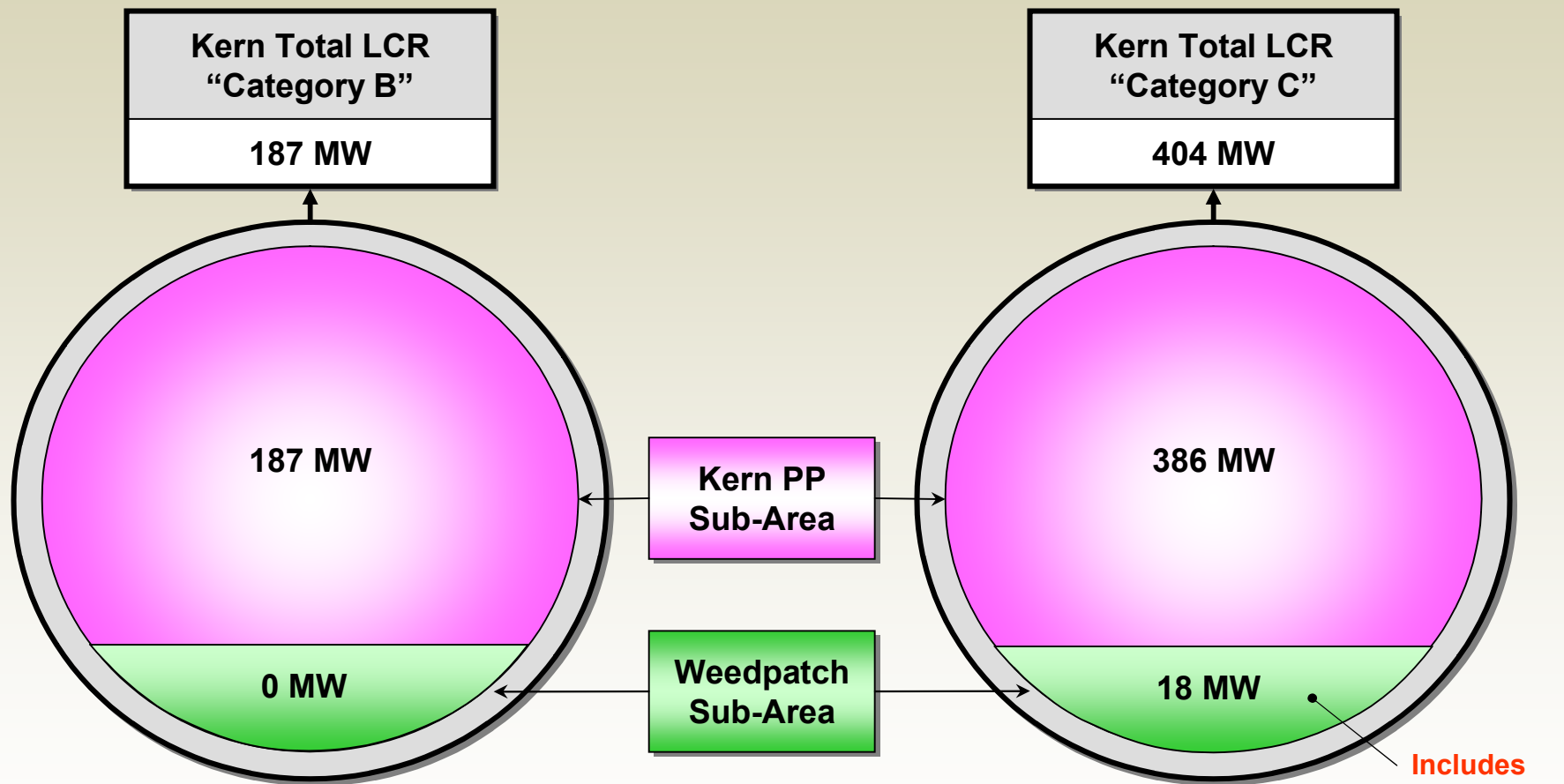
Including:

QF	0	8
Muni	0	0
Deficiency	0	1



Kern Area LCR

Summary of 2010 LCR



Note:

In Kern area, since the two sub-areas are not overlapping, the "Kern Total LCR" is the simple sum of the LCR of the two sub-areas.

Changes

Since our last stakeholder meeting:

- 1) Updated NQC

Since last year:

- 1) Load forecast is lower by 76 MW
- 2) Change in NQC and one unit retirement has allowed for resource re-dispatch
- 3) Overall the LCR needs have decreased by 18 MW
- 4) Enough resources are already under long-term contract

Your comments and questions are welcome.

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

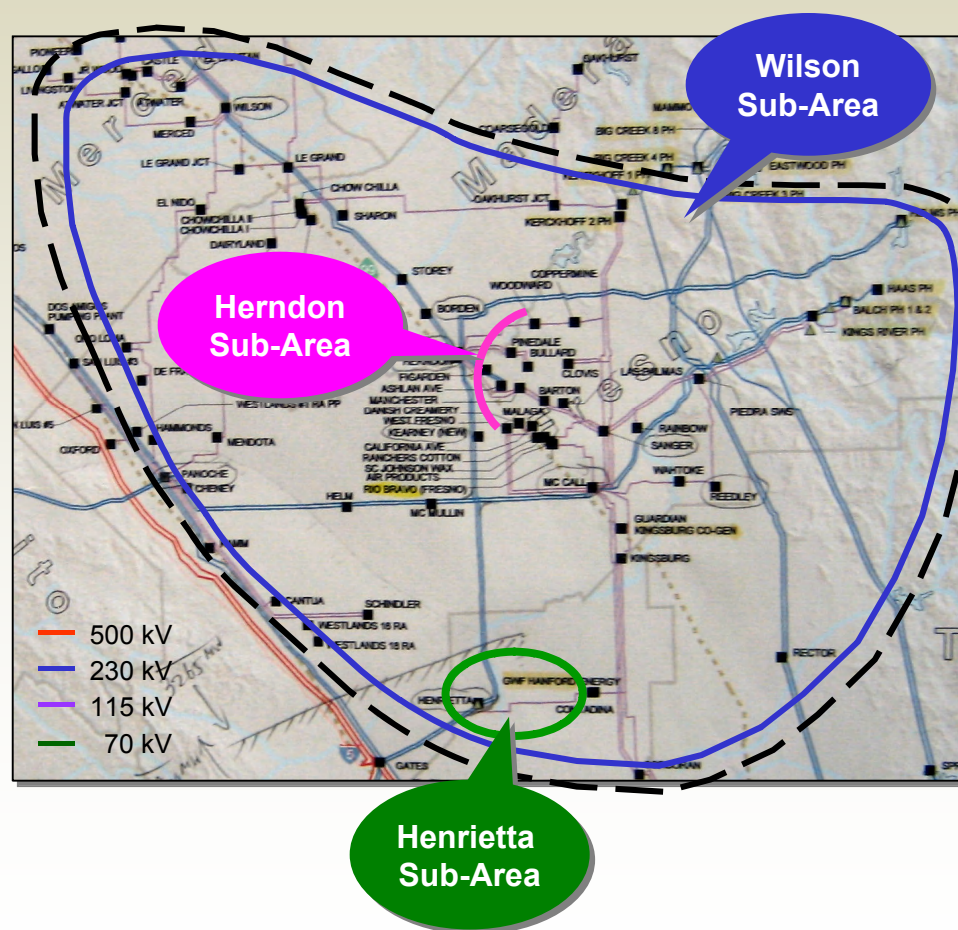
Greater Fresno Area

Electrical Boundaries and LCR Sub-Areas

Electrical Boundaries:

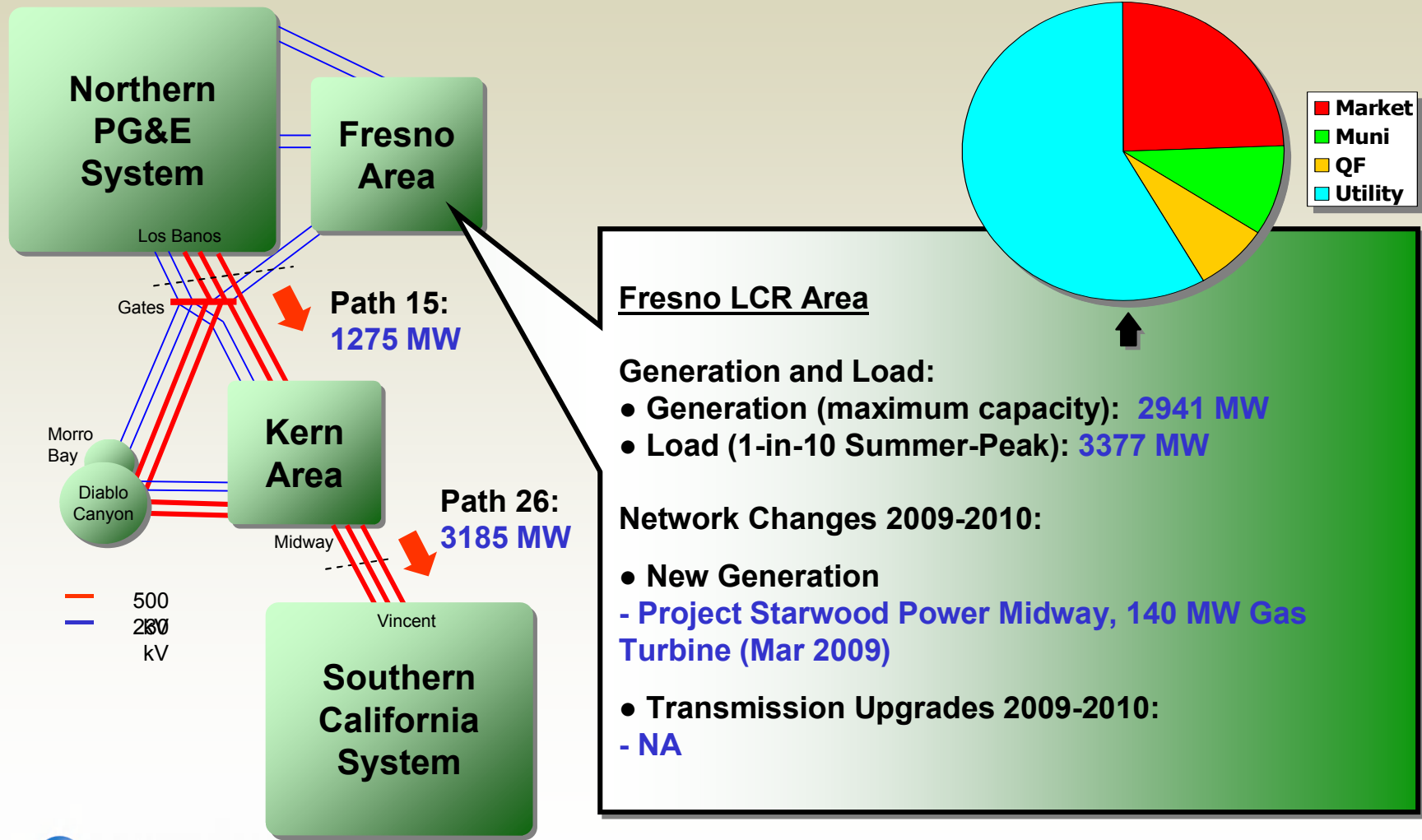
- Gates – McCall 230 kV line
- Gates – Gregg 230 kV line
- Gates 230/115 kV transformer #1
- Panoche 230/115 kV transformer #1
- Panoche 230/115 kV transformer #2
- Panoche – Kearney 230 kV line
- Panoche – Helm 230 kV line
- Warnerville – Wilson 230 kV line
- Melones – Wilson 230 kV line
- Los Banos #3 230/70 kV transformer
- Los Banos #4 230/70 kV transformer
- San Miguel – Coalinga #1 70 kV line
- Smyrna – Alpaugh – Corcoran 115 kV line

LCR Sub-Areas:



Fresno Area Overview

Area Generation, Load, Transmission and Path Flows



Fresno Area LCR

Wilson Sub-Area

Limiting Contingencies:

Category B:

- L-1: Melones – Wilson 230 kV line
- G-1: Helms unit #3

Category C:

- G-1: Helms unit #3
- L-1: Melones – Wilson 230 kV line

Constrained Elements:

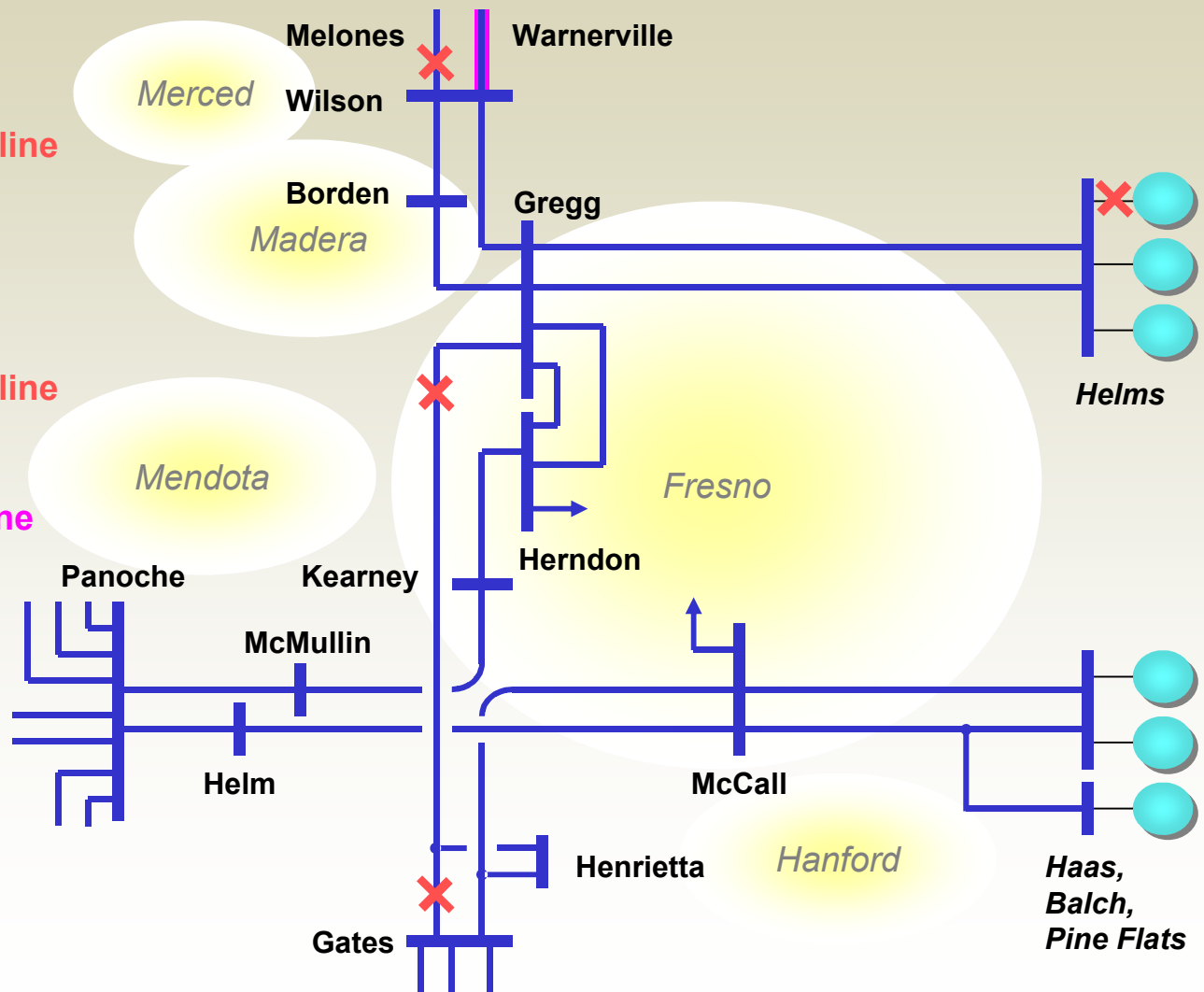
- Warnerville – Wilson 230 kV line

LCR Results (MW):

Contingency	Cat. B	Cat. C
LCR	2063	2063

Including:

QF	223	223
Muni	279	279
Deficiency	0	0



Fresno Area LCR

Herndon Sub-Area

Limiting Contingency:

Category B:

- T-1: Herndon 230/115 kV bank #1

Category C:

- T-1: Herndon 230/115 kV bank #1
- G-1: Kerckhoff II unit

Constrained Element:

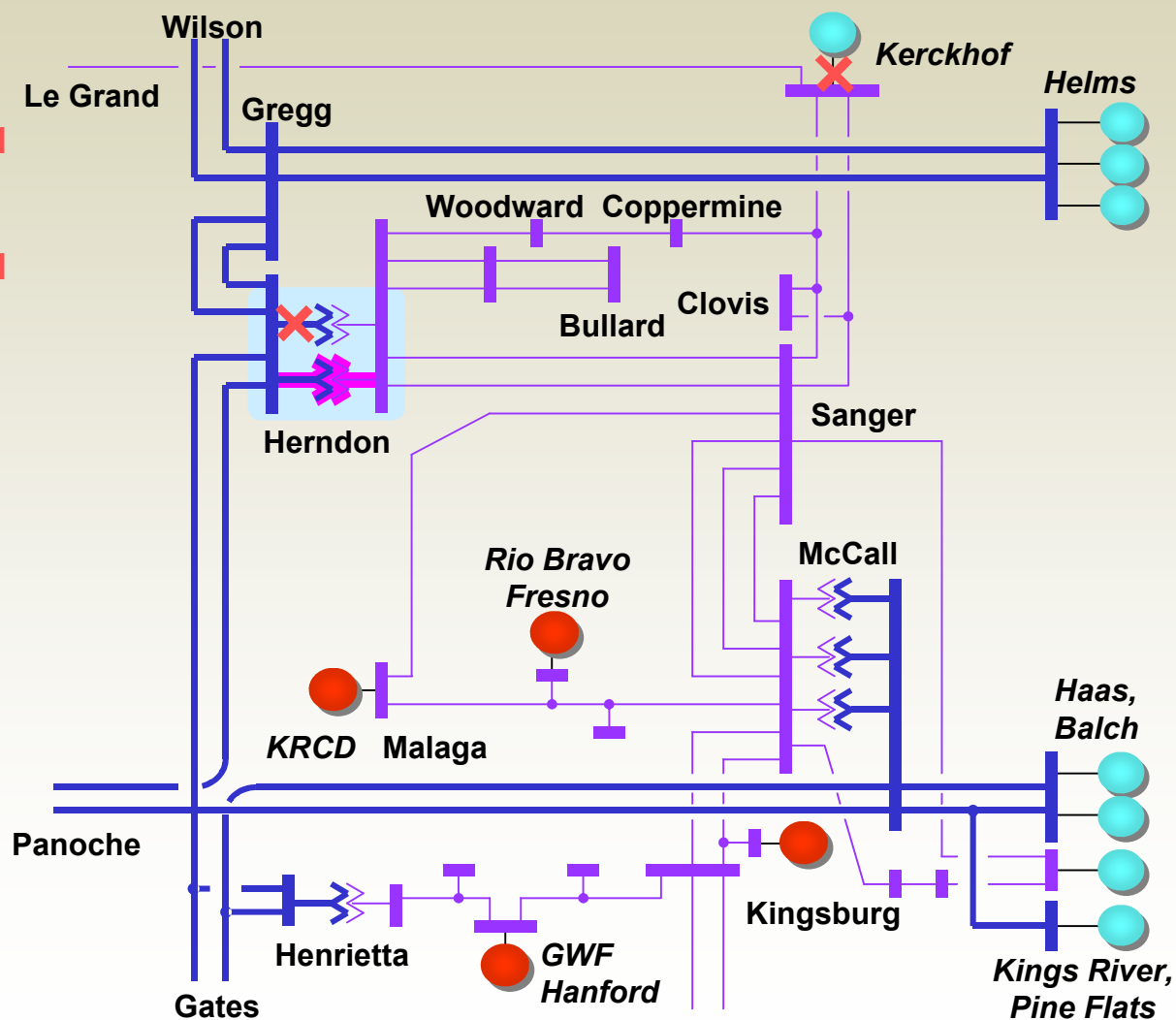
- Herndon 230/115 kV bank #2

LCR Results (MW):

Contingency	Cat. B	Cat. C
LCR	845	1175

Including:

QF	53	53
Muni	210	210
Deficiency	0	0



Fresno Area LCR

Henrietta Sub-Area

Limiting Contingencies:

Category B:

- T-1: Henrietta 230/70 kV bank #4

Category C1:

- T-1: Henrietta 230/70 kV bank #4
- G-1: GWF Power Unit

Category C2:

- T-1: Henrietta 230/70 kV bank #4
- L-1: Henrietta – GWF Henrietta line

LCR Results (MW):

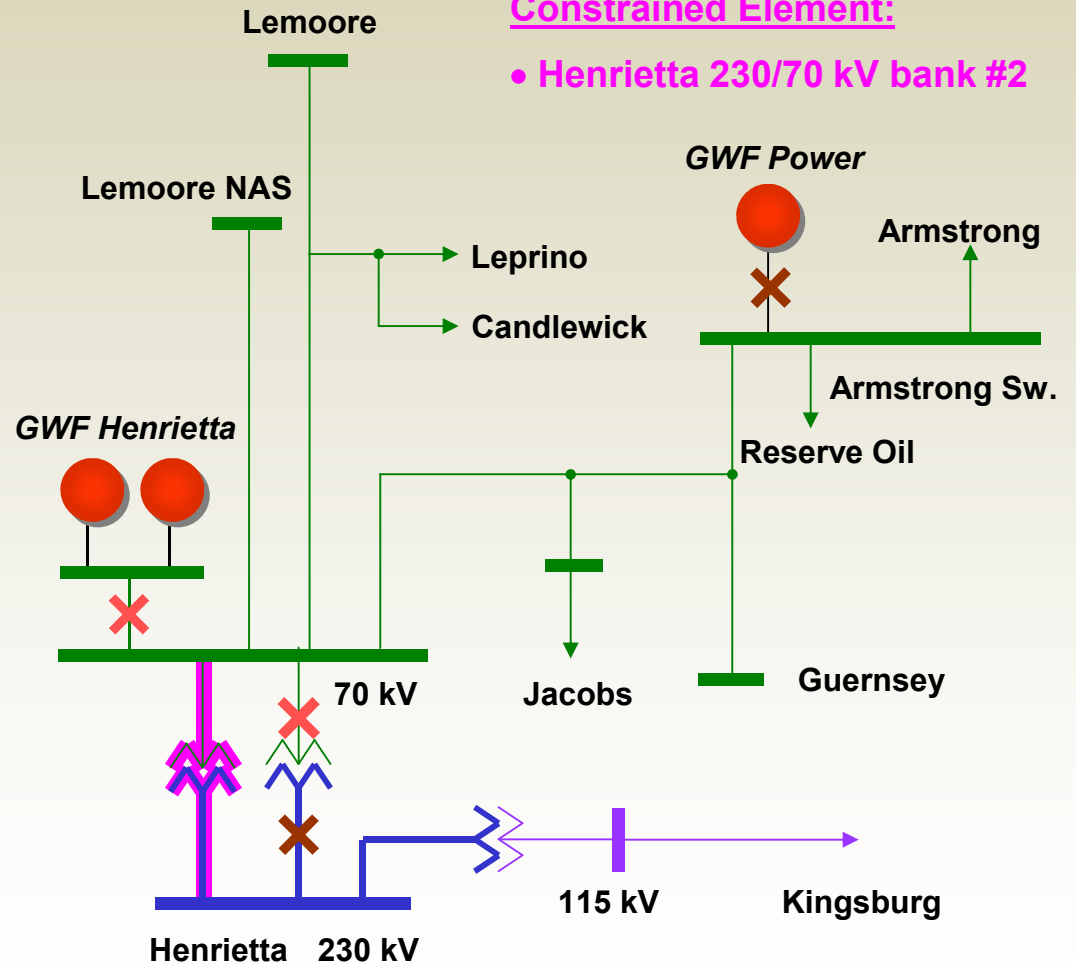
Contingency	Cat. B	Cat. C
LCR	15	33

Including:

QF	24	24
Muni	0	0
Deficiency	0	0

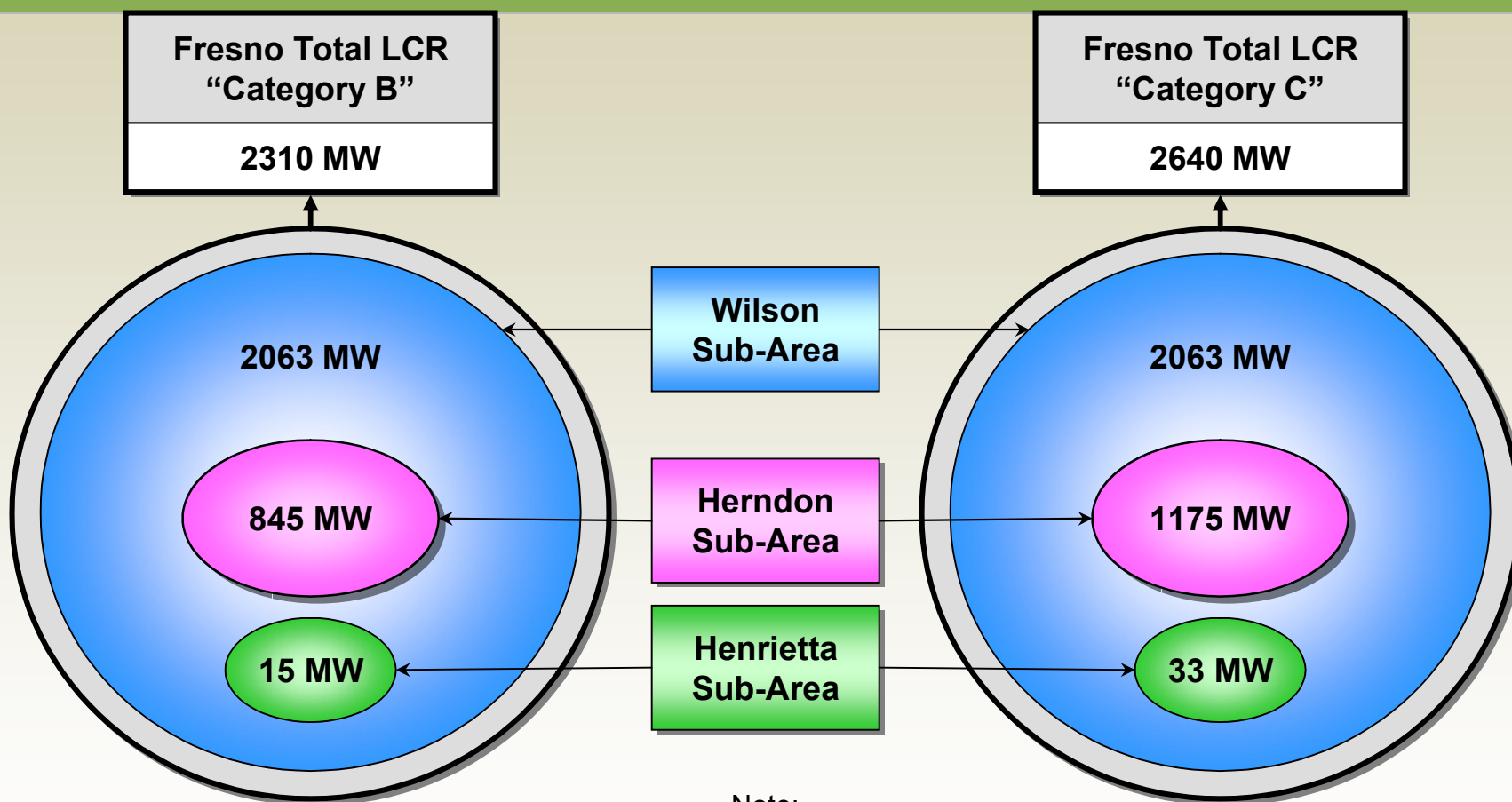
Constrained Element:

- Henrietta 230/70 kV bank #2



Fresno Area LCR

Summary of 2009 LCR



Note:

In the Fresno area, due to overlapping of LCR sub-areas, the "Fresno Total LCR" is *not* a simple sum, but rather an aggregated sum of LCR in individual sub-areas.

Changes

Since our last stakeholder meeting:

- 1) Revised Total LCR need with path 15 at 1275 MW N-S
- 2) Small revisions to sub-area needs
- 3) Updated NQC

Since last year:

- 1) Load forecast is steady (lower by 4 MW)
- 2) Small re-dispatch between sub-areas has resulted in LCR decrease by 40 MW
- 3) Small change on the boundary – no resource or load impact

Your comments and questions are welcome.

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