Local Capacity Requirements (LCR) for Year 2009
Greater Fresno and Kern Areas

LCR Stakeholder Meeting, March 4th, 2008, Folsom CA

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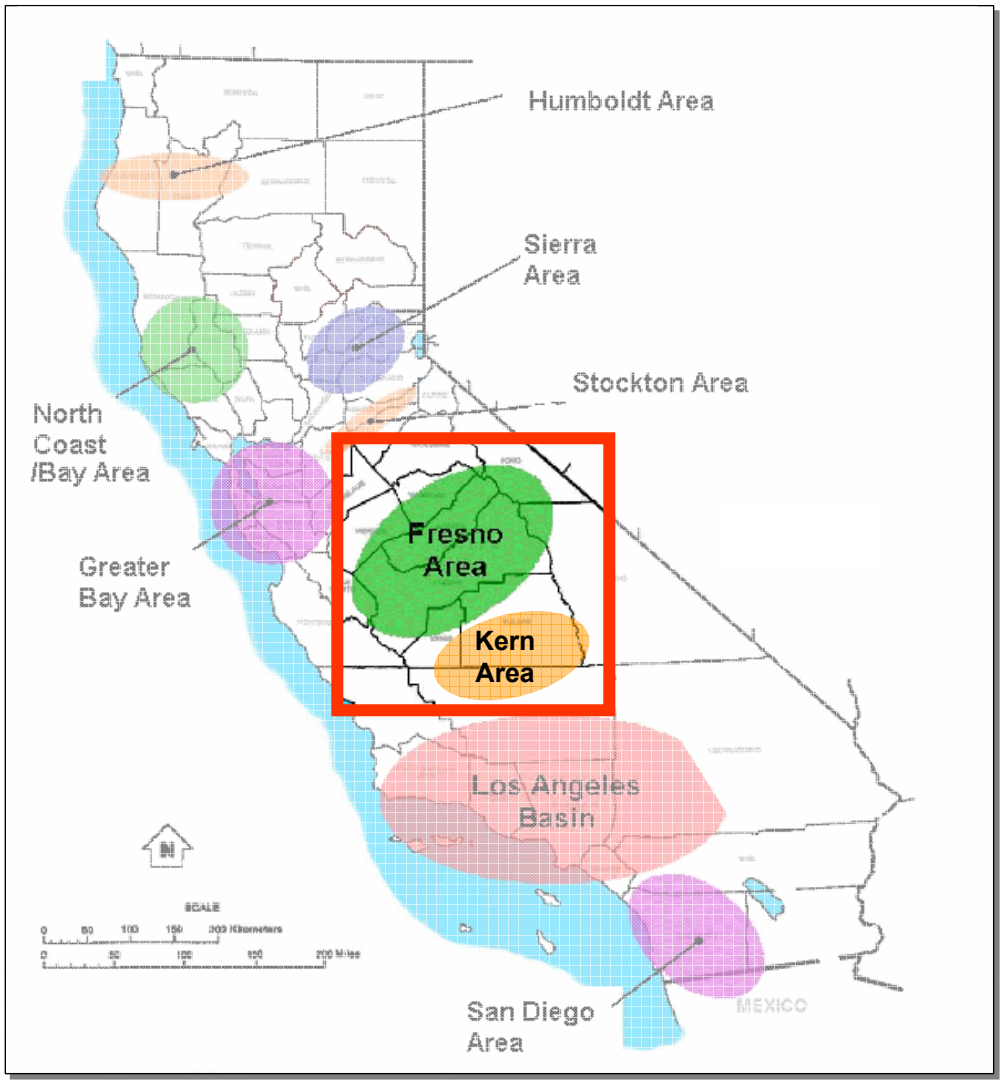
LCR Areas in This Study
Greater Fresno and Kern Areas



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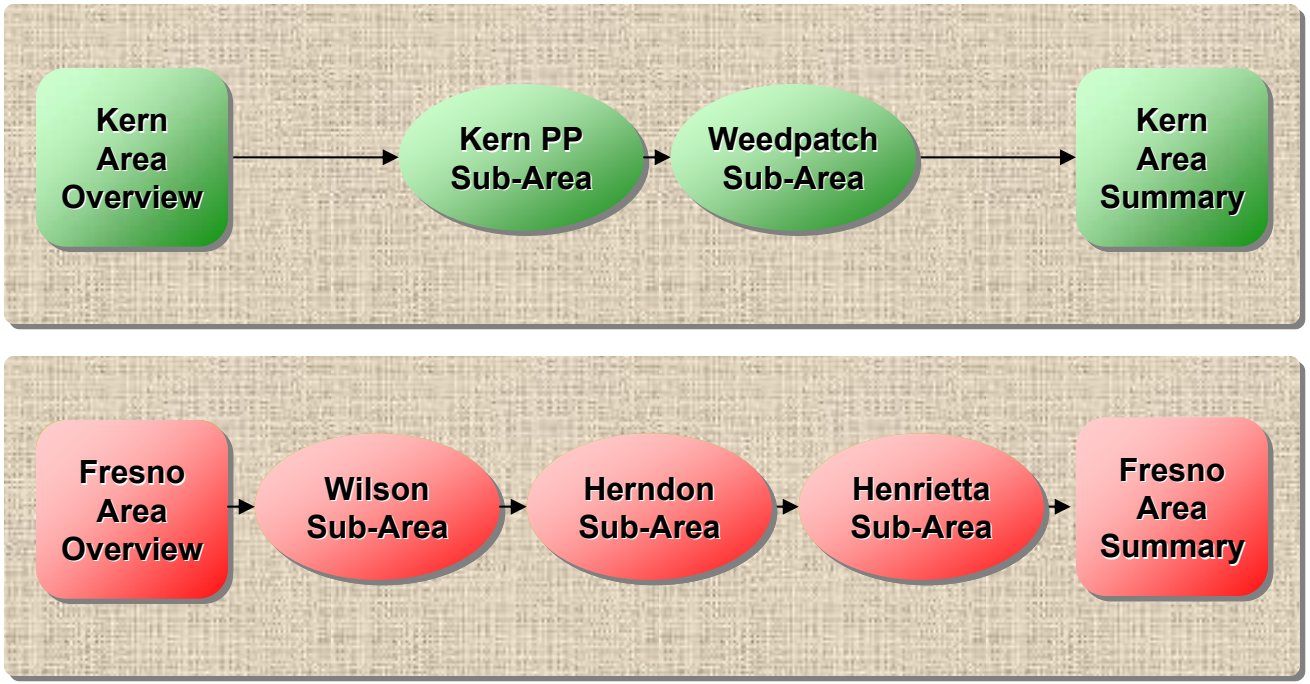
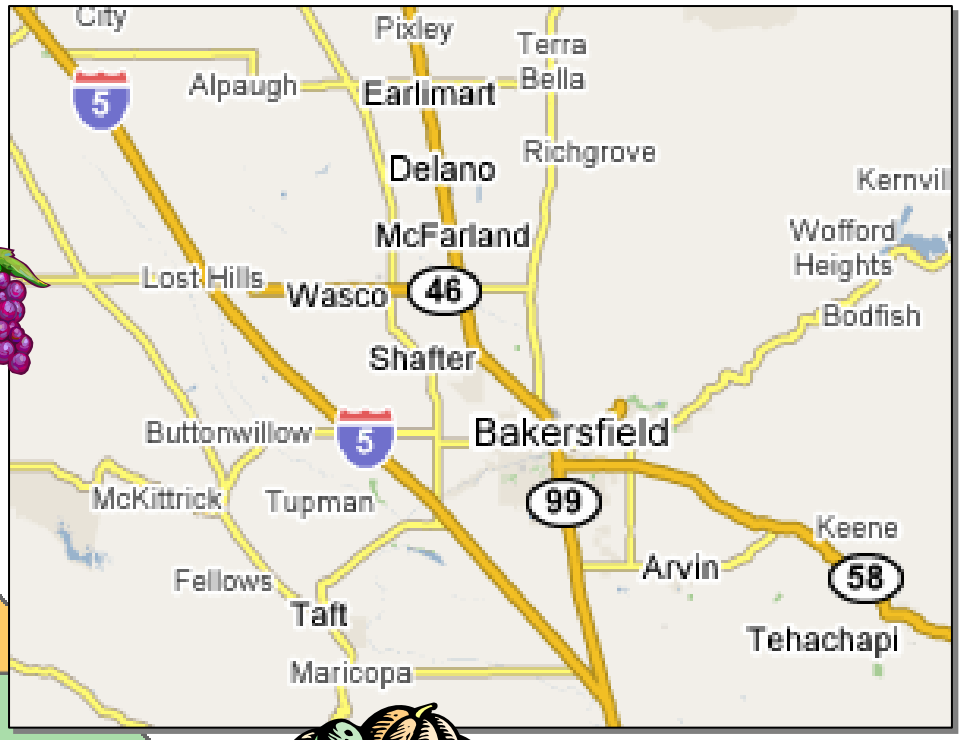


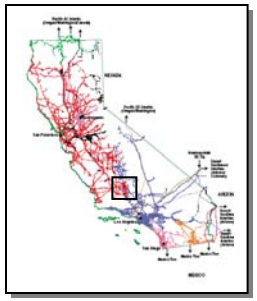
Kern Area Overview
Geography



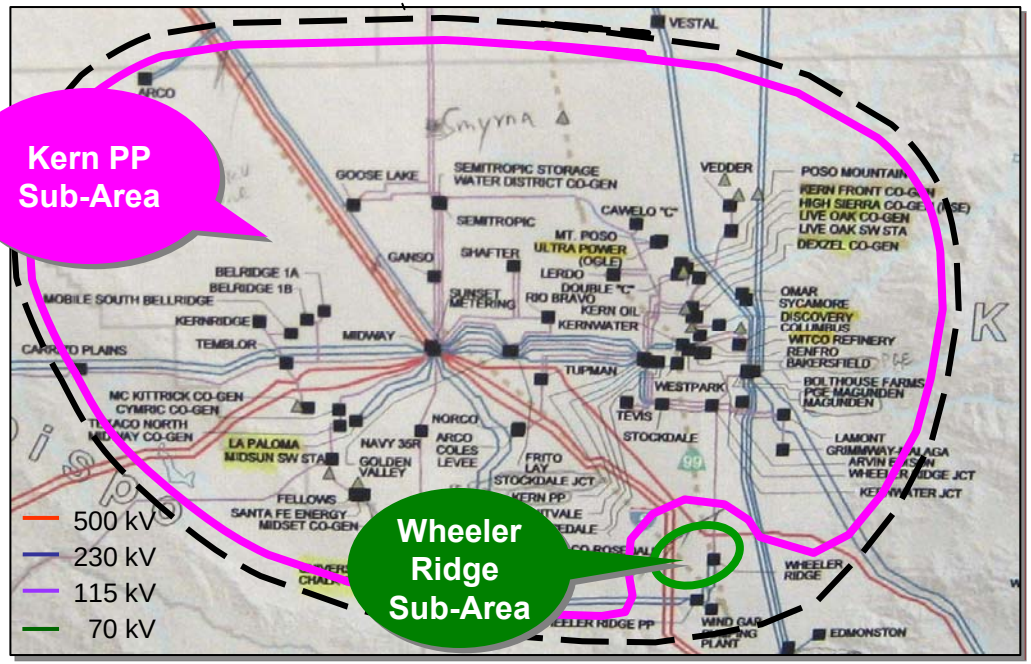
Kern Area Overview
Electrical Boundaries and LCR Sub-Areas

Electrical Boundaries:

- Gates – Midway 230 kV line
- Gates – Arco 230 kV line
- Morro Bay – Midway 230 kV lines #1 and #2
- Midway 230/115 kV transformers
- Smyrna – Semitropic – Midway 115 kV line
- Temblor – San Luis Obispo 115 kV line
- Arco 230/70 kV transformer
- Arco – Cholame 70 kV line



LCR Sub-Areas:

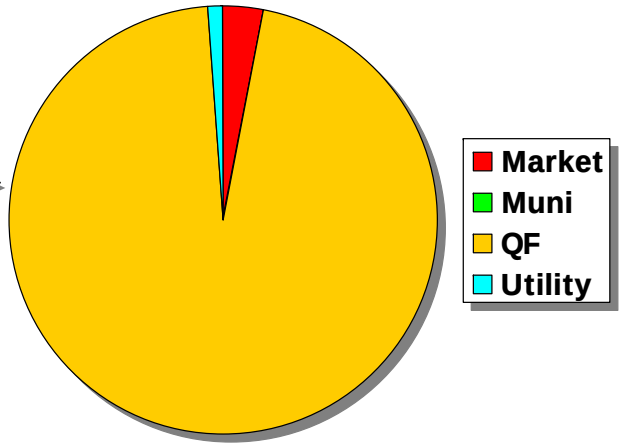


Kern Area Overview
Area Generation, Load and Transmission

Kern LCR Area

Generation and Load:
- Generation (maximum capacity): 813 MW
- Load (1-in-10 Summer-Peak): 1316 MW

Network changes from 2008-2009:
- New Generation: None
- Transmission Upgrades: None



Kern Area LCR
Kern PP Sub-Area

Limiting Contingencies:

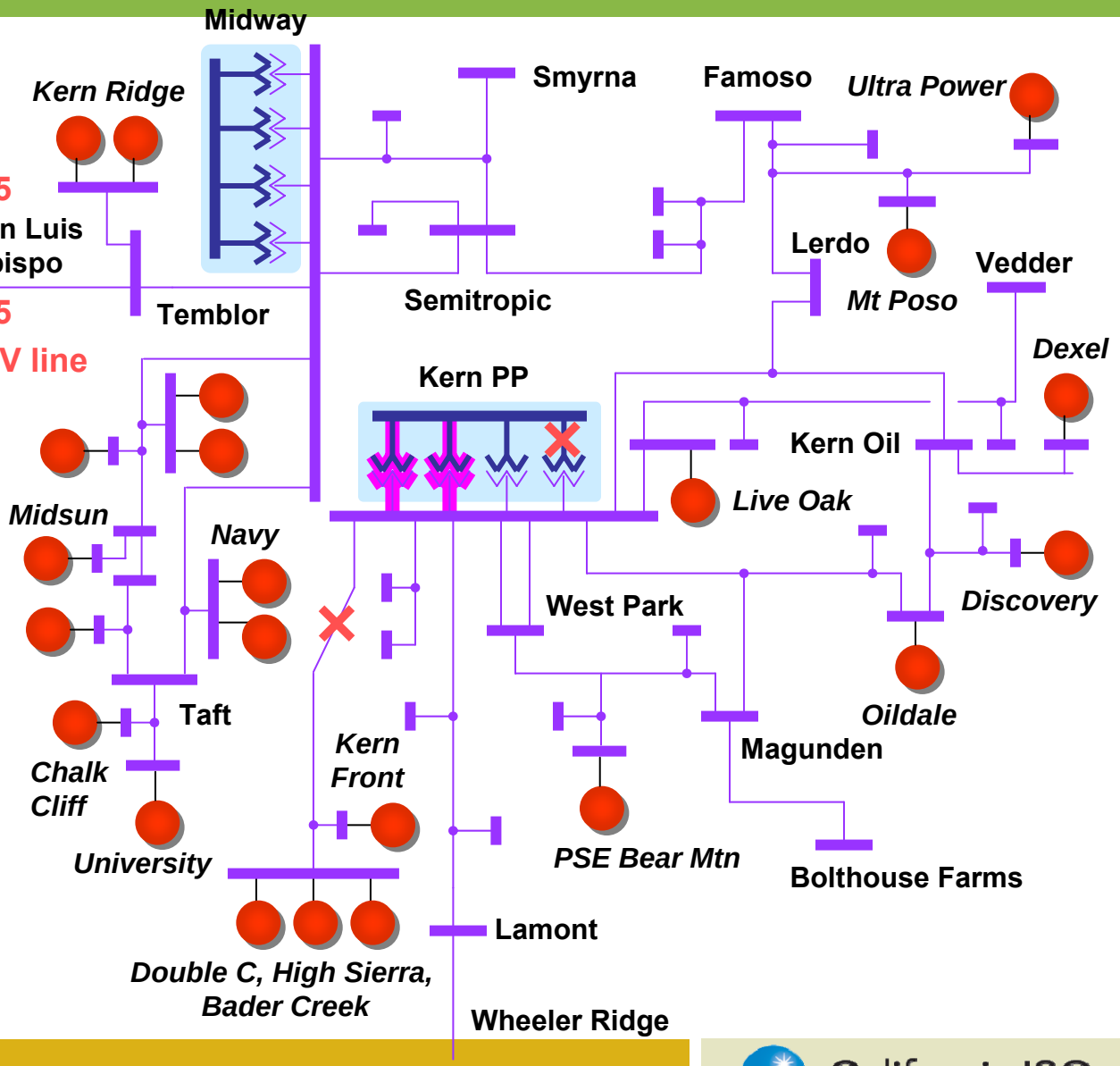
Category B:
- T-1: Kern PP 230/115 kV bank #5

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	208	401
Including:		
QF	779	779
Muni	0	0
Deficiency	0	0



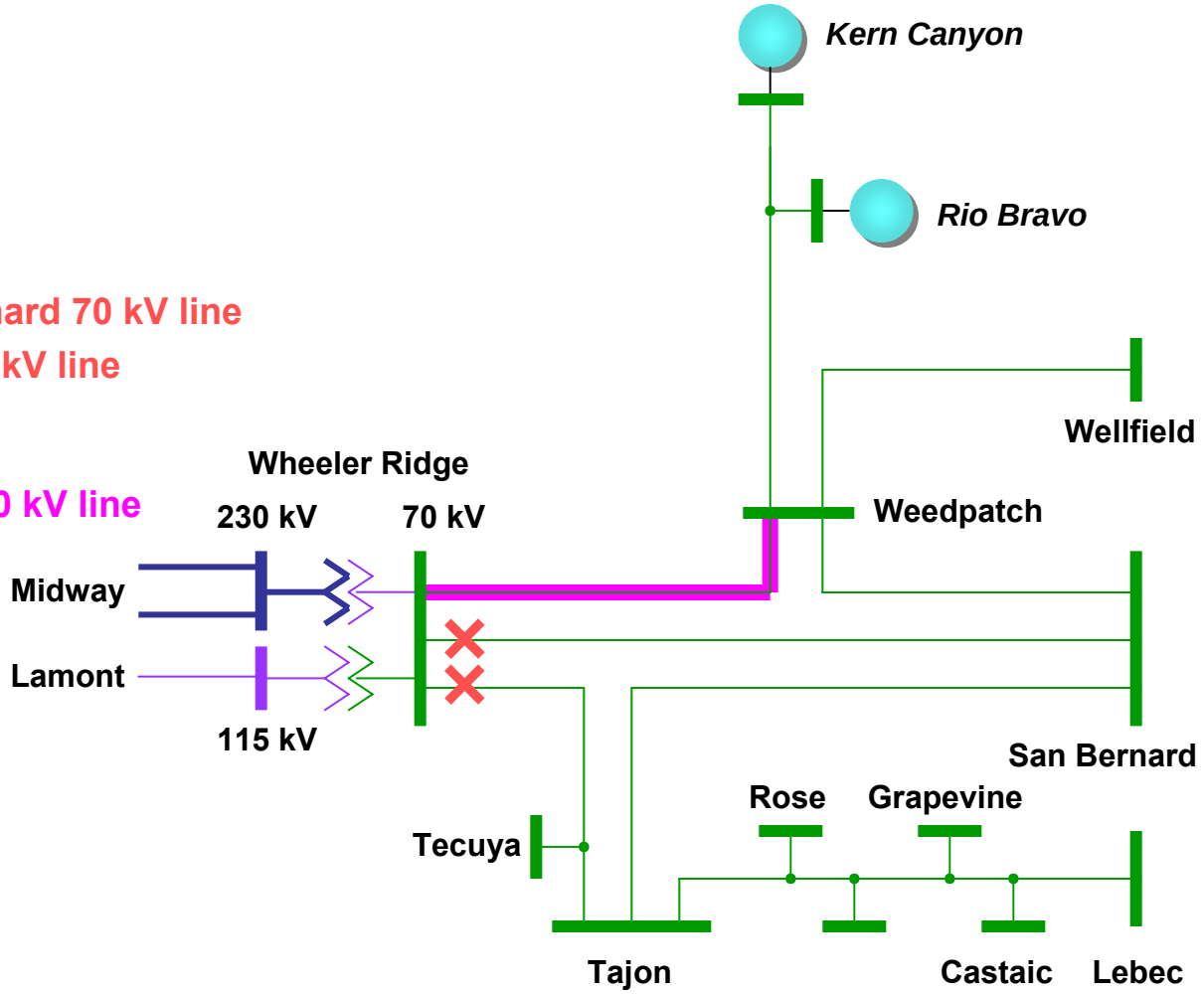
Kern Area LCR
Weedpatch Sub-Area

Limiting Contingencies:

Category B:
None

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

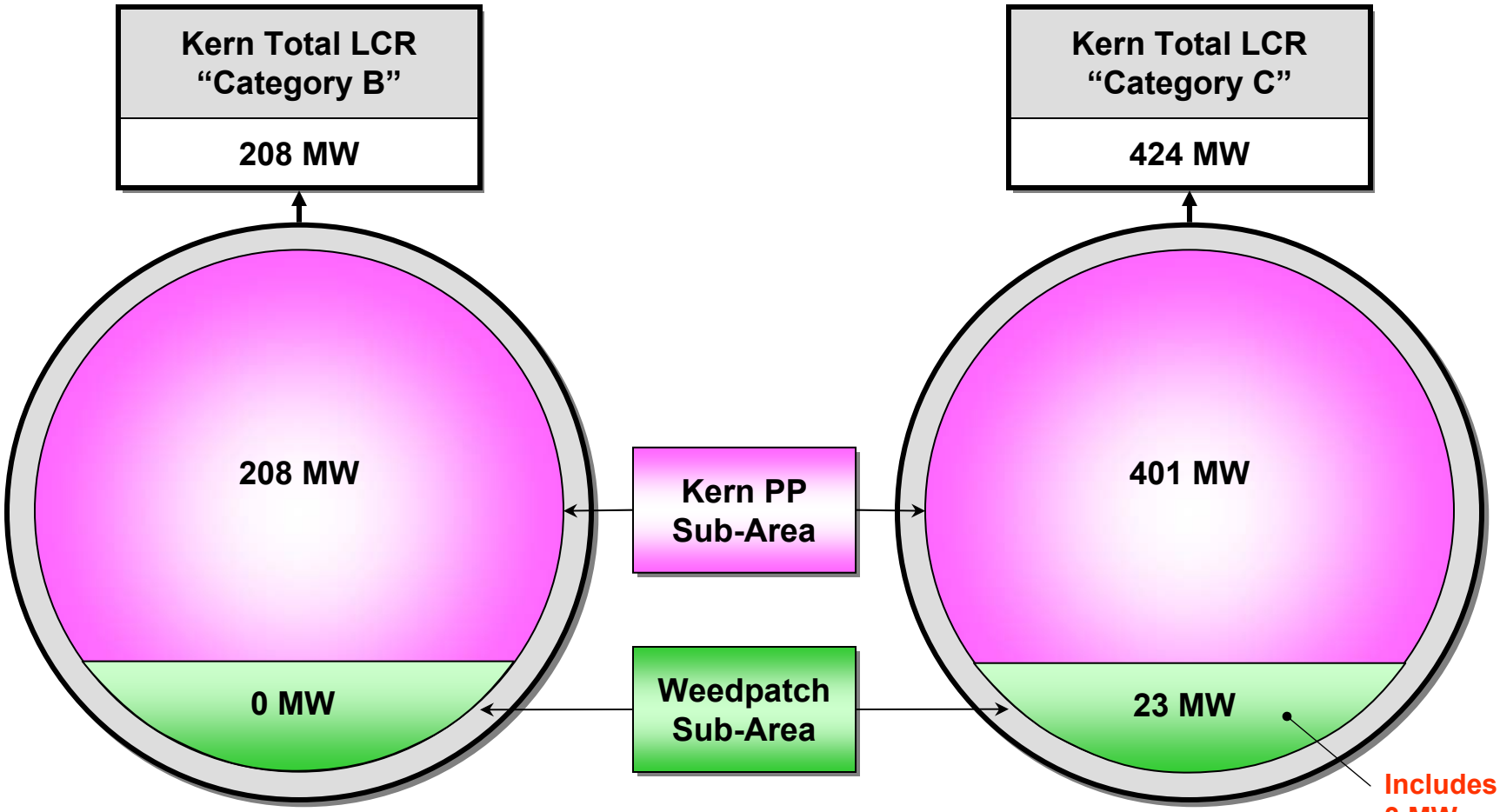
Constrained Element:
- **Wheeler Ridge – Weedpatch 70 kV line**



LCR Results (MW):

Contingency	Cat. B	Cat. C
LCR	**0**	**23**
Including:		
QF	0	6
Muni	0	0
Deficiency	0	3

Kern Area LCR
Summary of 2009 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.

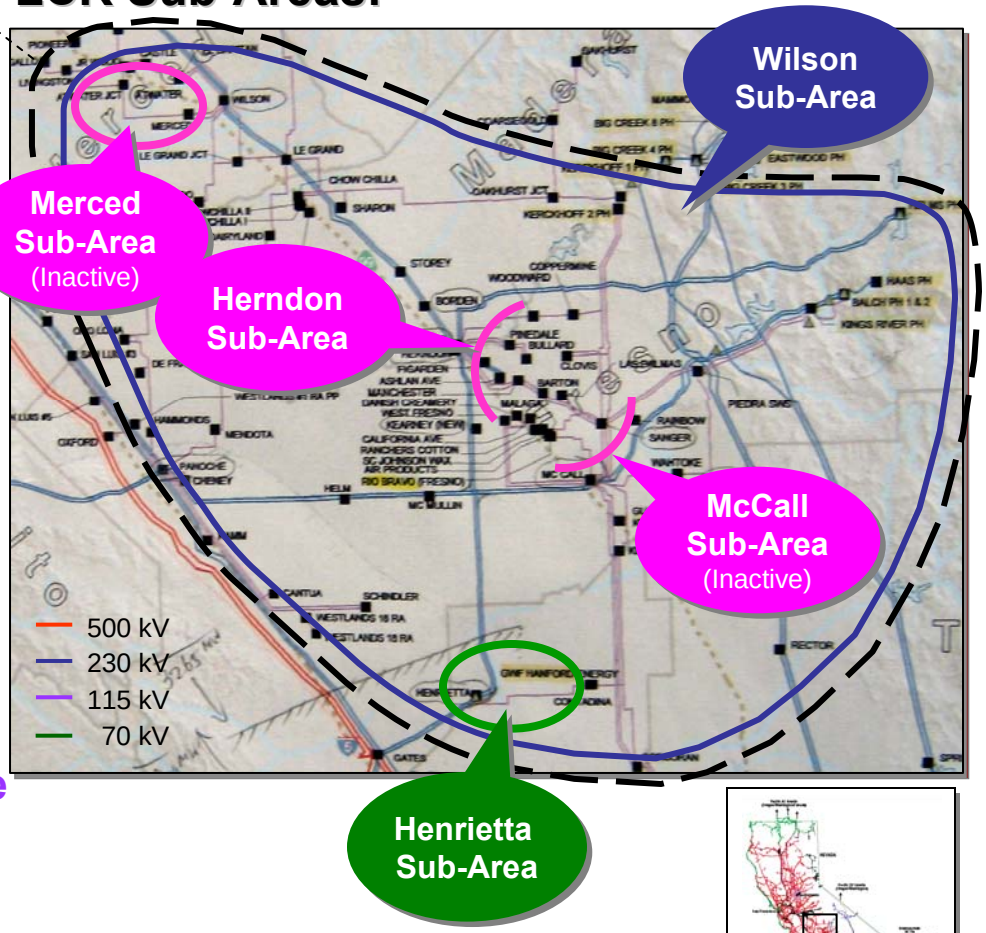
Greater Fresno Area
Geography

Greater Fresno Area
Electrical Boundaries and LCR Sub-Areas

Electrical Boundaries:

- Gates – Henrietta Tap 1 230 kV line
- Gates – Henrietta Tap 2 230 kV line
- Gates 230/115 kV transformer #1
- Gates – Panoche #1 230 kV line
- Gates – Panoche #2 230 kV line
- Coburn – Panoche 230 kV line
- Moss Landing – Panoche 230 kV line
- Los Banos – Panoche 230 kV line #1
- Los Banos – Panoche 230 kV line #2
- Dos Amigos – Panoche 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
- Smyrna – Alpaugh – Corcoran 115 kV line
- San Miguel – Coalinga #1 70 kV line

LCR Sub-Areas:

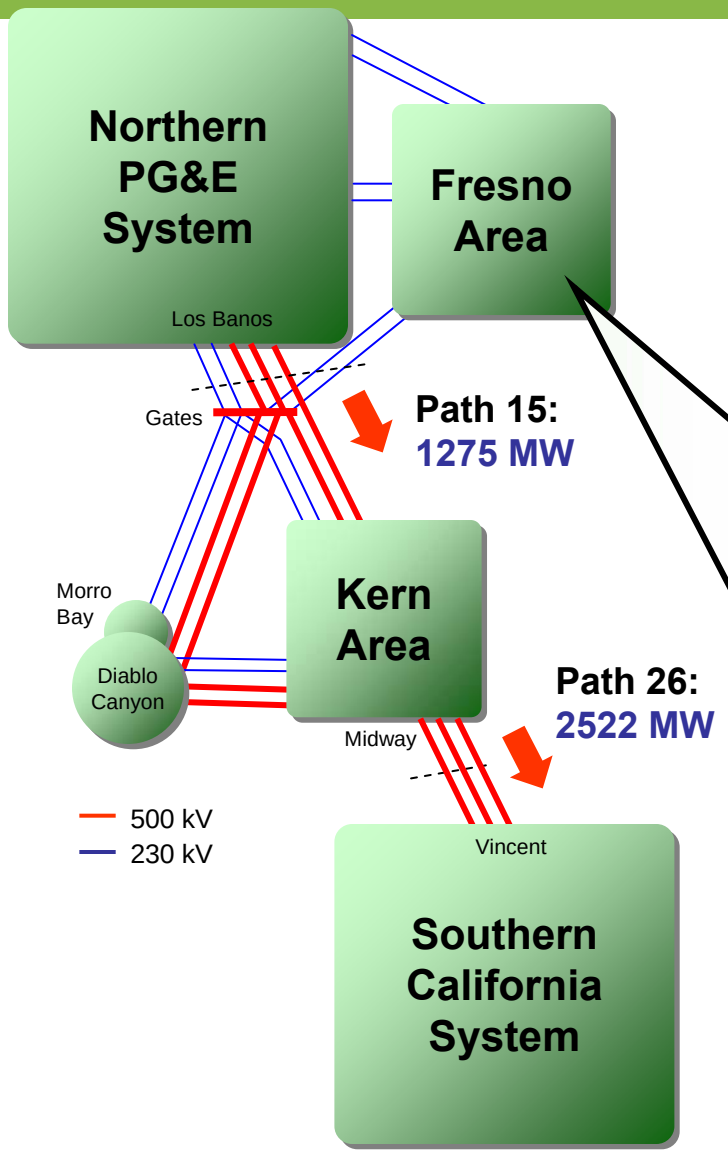


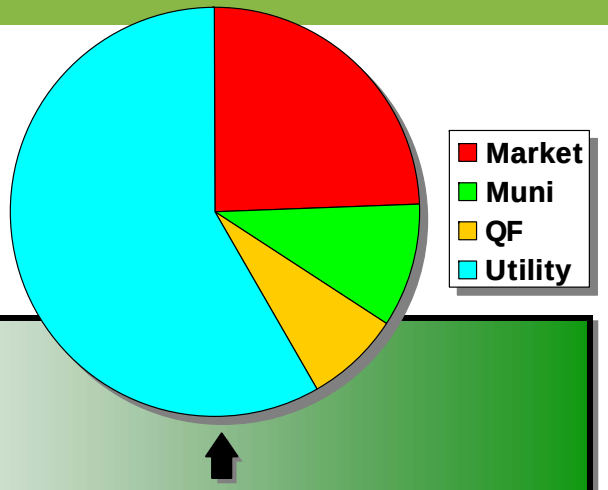
Note:

► Installation of Atwater SPS in 2008 eliminates the Merced LCR Sub-Area.

► Replacement of McCall 230/115 kV transformer #1 in 2008 eliminates the McCall LCR Sub-Area.

Fresno Area Overview
Area Generation, Load, Transmission and Path Flows





Fresno LCR Area

Generation and Load:
- **Generation (maximum capacity): 3013 MW**
- **Load (1-in-10 Summer-Peak): 3381 MW**

Network Changes 2008-2009:

- **New Generation**
  - **Project Q#75, 10.5 MW Biomass (Mar 2008)**
  - **Project Q#76, 10.5 MW Biomass (Apr 2008)**
  - **Project Q#54, 120 MW Gas Turbine (Aug 2009)**
- **Transmission Upgrades 2008-2009**
  - **Replacement of McCall 230/115 kV Bank #1 (May 2008)**
  - **Installation of Atwater SPS in Merced area (May 2008)**
  - **Re-rate of Henrietta 230/70 kV Bank #2 (Nov 2007)**

Fresno Area LCR
Wilson Sub-Area

Limiting Contingencies:

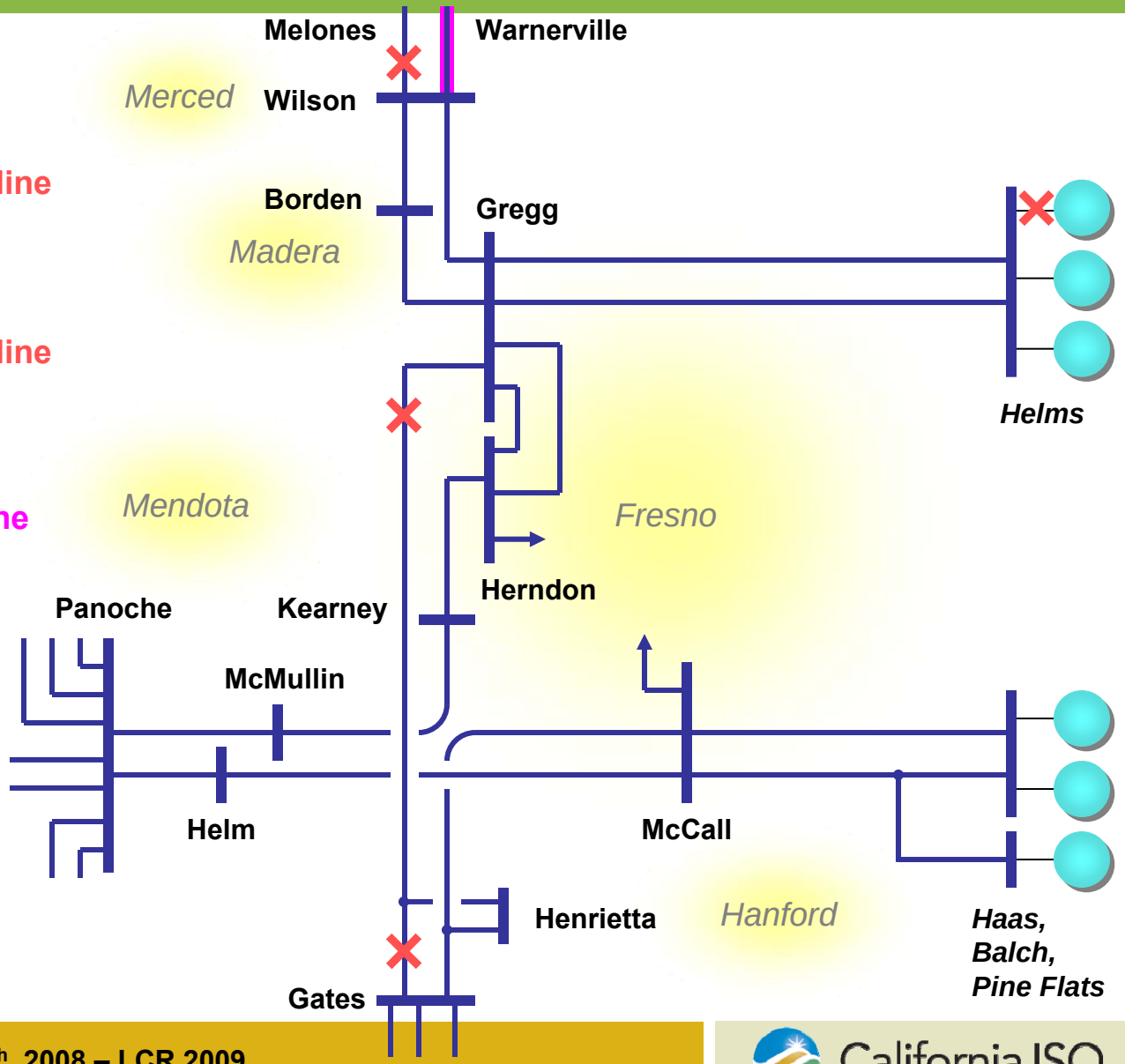
Category B:
- L-1: Melones – Wilson 230 kV line
- G-1: Helms unit #3

Category C:
- L-1: Melones – Wilson 230 kV line
- L-1: Gates-Gregg 230 kV line

Constrained Elements:
- Warnerville – Wilson 230 kV line

LCR Results (MW):

Contingency	Cat. B	Cat. C
LCR	2262	1913
Including:		
QF	199	199
Muni	292	292
Deficiency	0	0



Fresno Area LCR
Herndon Sub-Area

Limiting Contingency:

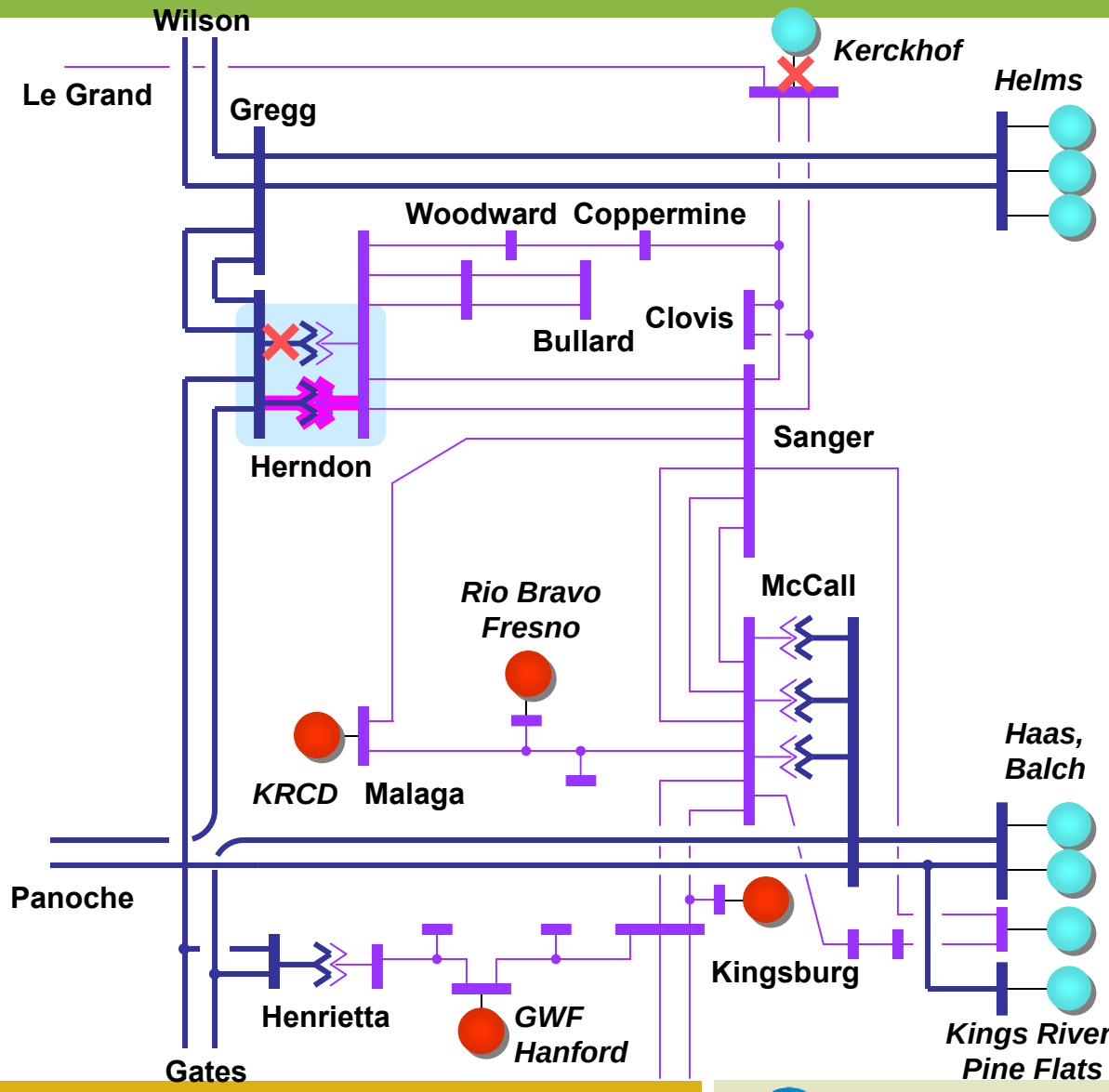
Category B:
- T-1: Herndon 230/115 kV bank #1

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	787	1138
Including:		
QF	44	44
Muni	225	225
Deficiency	0	12



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Fresno Area LCR
Henrietta Sub-Area

Limiting Contingencies:

Category B:

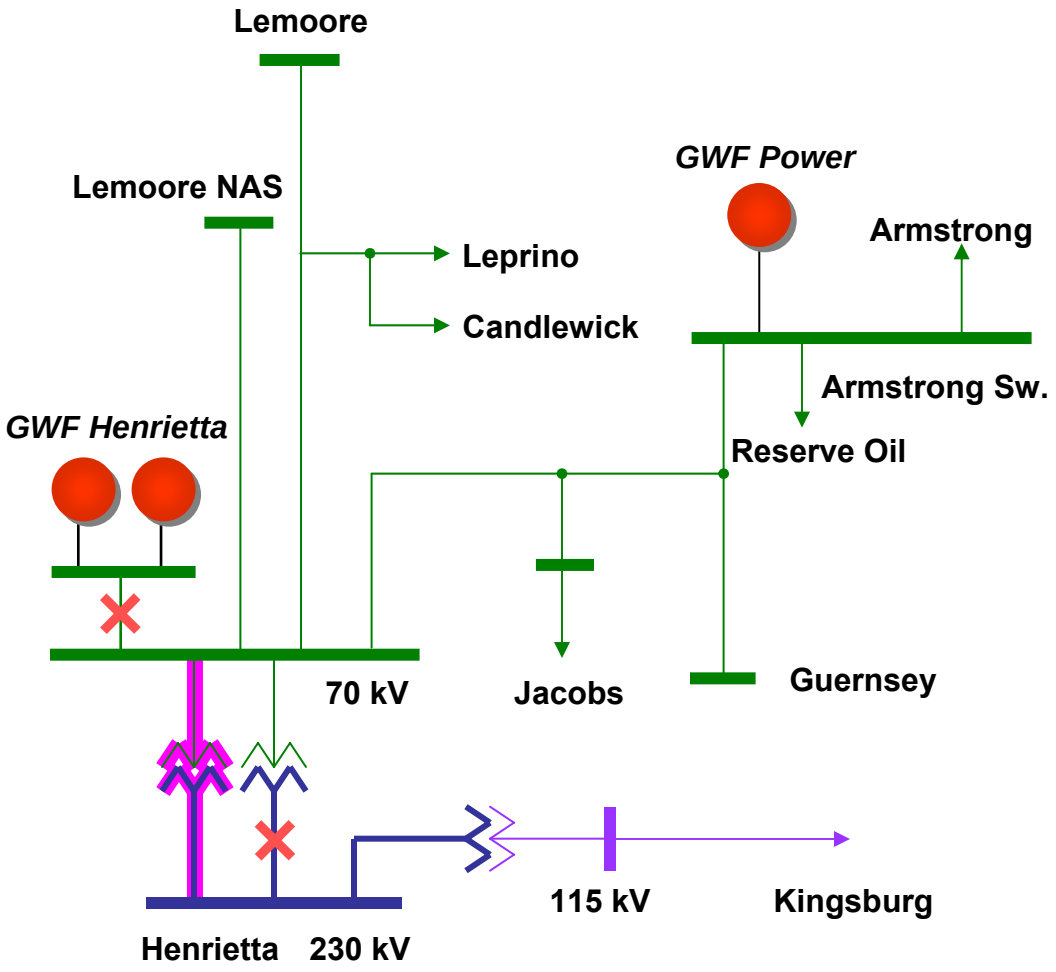
- T-1: Henrietta 230/70 kV bank #4

Category C:

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

Constrained Element:

- Henrietta 230/70 kV bank #2

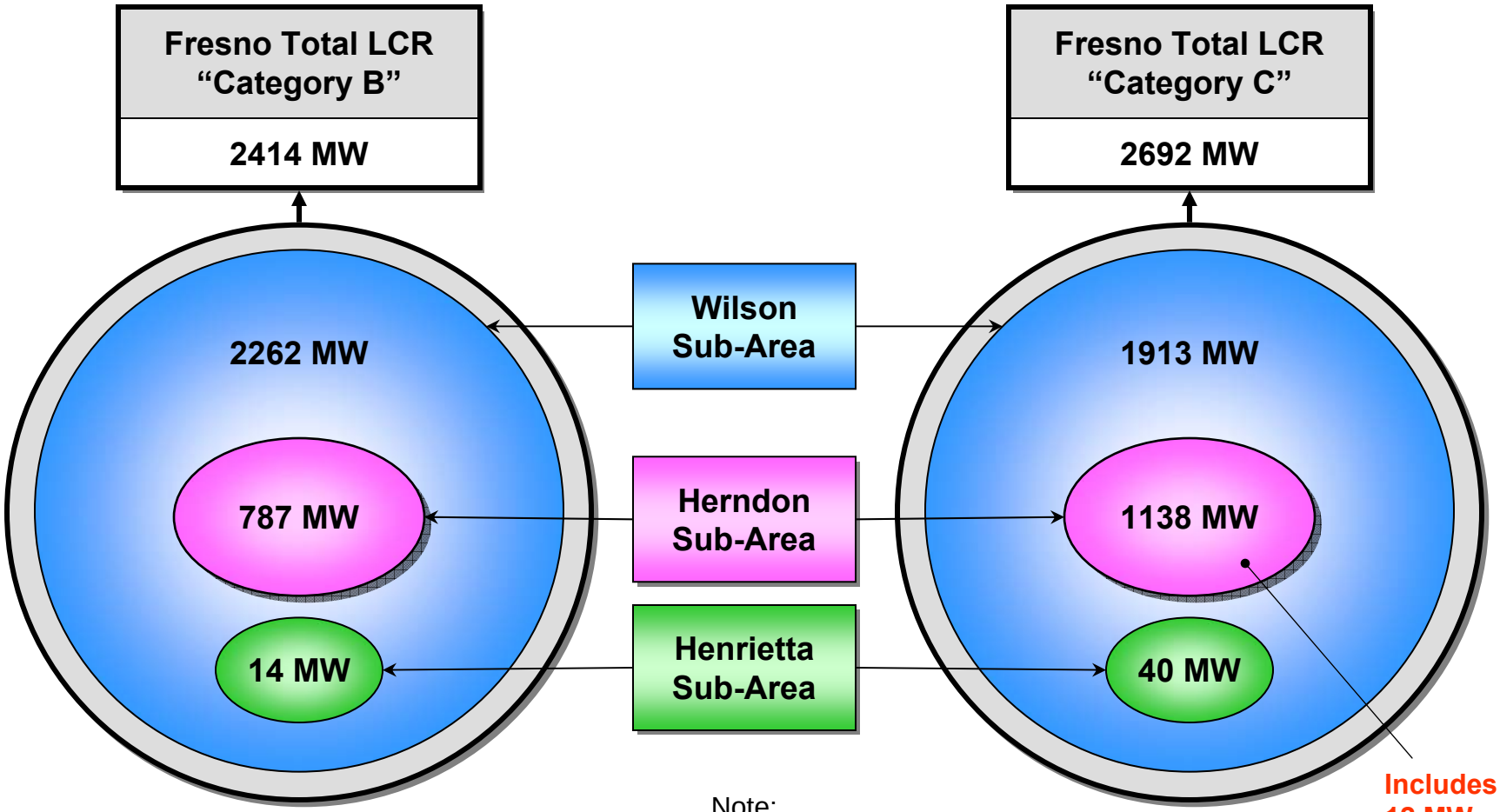


LCR Results (MW):

Contingency	Cat. B	Cat. C
LCR	14	40
Including:		
QF	23	23
Muni	0	0
Deficiency	0	0

Note:
In Nov 2007, for the Henrietta 230/70 kV transformer #2, its contingency limit was re-rated from 107 MVA to 115 MVA

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.

Stakeholder Comments

Your comments and questions are welcome

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