



California ISO
Shaping a Renewed Future

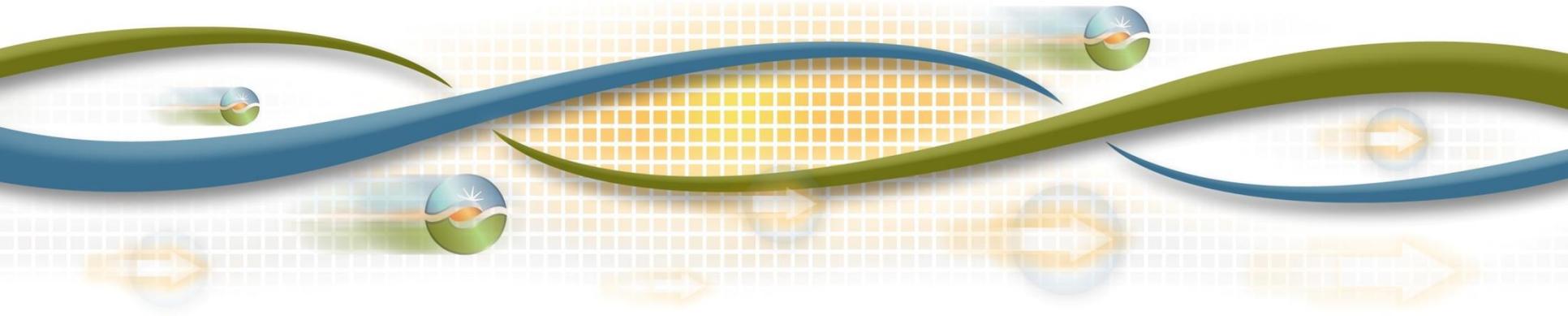
2016 and 2020 Draft LCR Study Results - Kern

Chris Mensah-Bonsu

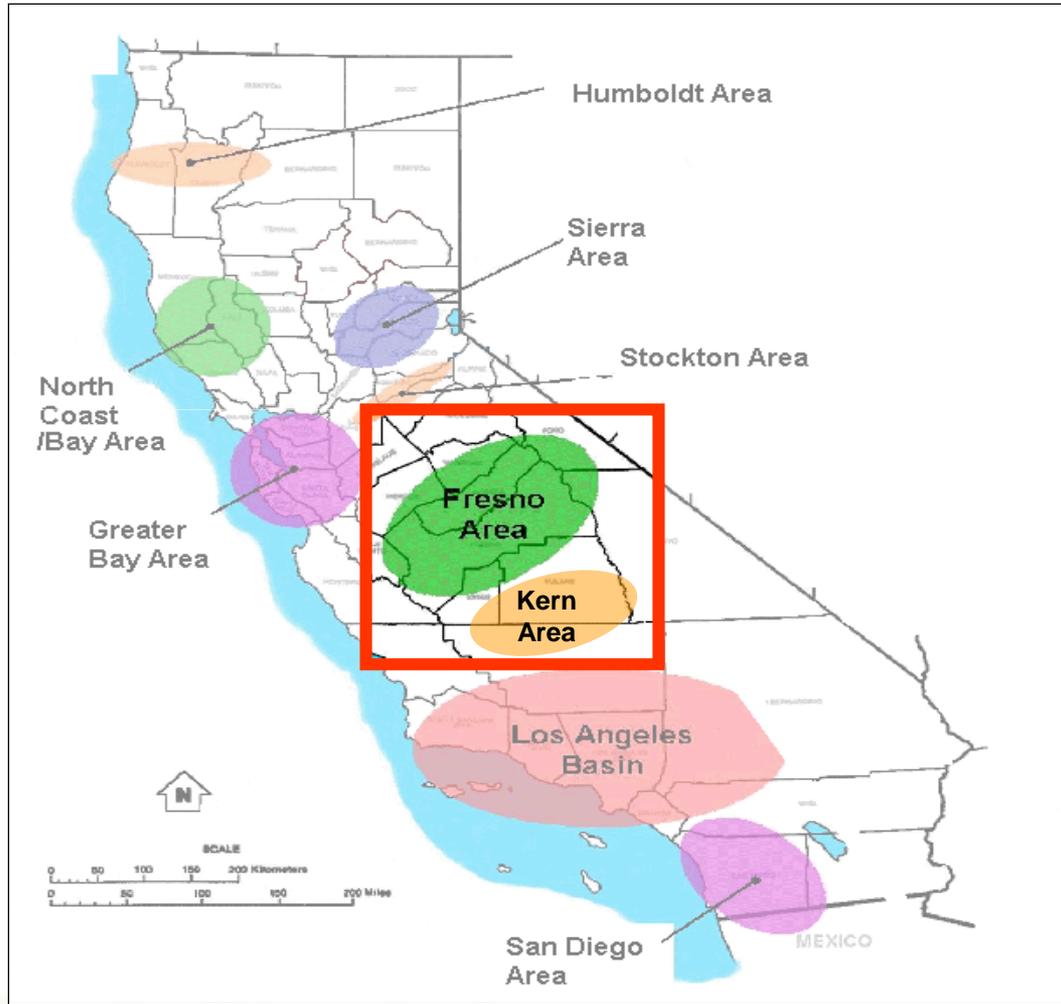
Senior Regional Transmission Engineer

Stakeholder Meeting

March 9, 2015



Fresno and Kern LCR Areas



Kern Load and Resources (MW)

		2016	2020
Load	=	853	282
AAEE	=	-9	-4
Transmission Losses	=	7	1
Total Load	=	851	279
Market Generation	=	274	91
New Market Generation	=	148	20
Muni Generation	=	0	0
QF Generation	=	100	55
Total Qualifying Capacity	=	522	166

Kern Area LCR

2016 West Park Sub-Area

Limiting Contingencies:

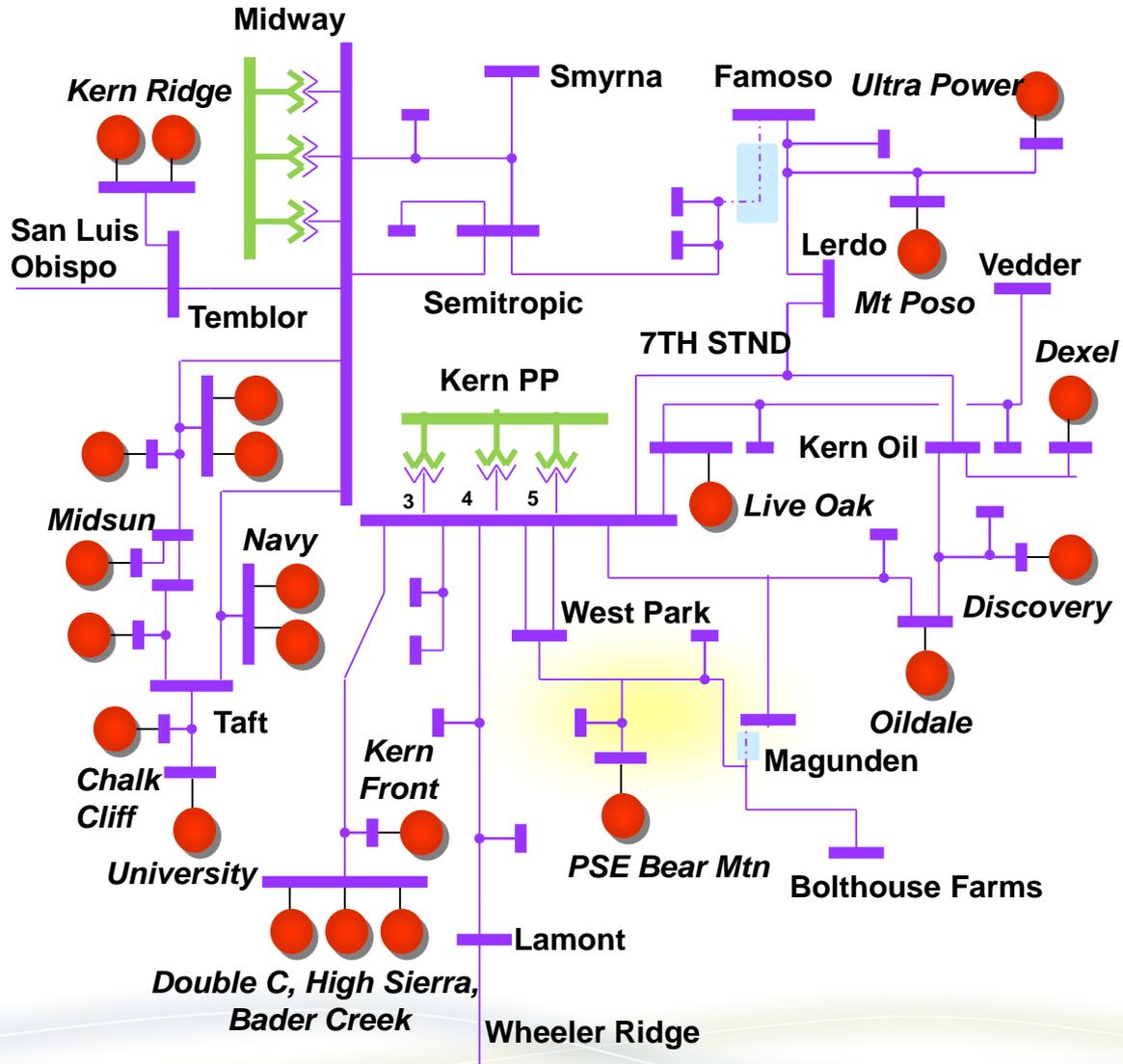
- West Park - No longer exists
- Due to Normally Open Magunden CB 122

LCR Results (MW):

Contingency	Cat. B	Cat. C
LCR	0	0

Including:

QF	0	0
Muni	0	0
Deficiency	0	0



Kern Area LCR

2016 Kern Oil Sub-Area

Limiting Contingencies:

Category B:

- G-1/L-1: Kern PP-Magunden-Witco 115 kV with PSE Live Oak generation out of service
- Constraint: Kern PP-Live Oak 115 kV

Category C:

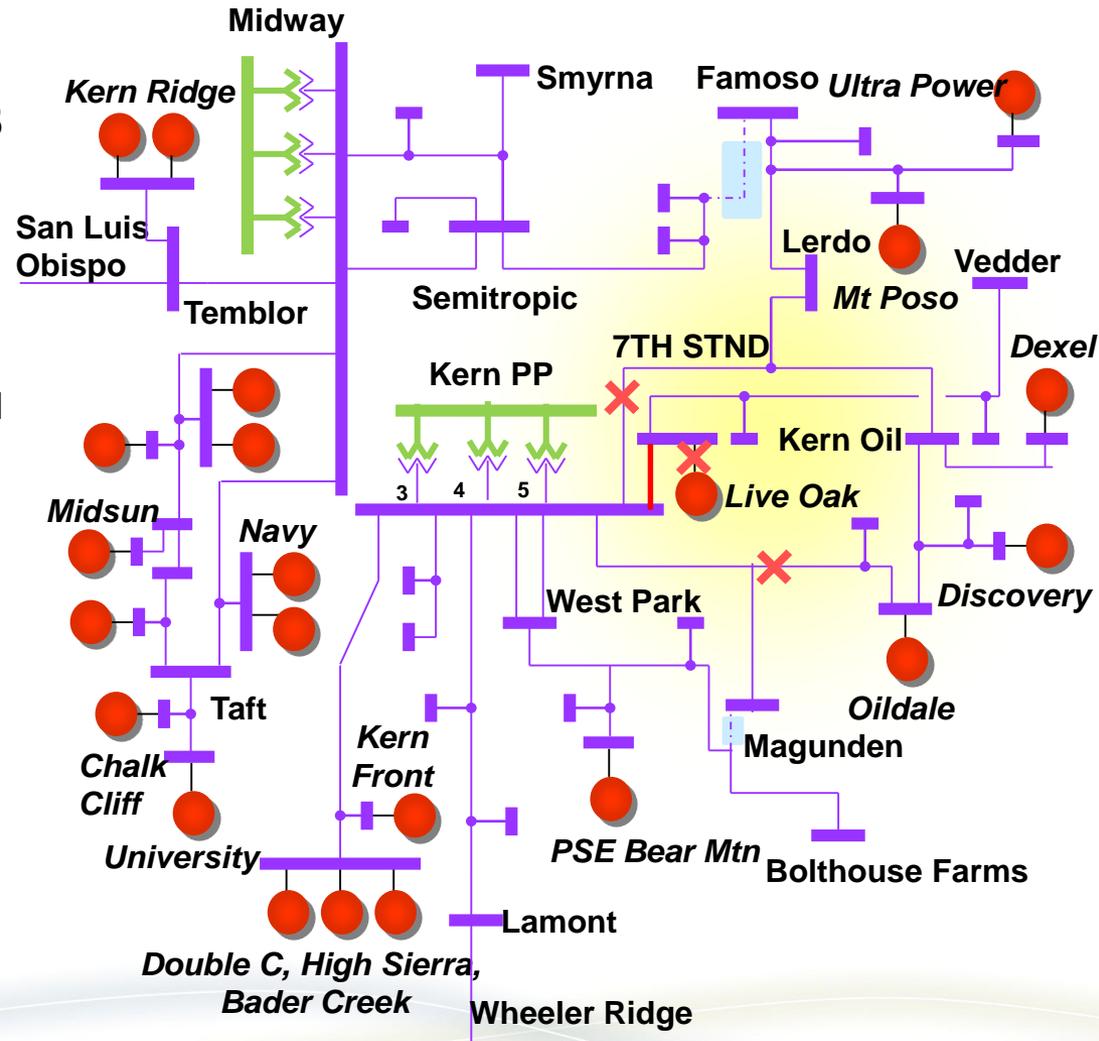
- L-1/L-1: Kern PP-Magunden-Witco and Kern PP-7th Standard 115 kV lines
- Constraint: Kern PP-Live Oak 115 kV

LCR Results (MW):

Contingency	Cat. B	Cat. C
LCR	133	135

Including:

QF	55	55
Muni	0	0
Deficiency	0	0



Kern Area LCR

2016 South Kern PP Sub-Area

Limiting Contingencies:

Category B:

- T-1: Kern #5 230/115 kV
- Constraint: Kern #4 230/115 kV

Category C:

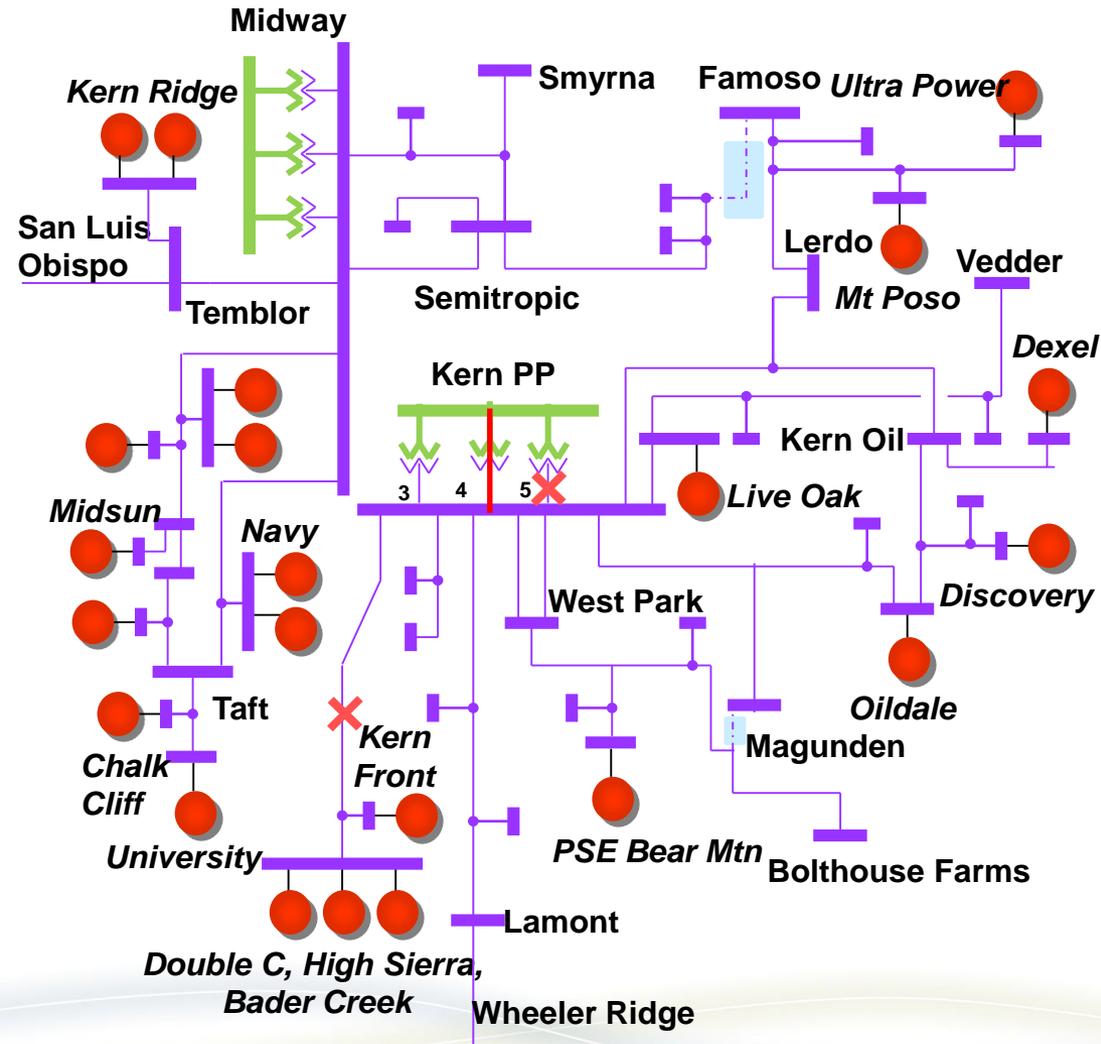
- L-1/T-1 Kern-Kern Front 115 kV & Kern #5 230/115 kV
- Constraint: Kern #4 230/115 kV

LCR Results (MW):

Contingency	Cat. B	Cat. C
LCR	299	485

Including:

QF	100	100
Muni	0	0
Deficiency	0	0



Kern Area LCR

2020 West Park Sub-Area

Limiting Contingencies:

None.

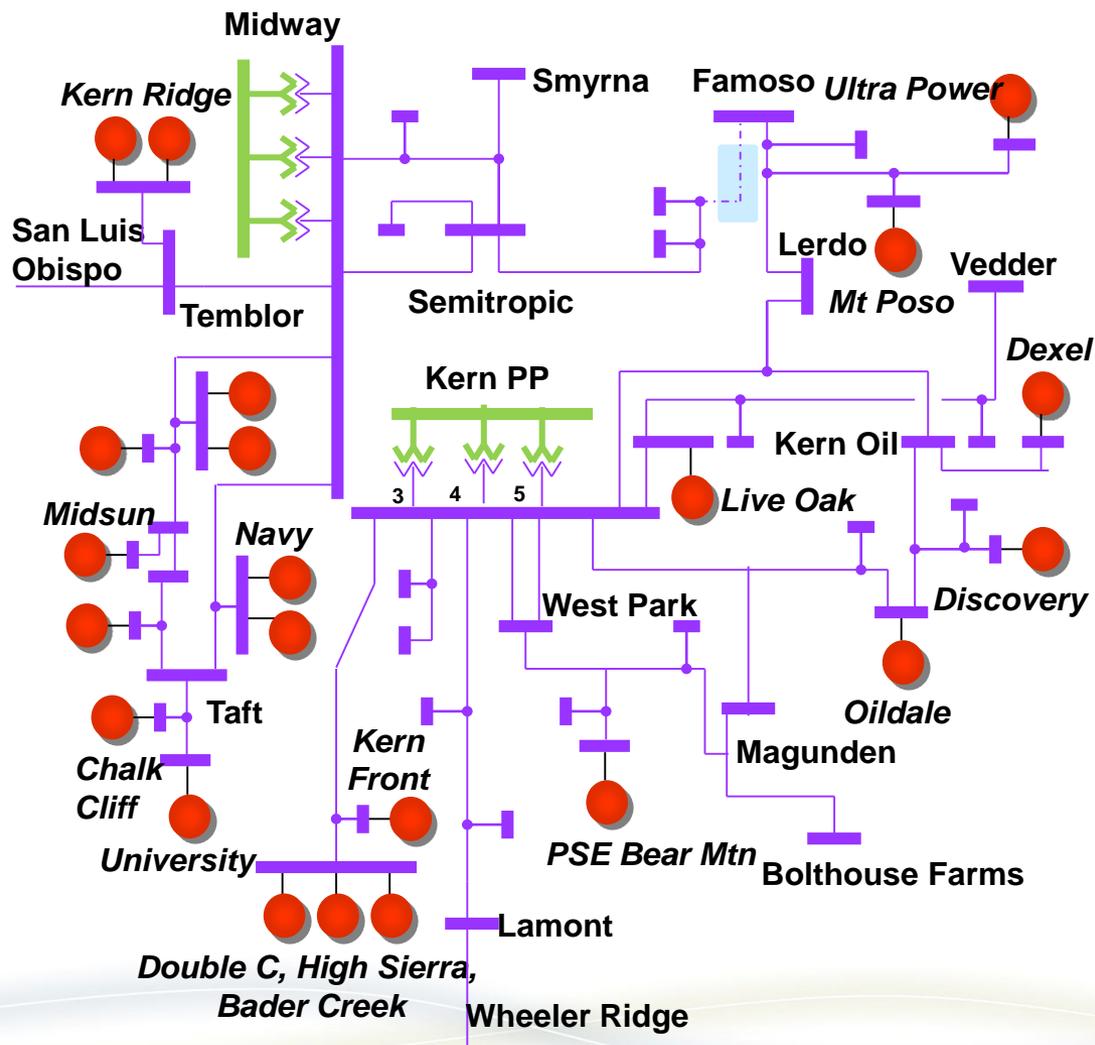
Eliminated due to Kern PP 115 kV area reinforcement.

LCR Results (MW):

Contingency	Cat. B	Cat. C
LCR	0	0

Including:

QF	0	0
Muni	0	0
Deficiency	0	0



Kern Area LCR

2020 Kern Oil Sub-Area

Limiting Contingencies:

Category B:

- G-1/L-1: Kern PP-Magunden-Witco 115 kV with PSE Live Oak generation out of service
- Constraint: Kern PP-Live Oak 115 kV

Category C:

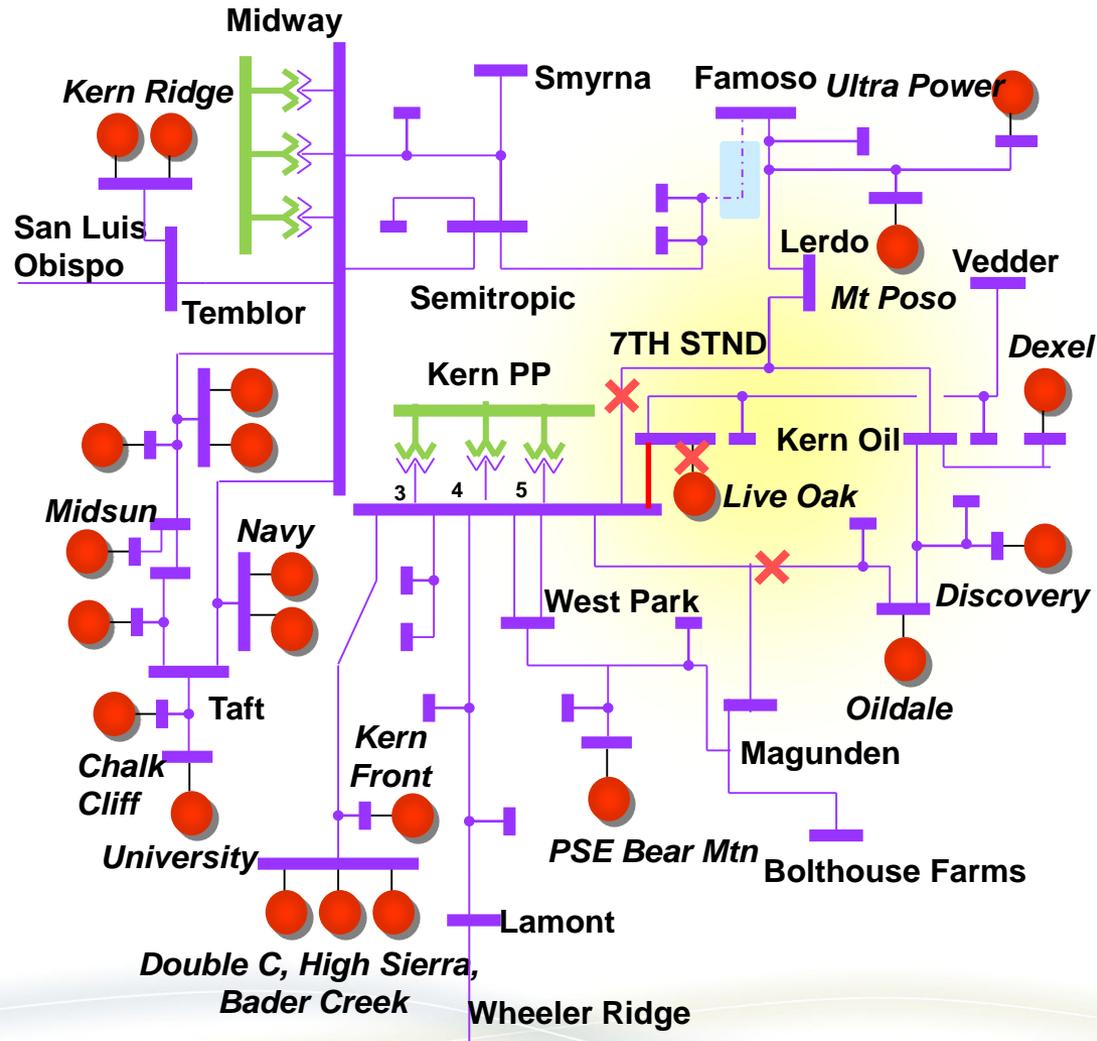
- L-1/L-1: Kern PP-Magunden-Witco and Kern PP-7th Standard 115 kV lines
- Constraint: Kern PP-Live Oak 115 kV

LCR Results (MW):

Contingency	Cat. B	Cat. C
LCR	132	135

Including:

QF	55	55
Muni	0	0
Deficiency	0	0



Kern Area LCR

2020 South Kern PP Sub-Area

NO ADDITIONAL LCR NEED.

- KERN OIL SUB-AREA need is dominantly binding

Limiting Contingencies:

Category B:

- T-1: Kern #5 230/115 kV
- Constraint: Kern #3 230/115 kV

Category C:

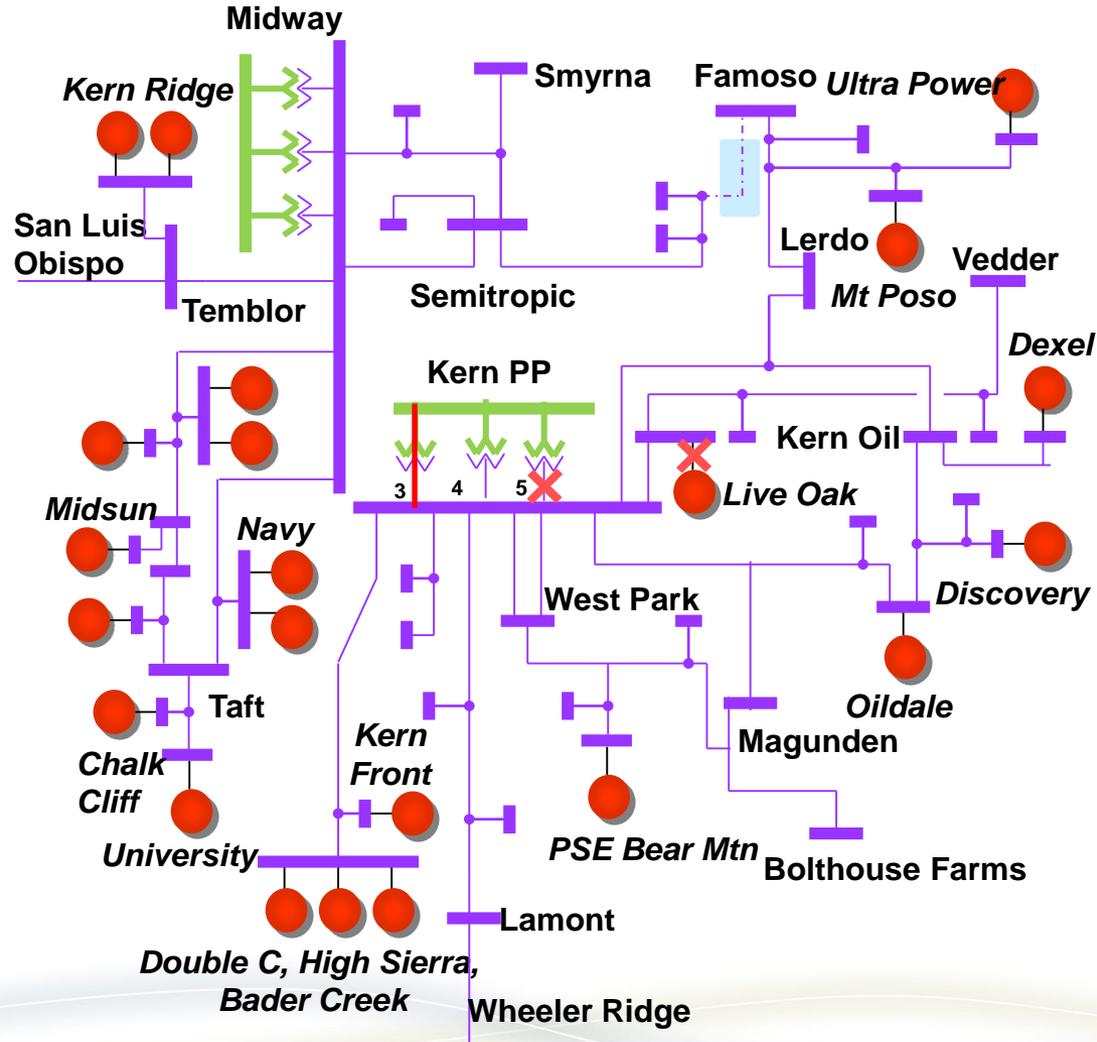
- G-1/T-1 Kern #5 230/115 kV with PSE Live Oak generation out of service
- Constraint: Kern #3 230/115 kV

LCR Results (MW):

Contingency	Cat. B	Cat. C
LCR	36	80

Including:

QF	100	100
Muni	0	0
Deficiency	0	0



Changes

Since last year:

- 1) West Park-Magunden 115 kV normally opened at Magunden (CB 122)
- 2) Identified a new Kern Oil sub-area
- 3) 2016 area load has increased by 120 MW from 2015
- 4) 2016 LCR has increased by about 48 MW from 2015
- 5) Kern PP #4 230/115 kV no longer limiting in 2020 vs. 2016
 - Kern PP #3 230/115 kV is now limiting (2020)
- 6) 2020 area load has increased by 126 MW from 2019
- 7) Due to pocket redefinition the new load total is lower by 466 MW (from 745 MW to 279 MW)
- 8) 2020 LCR has decreased by about 58 MW from 2019 mostly due to the Kern PP 115 kV area reinforcement and the new Wheeler Ridge Junction Substation projects

Your comments and questions are welcome.

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