



# 2022 & 2026 Final LCR Study Results Kern Area

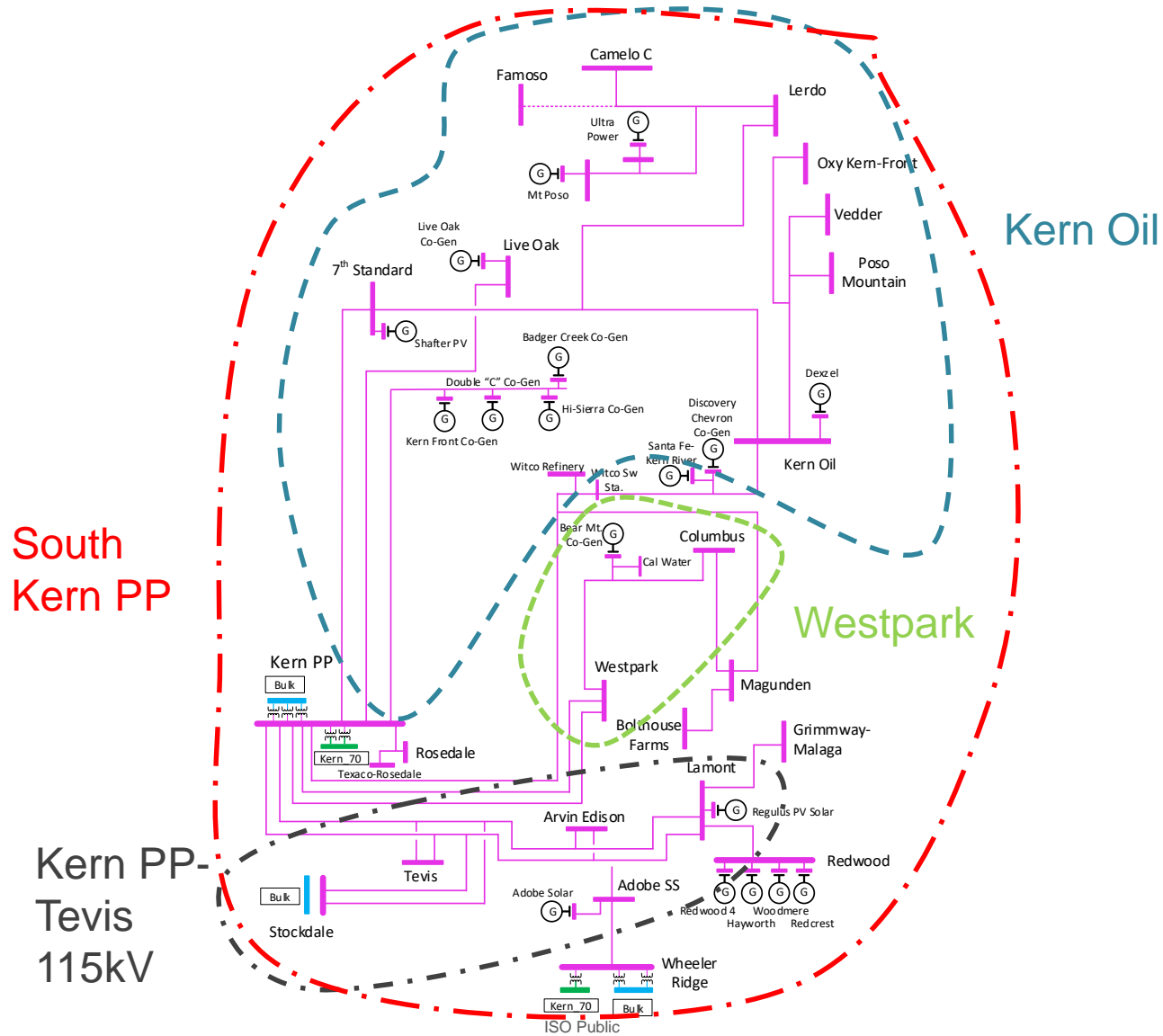
Lindsey Thomas

Regional Transmission Engineer

Stakeholder Call

April 7, 2021

# Kern Area LCR Sub-Areas



# Major new projects

## Transmission Projects:

- No new transmission projects

## Resource Additions:

- No new resource additions

## Resource Retirements:

- No new retirements

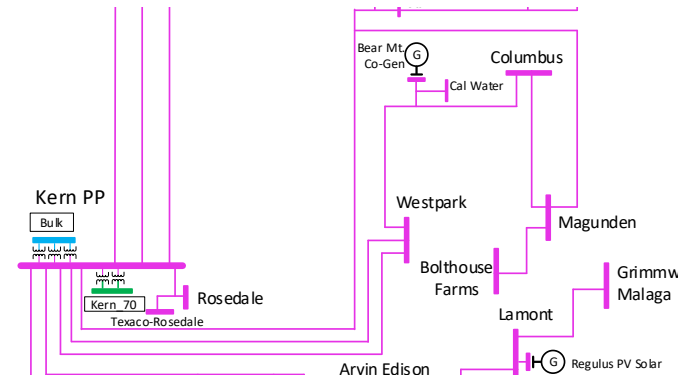
## Kern Area Overall: Load and Resources

Load (MW)	2022	2026	Generation (MW)	2022	2026
Gross Load	1028	1073	Market/ Net Seller/ Battery	333	333
AAEE	-8	-16	Solar	81	81
Behind the meter DG	0	0	Wind	0	0
<b>Net Load</b>	<b>1020</b>	<b>1057</b>	Muni	0	0
Transmission Losses	9	10	QF	4	4
Pumps	0	0	Future preferred resource and energy storage	0	0
<b>Load + Losses + Pumps</b>	<b>1029</b>	<b>1067</b>	<b>Total Qualifying Capacity</b>	<b>418</b>	<b>418</b>

# Kern Area LCR

## Westpark Sub-Area

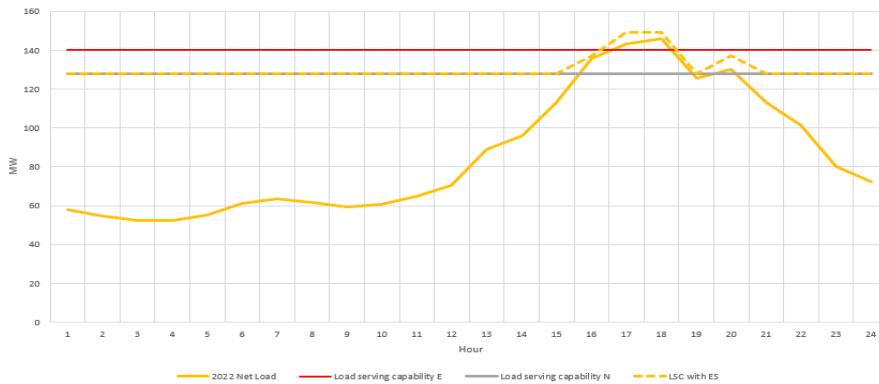
Year	Category	Limiting Facility	Contingency	LCR (MW) (Deficiency)
2022	P3	Kern-Westpark #2 115 kV	Kern-Westpark #1 115 kV and PSE-Bear Generation	53 (9)
2026	P3	Kern-Westpark #2 or # 1 115 kV	Kern-Westpark #1 115 kV and PSE-Bear Generation	51 (7)



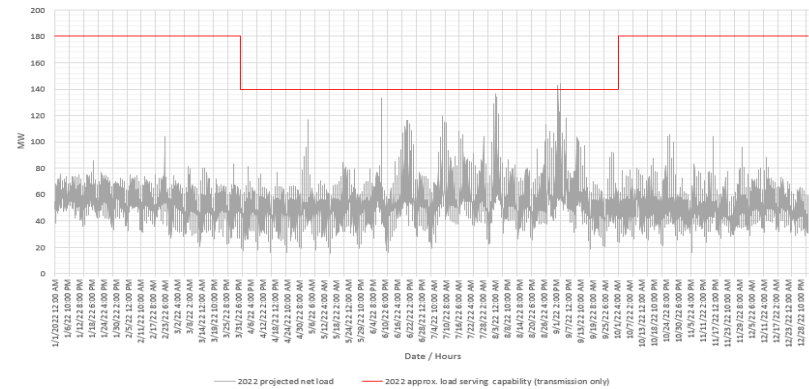
Note: Rating in the base cases for Kern – Westpark #1 and #2 is 175 MVA, however this area peaks after the rate adjust time so the rating was adjusted down to 147 MVA

# Westpark Subarea: Load Profiles

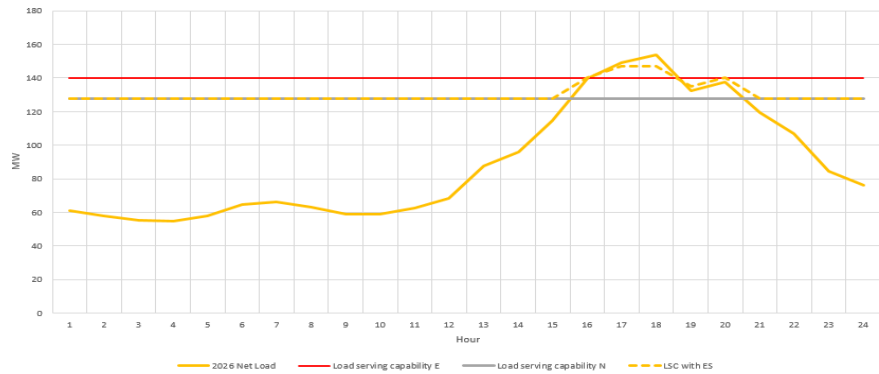
Kern - Westpark LCR Subarea:  
 2022 projected pk day load profile & approx. LSC (trans + LCR Gen + ES)  
 Approx storage size that can be added to this area from charging restriction perspective =  
 9 MW and 36 MWh. Max 4-hr storage = 9 MW



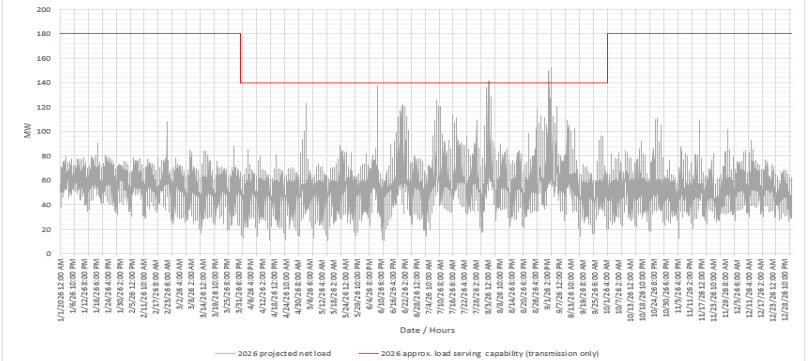
Kern - Westpark LCR Subarea:  
 2022 projected load profile & approx. load serving capability (transmission only)



Kern - Westpark LCR Subarea:  
 2026 projected pk day load profile & approx. LSC (trans + LCR Gen + ES)  
 Approx storage size that can be added to this area from charging restriction perspective =  
 7 MW and 21 MWh. Max 4-hr storage = NA

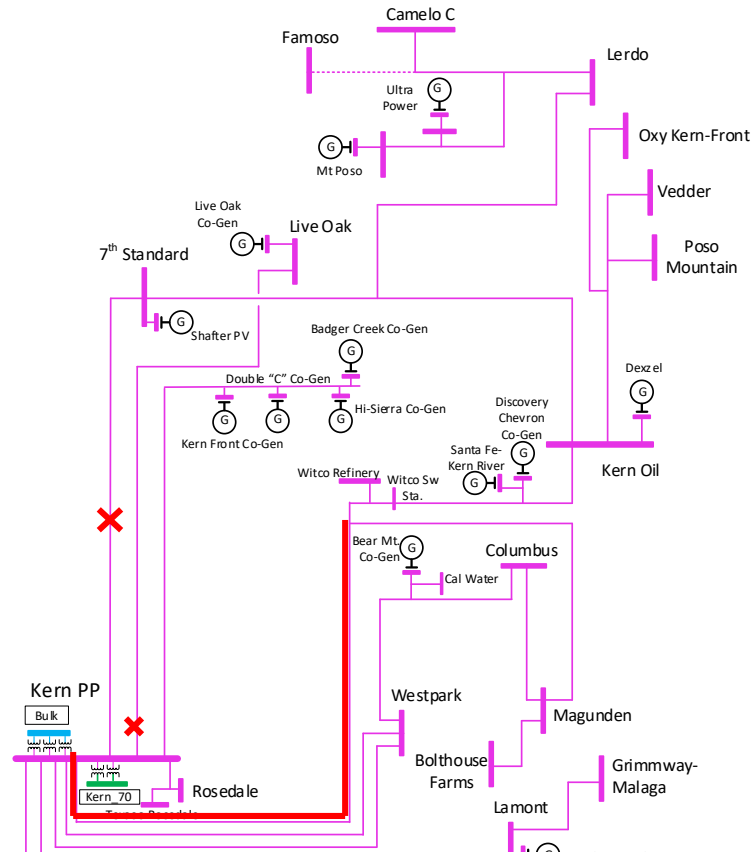


Kern - Westpark LCR Subarea:  
 2026 projected load profile & approx. load serving capability (transmission only)



# Kern Area LCR

## Kern Oil Sub-Area



# Kern Area LCR

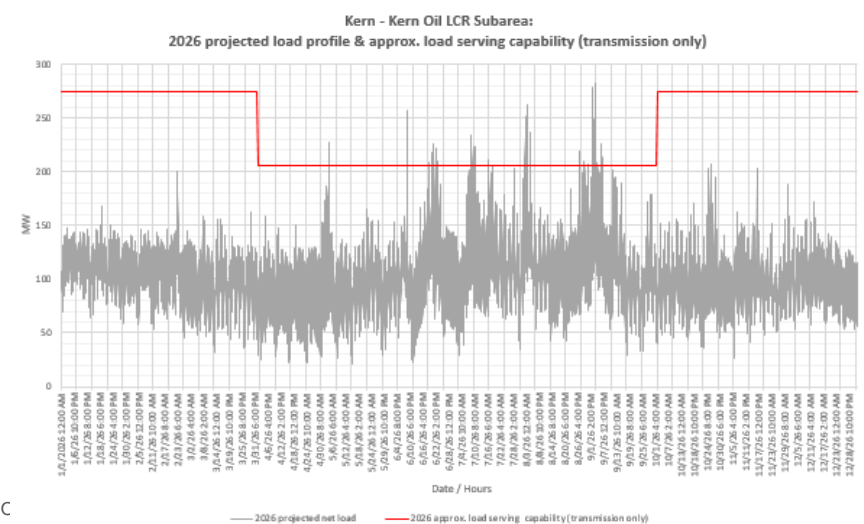
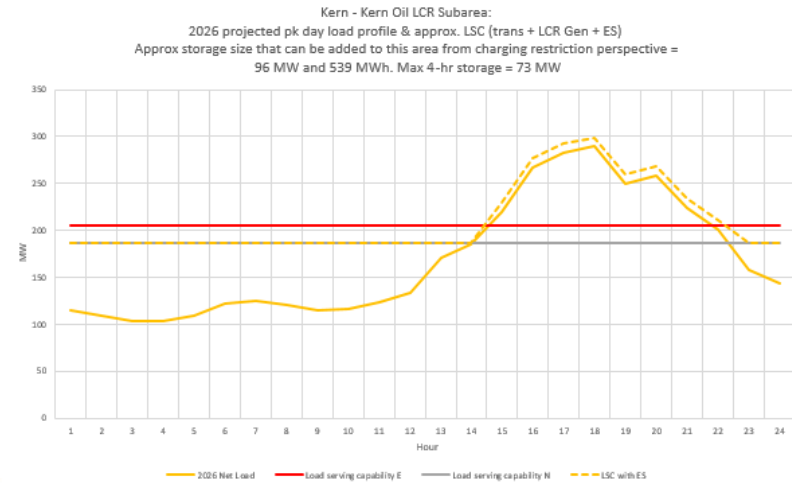
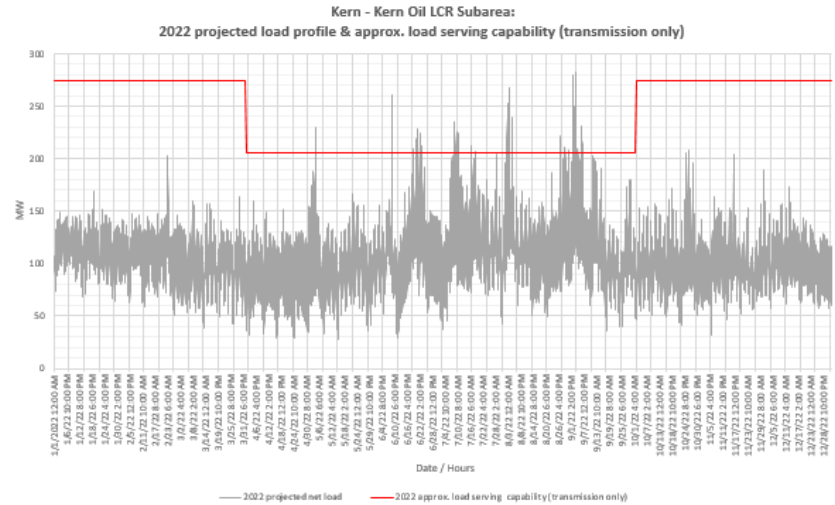
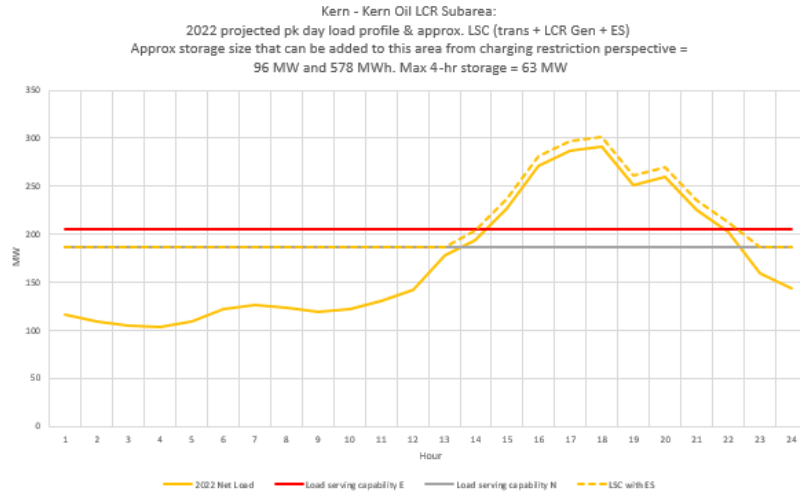
## Kern Oil Sub-Area

Year	Cat	Limiting Facility	Contingency	LCR (MW) (Deficiency)
2022	P6	Kern Oil - Kern Water 115 kV Line	Kern PP-7th Standard 115 kV lines & Kern PP-Live Oak 115 kV Line	78

Year	Cat	Limiting Facility	Contingency	LCR (MW) (Deficiency)
2026	P6	Kern Oil - Kern Water 115 kV Line	Kern PP-7th Standard 115 kV lines & Kern PP-Live Oak 115 kV Line	84

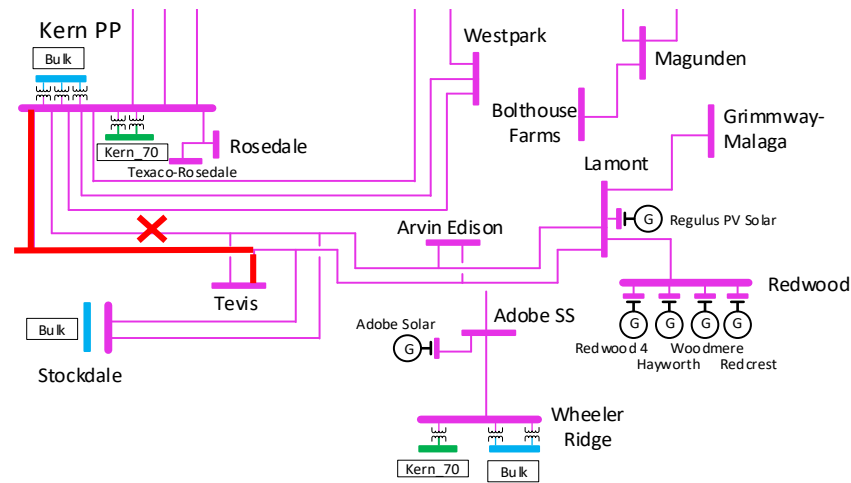


# Kern Oil Subarea: Load Profiles

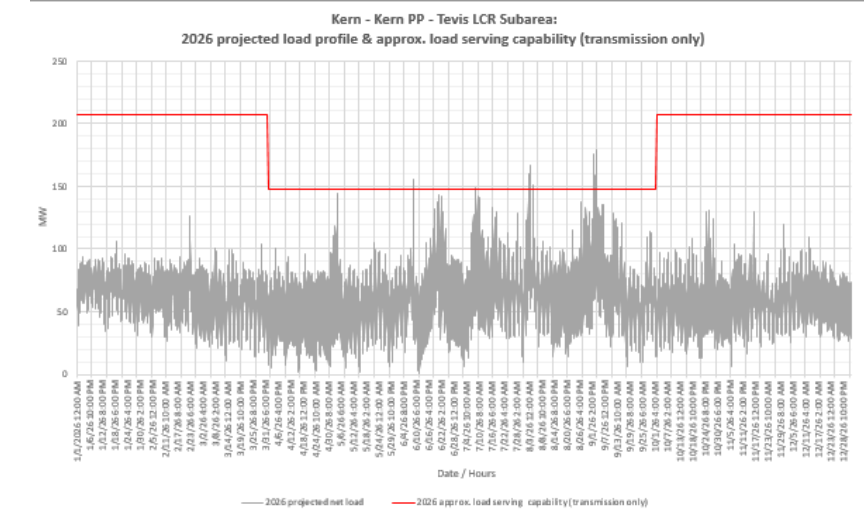
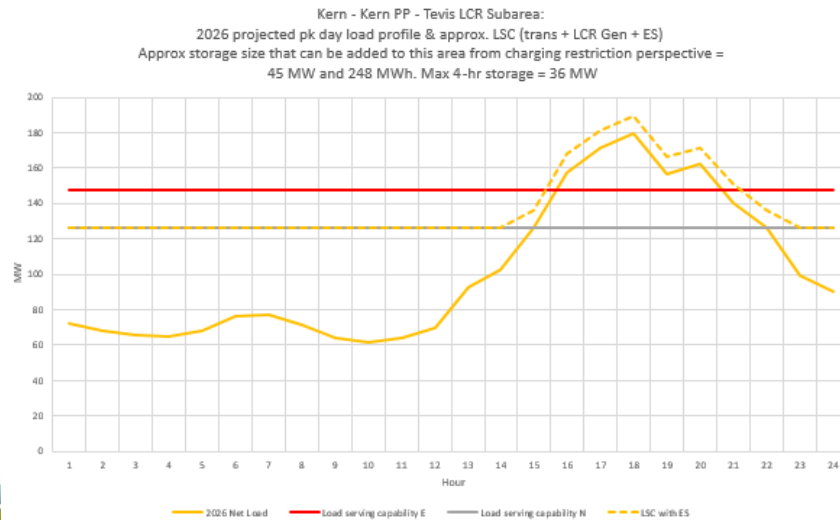
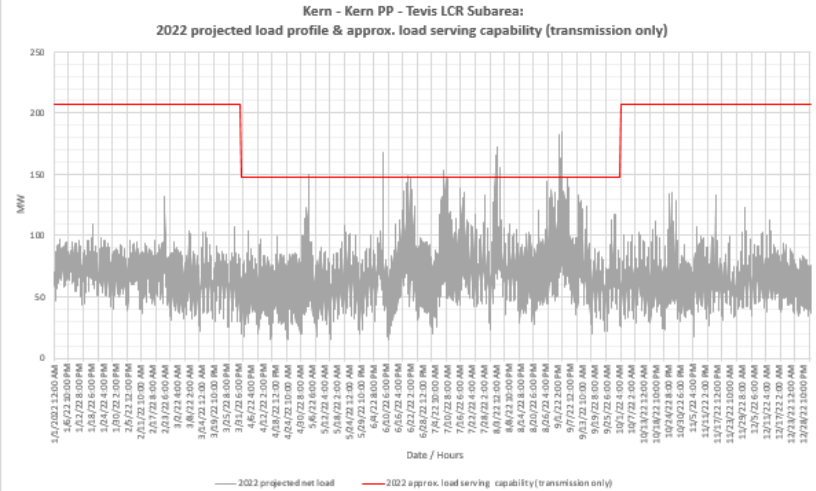
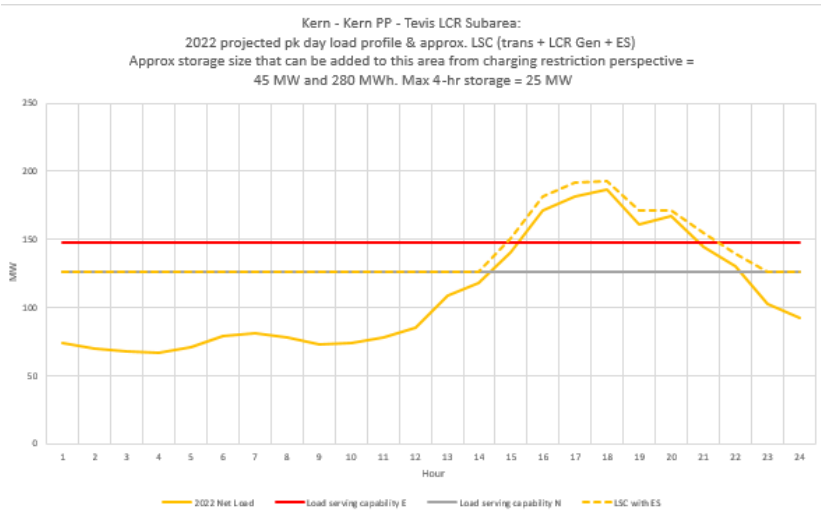


# Kern Pwr-Tevis 115 kV Sub-Area : Requirements

Year	Category	Limiting Facility	Contingency	LCR (MW) (Deficiency)
2022	P2	Kern-Lamont 115 kV Lines (Kern-Tevis Jct 2/Tevis J1)	KERN PWR 115kV - Section 1E & 1D	22 (22 Peak)
2026	P2	Kern-Lamont 115 kV Lines (Kern-Tevis Jct 2/Tevis J1)	KERN PWR 115kV - Section 1E & 1D	26 (26 Peak)

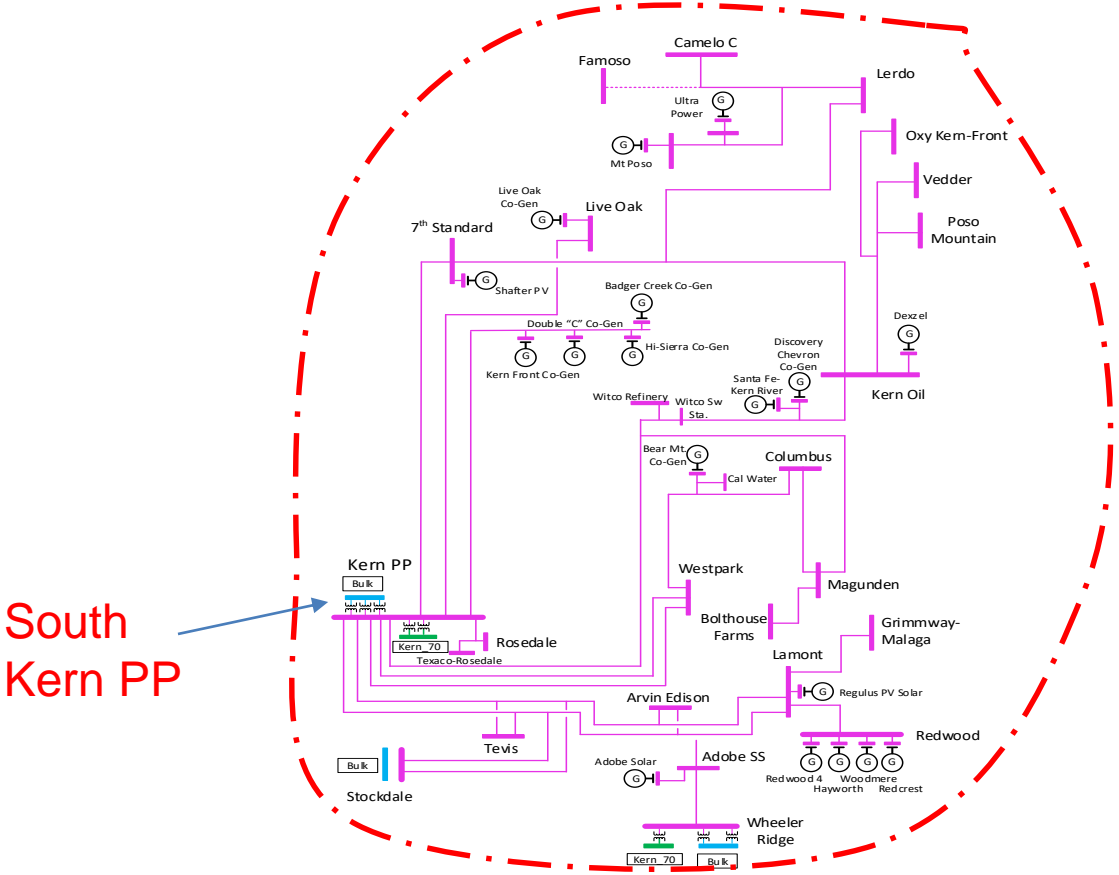


# Kern PP - Tevis Subarea: Load Profiles



# Kern Area LCR

## South Kern PP Sub-Area



# Kern Area LCR

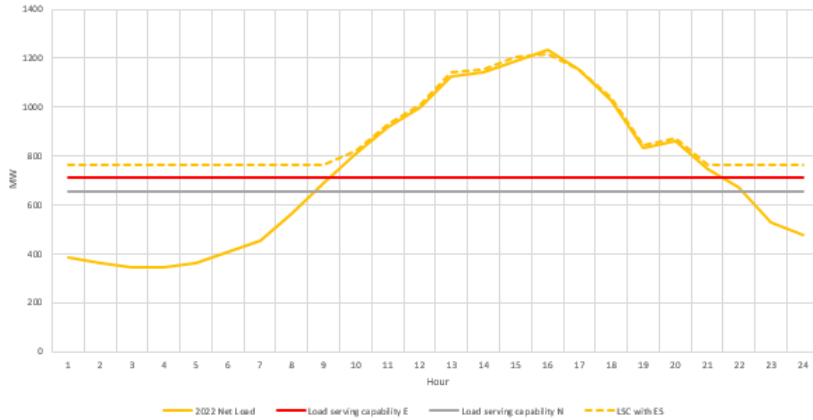
## South Kern PP Sub-Area

Year	Cat	Limiting Facility	Contingency	LCR (MW) (Deficiency)
2022	P6	Kern 230/115 kV T/F # 5	Kern 230/115 kV T/F # 3 & Kern 230/115 kV T/F # 4	356 (23 Peak)

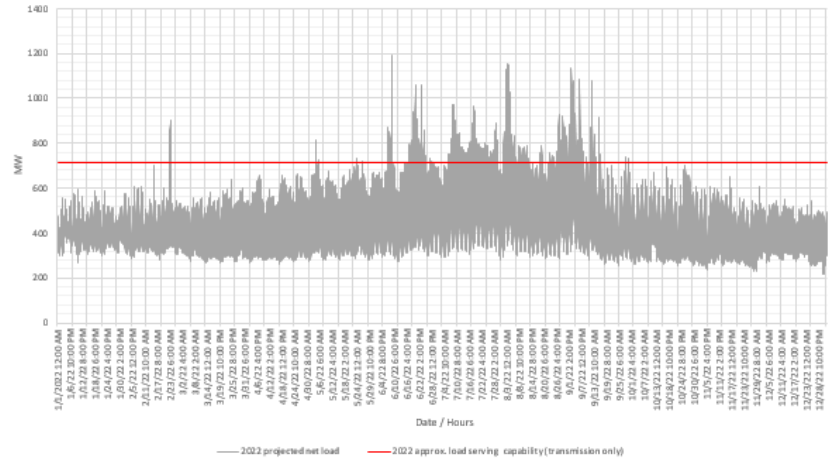
Year	Cat	Limiting Facility*	Contingency	LCR (MW) (Deficiency)
2026	P7	Bakersfield B - Midway 230 kV Line	Midway – Kern #3 and Midway – Kern #4 230 kV lines	432 (95 Peak, 14 NQC)

# South Kern PP Subarea: Load Profiles

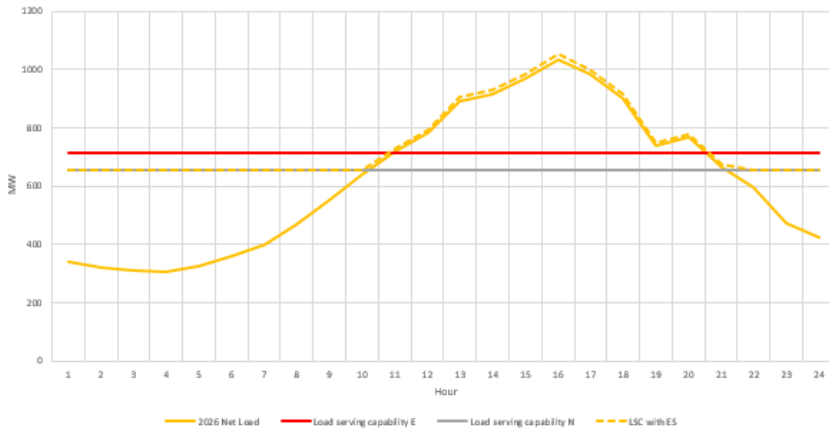
Kern - South Kern PP LCR Subarea:  
 2022 projected pk day load profile & approx. LSC (trans + LCR Gen + ES)  
 Approx storage size that can be added to this area from charging restriction perspective =  
 395 MWh and 2904 MWh. Max 4-hr storage = 152 MW



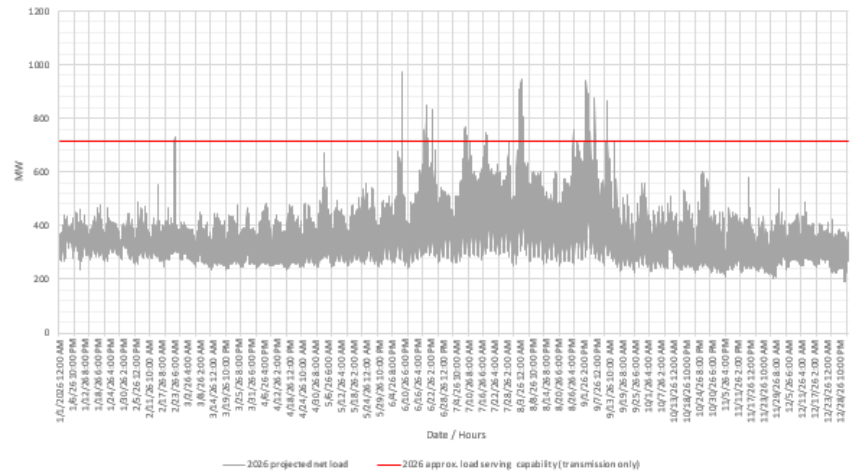
Kern - South Kern PP LCR Subarea:  
 2022 projected load profile & approx. load serving capability (transmission only)



Kern - South Kern PP LCR Subarea:  
 2026 projected pk day load profile & approx. LSC (trans + LCR Gen + ES)  
 Approx storage size that can be added to this area from charging restriction perspective =  
 503 MWh and 2312 MWh. Max 4-hr storage = 500 MW



Kern - South Kern PP LCR Subarea:  
 2026 projected load profile & approx. load serving capability (transmission only)



# Kern Total LCR Need

2022 LCR Need	Existing Generation Capacity Needed (MW)	NQC Deficiency (MW)	Total MW Need
Category P6	356	9	365

2026 LCR Need	Existing Generation Capacity Needed (MW)	NQC Deficiency (MW)	Total MW Need
Category P7	418	14	432

# Changes Compared to Previous LCR Requirements

Subarea	2021		2022		2025		2026	
	Load	LCR	Load	LCR	Load	LCR	Load	LCR
Kern PP 70 kV	226	81*	NA	NA	243	90*	NA	NA
West Park	162	58*	140	53 (9 NQC)	465	20	147	51 (7 NQC)
Kern Oil	287	156*	276	78	297	69	283	84
KernPP- Tevis 115 kV	198	55*	158	22 (22 Peak)	NA	NA	164	26 (26 Peak)
South Kern	1285	632*	1019	356 (23 Peak)	1636	186	1056	432 (95 Peak 14 NQC)
Kern Overall	1285	632*	1019	365 (9 NQC)	1651	276*	1056	432 (14 NQC)

\* Includes Deficiency

- 2025 area was defined differently due to modeling of a now on hold project. Since this project is not modeled in the 2026 cases there is a significant difference in Load and LCR from 2025 to 2026.
- Kern PP 70 kV is eliminated as Magunden CB 22 is open which makes both Kern PP 70 kV and Wheeler ridge 70 kV pockets radial