2022 & 2026 Draft LCR Study Results
Big Creek/Ventura Area

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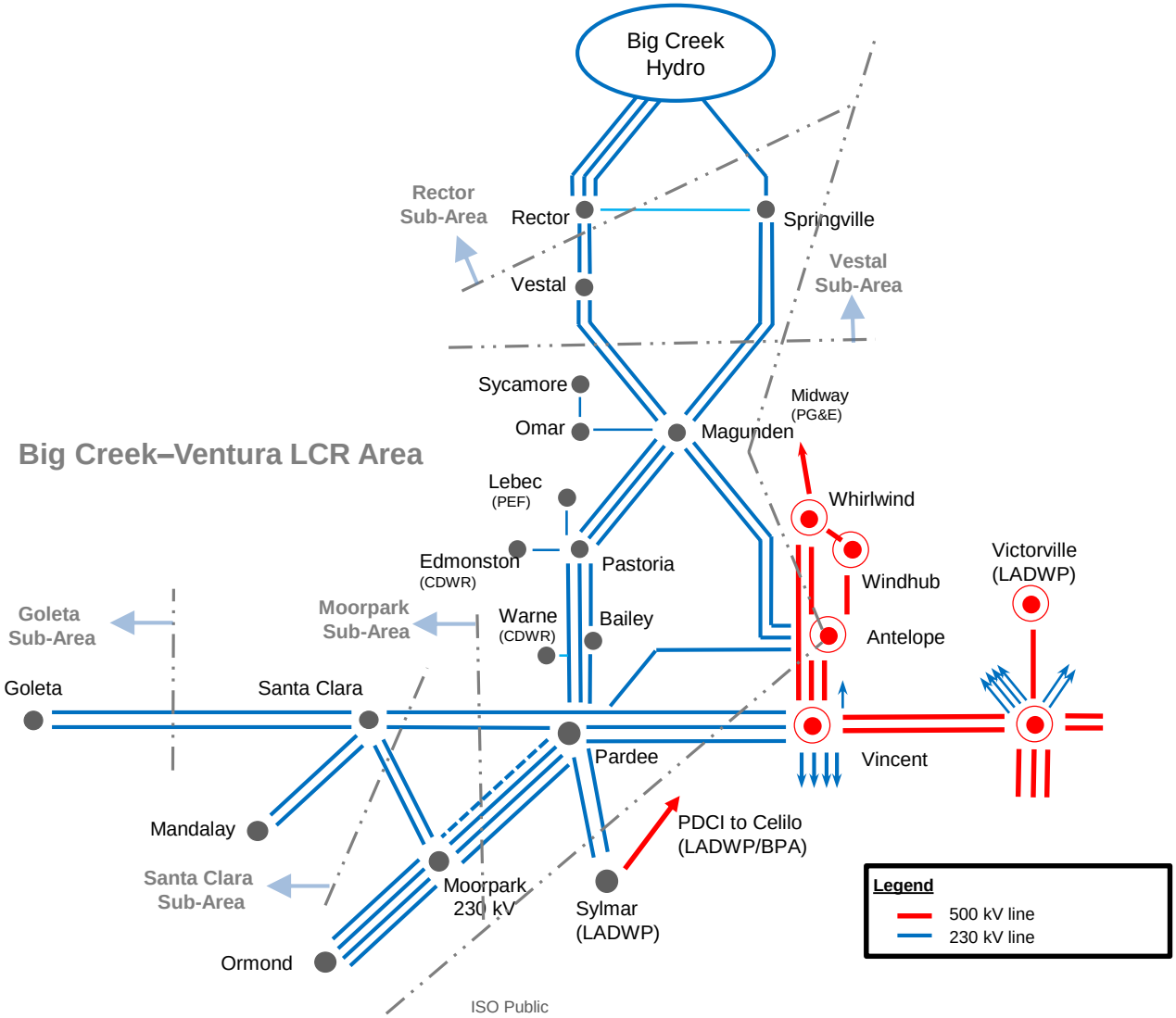
Stakeholder Call

March 11, 2021

Big Creek - Ventura Area Transmission System



Major Transmission Projects

- Pardee-Moorpark No. 4 230 kV Transmission Project (ISD – Q2 2022)
- Pardee-Sylmar 230 kV Rating Increase Project (ISD - May 2023)

Resource Assumptions

- Ormond Beach is assumed to be available in 2022 but not in 2026
- CPUC-approved battery storage resources for the Santa Clara area are modeled

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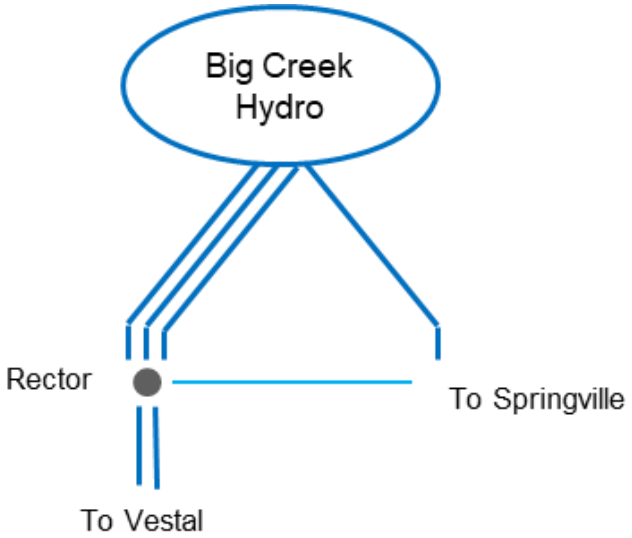
Load and Resources

Load (MW)			Generation NQC (MW)* (Sept.)		
	2022	**2026**		**2022**	**2026**
Gross Load	4,468	4,703	Market/Net Seller	4,045	2,554
AAEE	-23	-85	Solar	204	229
Behind the meter PV	-339	-465	Muni	305	305
Net Load	**4106**	**4,153**	QF	64	64
Transmission Losses	78	94	Battery storage	585	585
Pumps	210	210	Demand Response	63	63
Load+Losses+Pumps	**4,394**	**4,457**	**Total Qualifying Capacity**	**5,266**	**3,800**

* 2026 generation capacity excludes Ormond Beach.

Rector Sub-Area Requirements

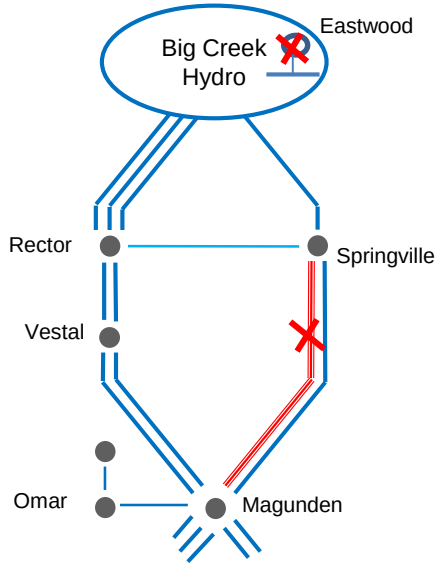
Category	Limiting Facility	Contingency	LCR (MW)	
			2022	2026
P3/P6	LCR for Rector is satisfied by the LCR of the larger Vestal sub-area		0	0



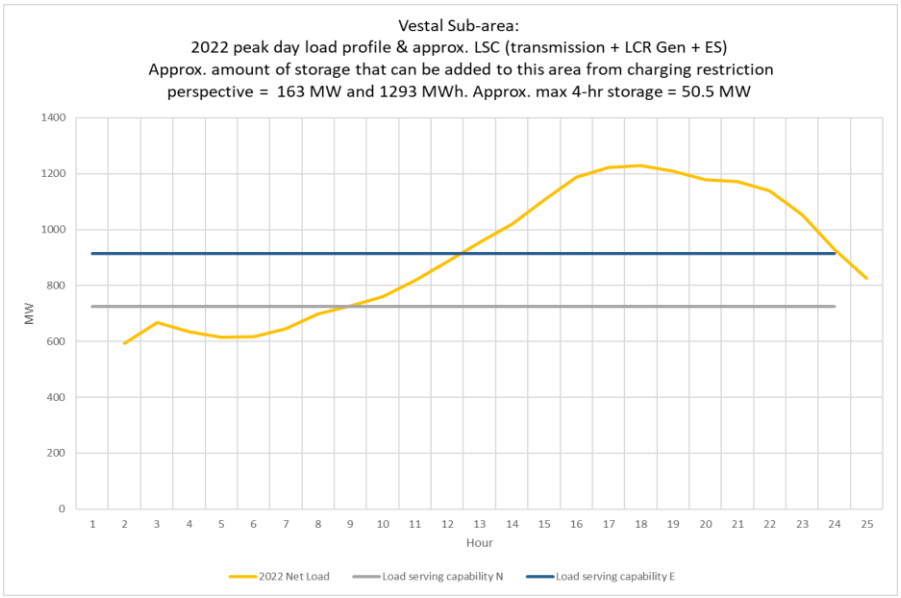
Vestal Sub-Area Requirements

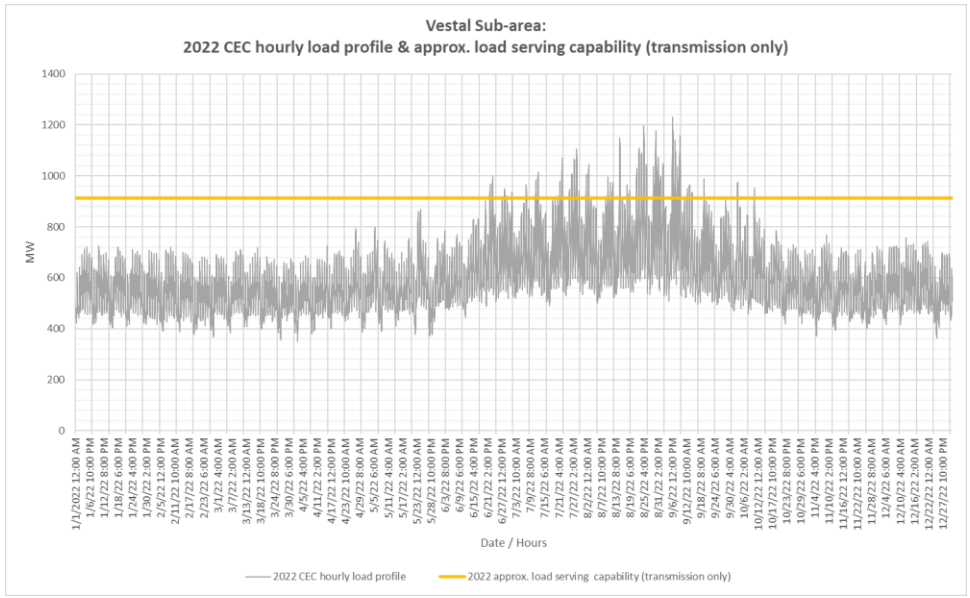
	Category	Limiting Facility	Contingency	LCR (MW)	
				2022	2026
First limit	P3/P6	Magunden–Springville #2 230 kV line	Magunden–Springville #1 230 kV line with Eastwood out of service	351	394
Second limit*	P3/P6	Magunden–Vestal #1 230 kV line	Magunden–Vestal #2 230 kV line with Eastwood out of service	324	373

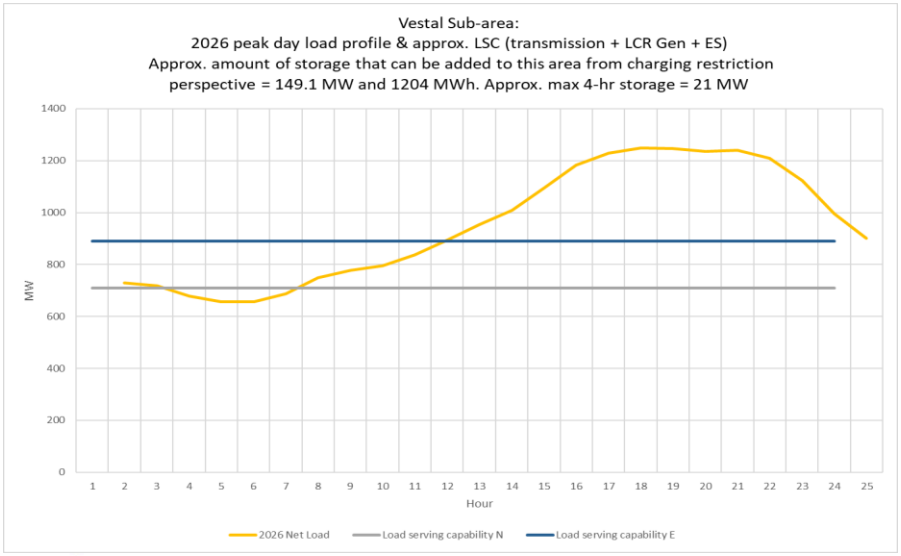
* Due to the larger difference between normal and emergency ratings of the limiting facility associated with the second limit compared to that associated with the first limit, the second limit is the binding constraint for energy storage local capacity. Therefore, the energy storage local capacity analysis is performed based on the second limit

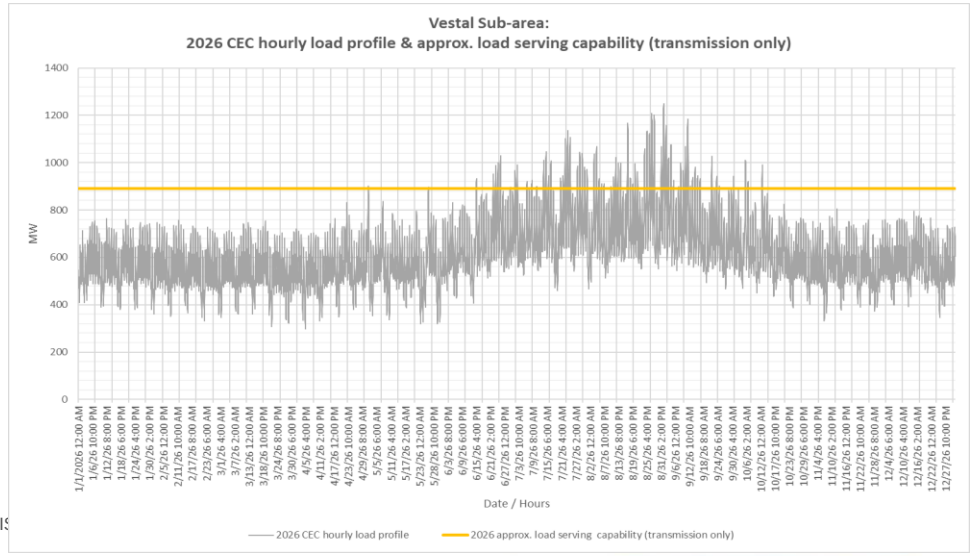


Vestal Sub-Area Load Profiles



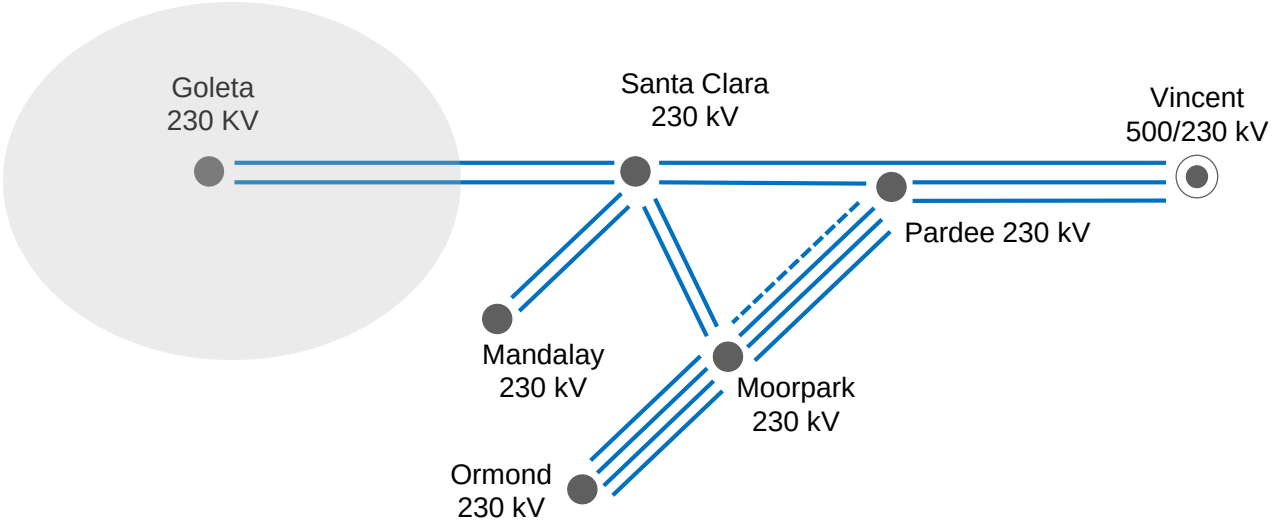






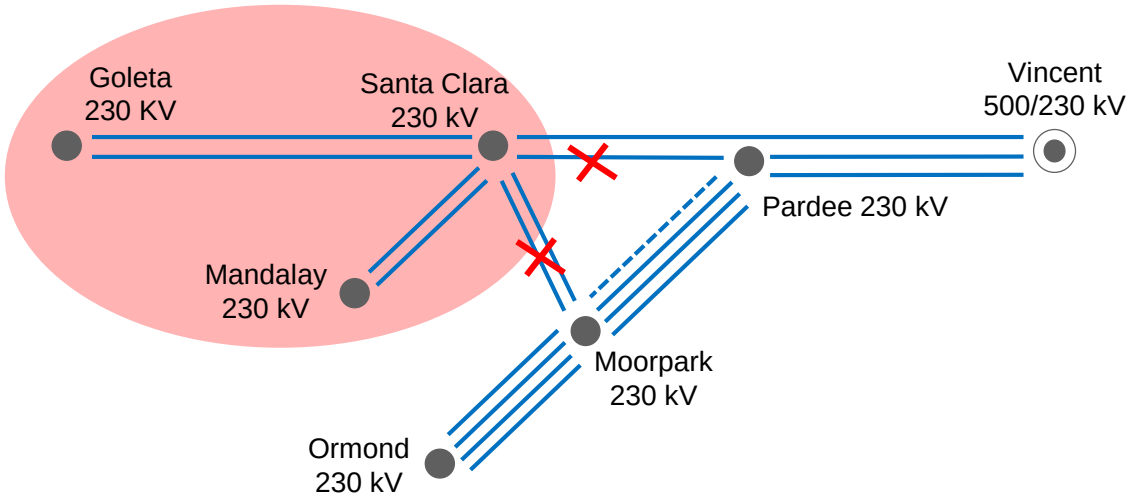
Goleta Sub-Area Requirements

Category	Limiting Facility	Contingency	LCR (MW)	
			2021	2026
P6	LCR for Goleta is satisfied by the LCR of the larger Santa Clara sub-area		0	0

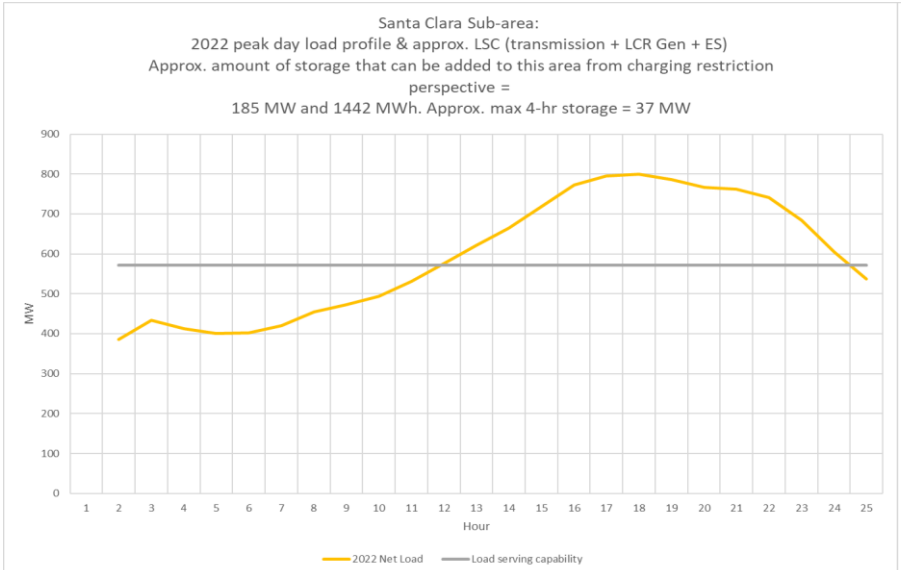


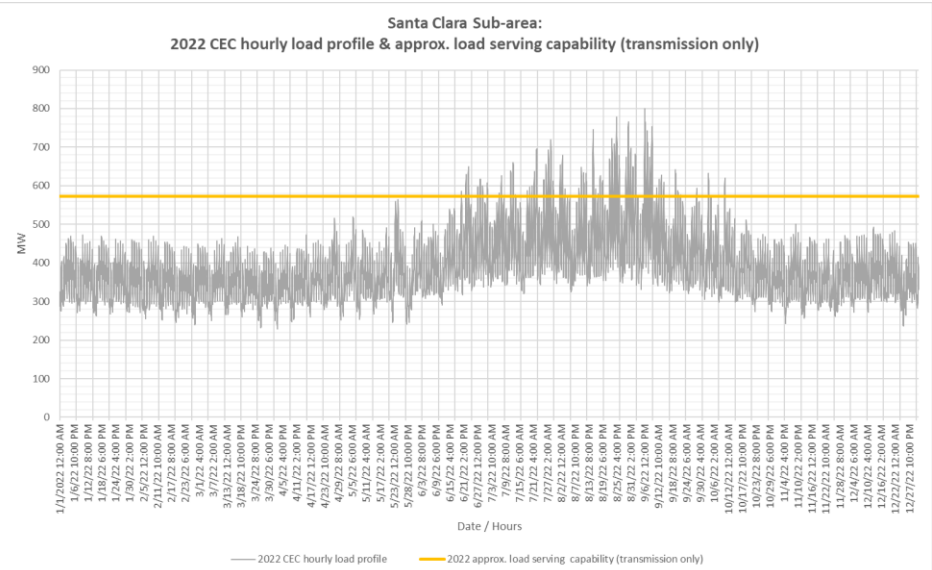
Santa Clara Sub-Area Requirements

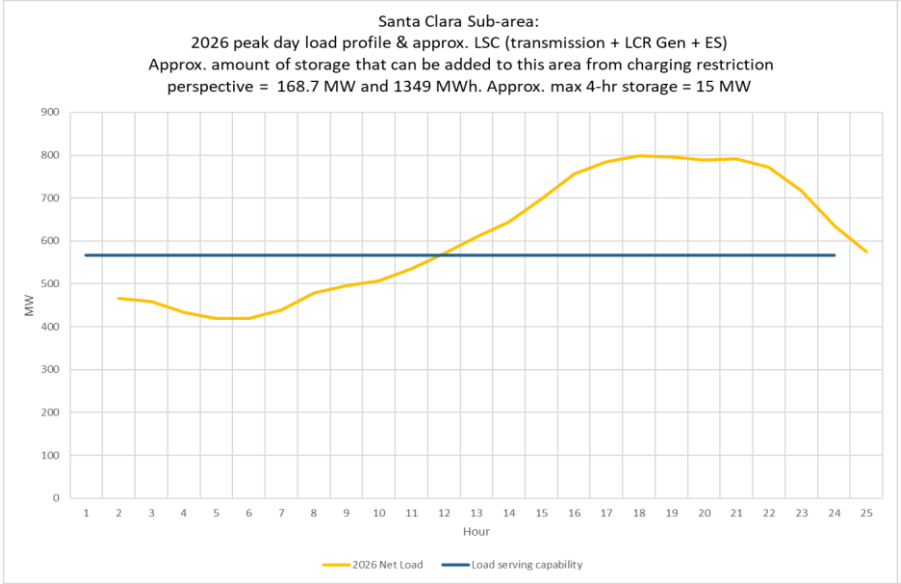
Category	Limiting Facility	Contingency	LCR (MW)	
			2022	2026
P1+P7	Voltage Collapse	Pardee–Santa Clara 230 kV line followed by Moorpark–Santa Clara #1 and #2 230 kV DCTL	193	202

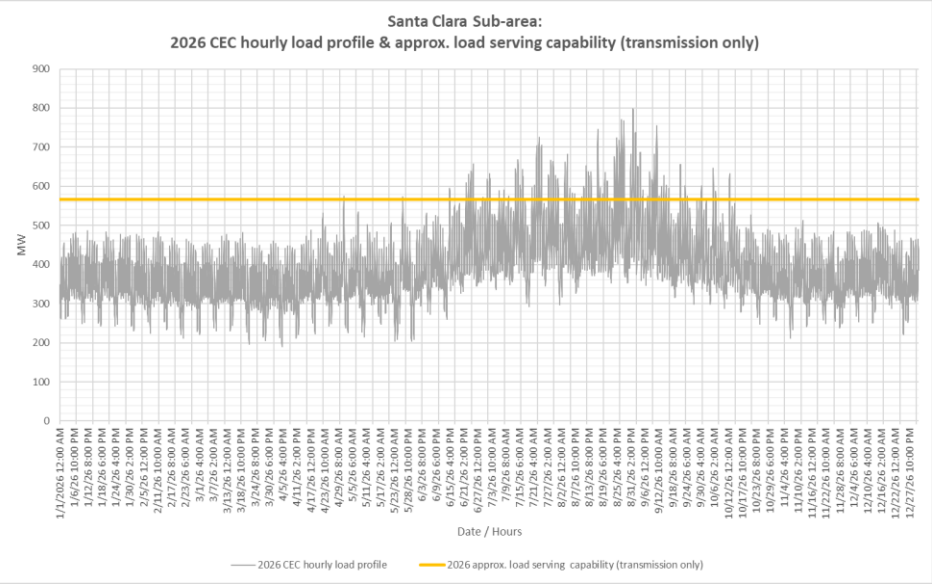


Santa Clara Sub-Area Load Profiles



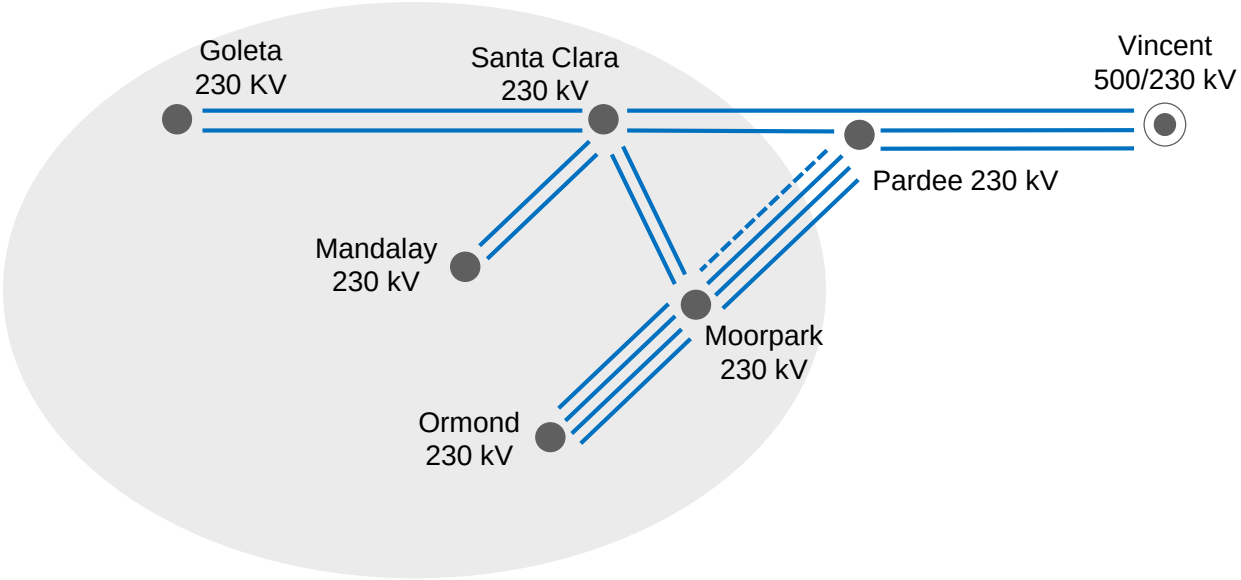






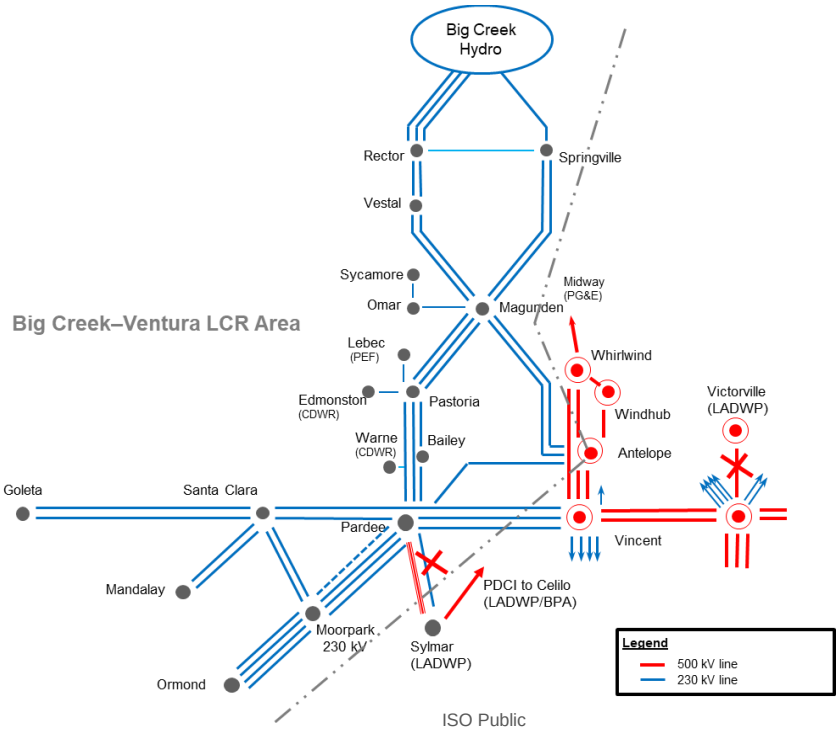
Moorpark Sub-Area Requirements

Category	Limiting Facility	Contingency	LCR (MW)	
			2022	2026
	None identified	None	0	0

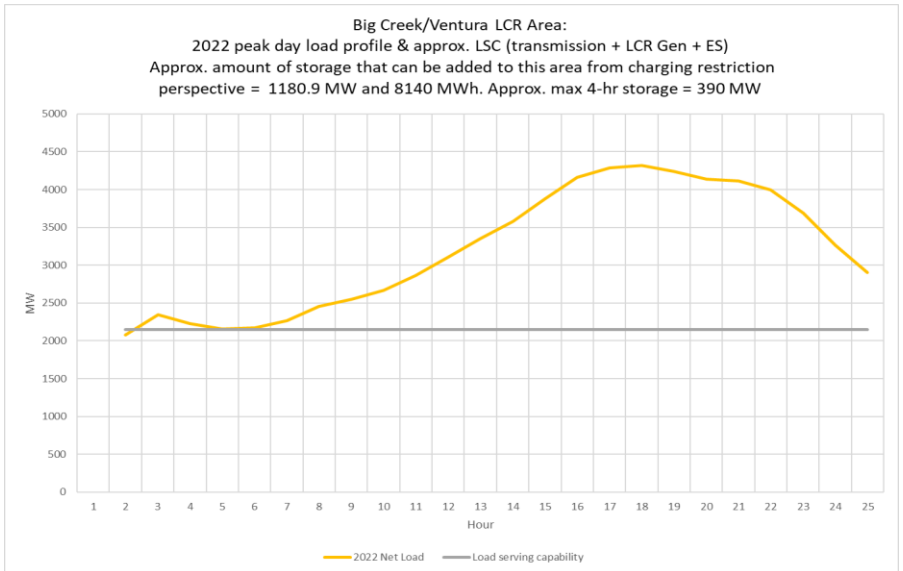


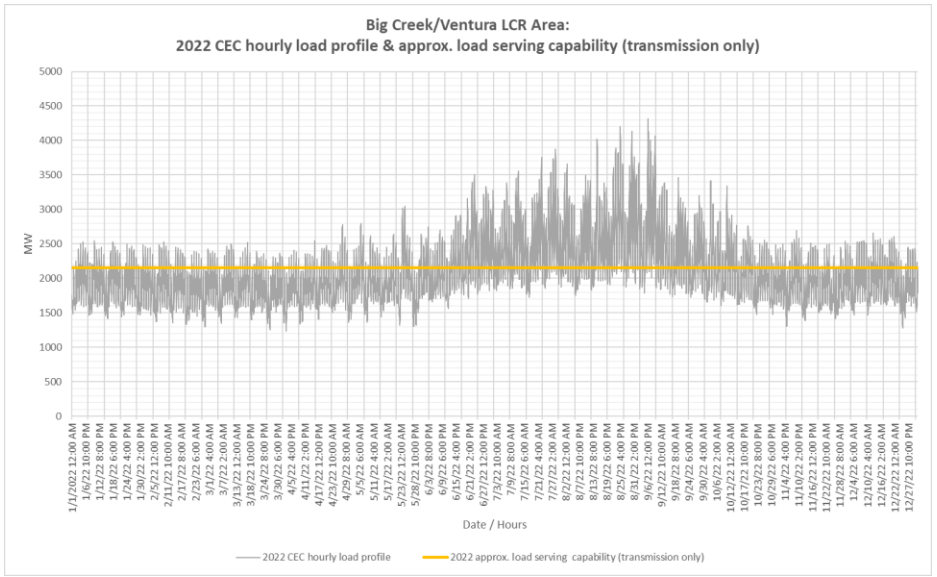
Overall Big Creek-Ventura Area Requirements

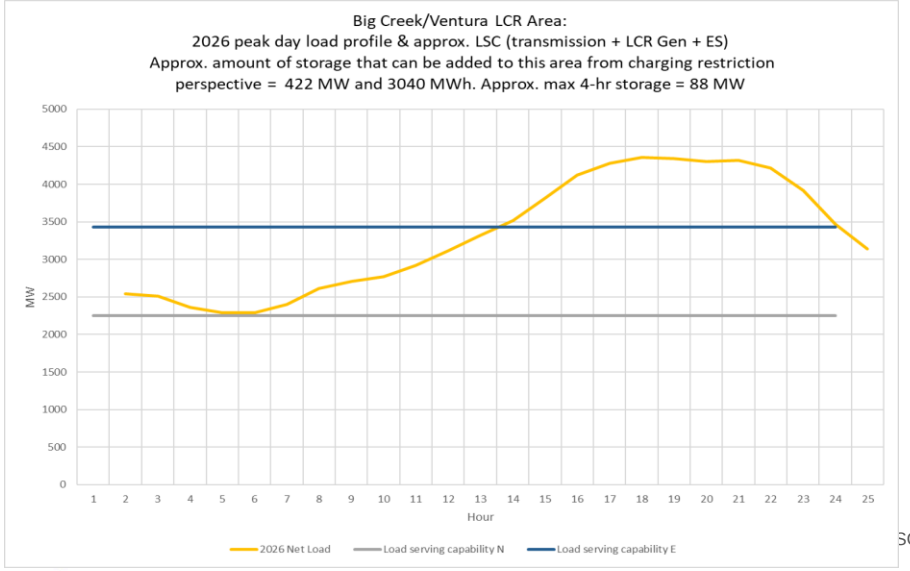
Category	Limiting Facility	Contingency	LCR (MW)	
			2022	2026
P6	Pardee-Sylmar #1 or #2 230 kV line	Overlapping outage of Lugo–Victorville 500 kV line and one Pardee-Sylmar 230 kV line	2,173	982

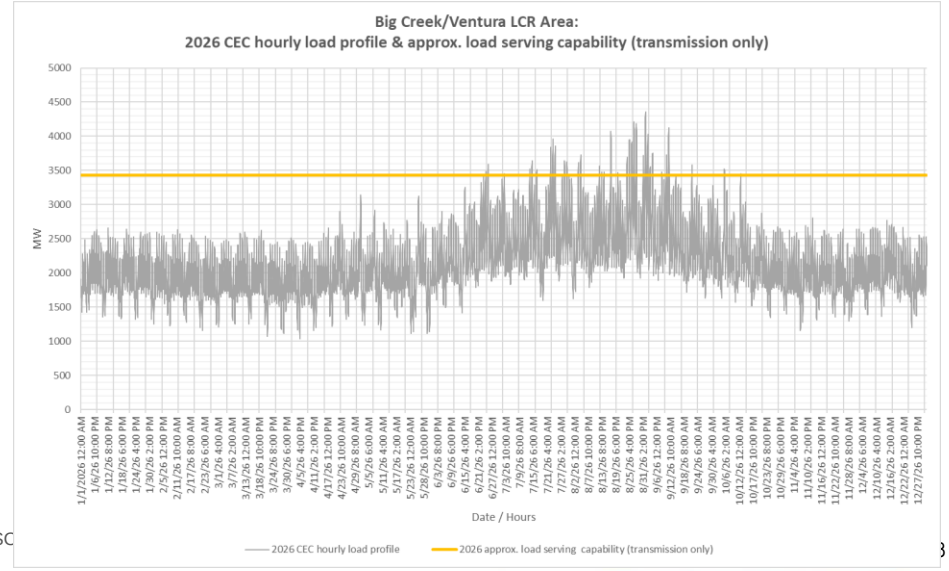


Overall Big Creek-Ventura Area Load Profiles









Big Creek Area Total LCR Need

2022 LCR Need	Existing Generation Capacity Needed (MW)	Deficiency (MW)	Total MW Need
Category P6	2,173	0	2,173

2026 LCR Need	Existing Generation Capacity Needed (MW)	Deficiency (MW)	Total MW Need
Category P6	982	0	982

Changes Compared to Last Year's Results - 2022

Sub-Area	2021		2022		Possible reason for LCR change
	Load (MW)	LCR (MW)	Load (MW)	LCR (MW)	
Rector	722	-	775	-	No change
Vestal	1,184	304	1,230	351	Load increased
Goleta	242	-	247	-	No change
Santa Clara	807	229	800	193	Load decreased
Moorpark	1,532	-	1,503	-	No change
Overall Big Creek Ventura	4,386	2,296	4,316	2,173	Load decreased

* Load values do not include losses

Changes Compared to Last Year's Results - 2026

Sub-Area	2025		2026		Possible reason for LCR change
	Load (MW)*	LCR (MW)	Load (MW)*	LCR (MW)	
Rector	737	-	791	-	No change
Vestal	1,199	310	1,250	394	Load increased
Goleta	244	-	247	-	No change
Santa Clara	793	225	798	202	Reactive load decreased
Moorpark	1,492	-	1,493	-	No change
Overall Big Creek Ventura	4,370	1,002	4,363	982	Load decreased

* Load values do not include losses

Energy Storage Local Capacity Assessment Summary

	LCR , MW	Approximate maximum energy storage		Approximate 4-hour energy storage	Remark
		Capacity (MW)	Energy (MWh)	Capacity (MW)	
2022					
Rector	0	N/A	N/A	N/A	No LC requirement
Vestal	351	163	1,293	51	No gas-fired LC requirement
Goleta	0	N/A	N/A	N/A	No LC requirement
Santa Clara	193	185	1,442	37	195 MW/780 MWh of ES procured
Moorpark	0	N/A	N/A	N/A	No LC requirement
Big Creek–Ventura	2,173	1,181	8,140	390	No gas-fired LC requirement; 585 MW of existing/contracted storage in area
2026					
Rector	0	N/A	N/A	N/A	No LC requirement
Vestal	394	149	1204	21	No gas-fired LC requirement
Goleta	0	N/A	N/A	N/A	No LC requirement
Santa Clara	202	169	1349	15	195 MW/780 MWh of ES procured
Moorpark	0	N/A	N/A	N/A	No LCR requirement
Big Creek–Ventura	982	422	3,040	88	No gas-fired LC requirement; 585 MW of existing/contracted storage in area