



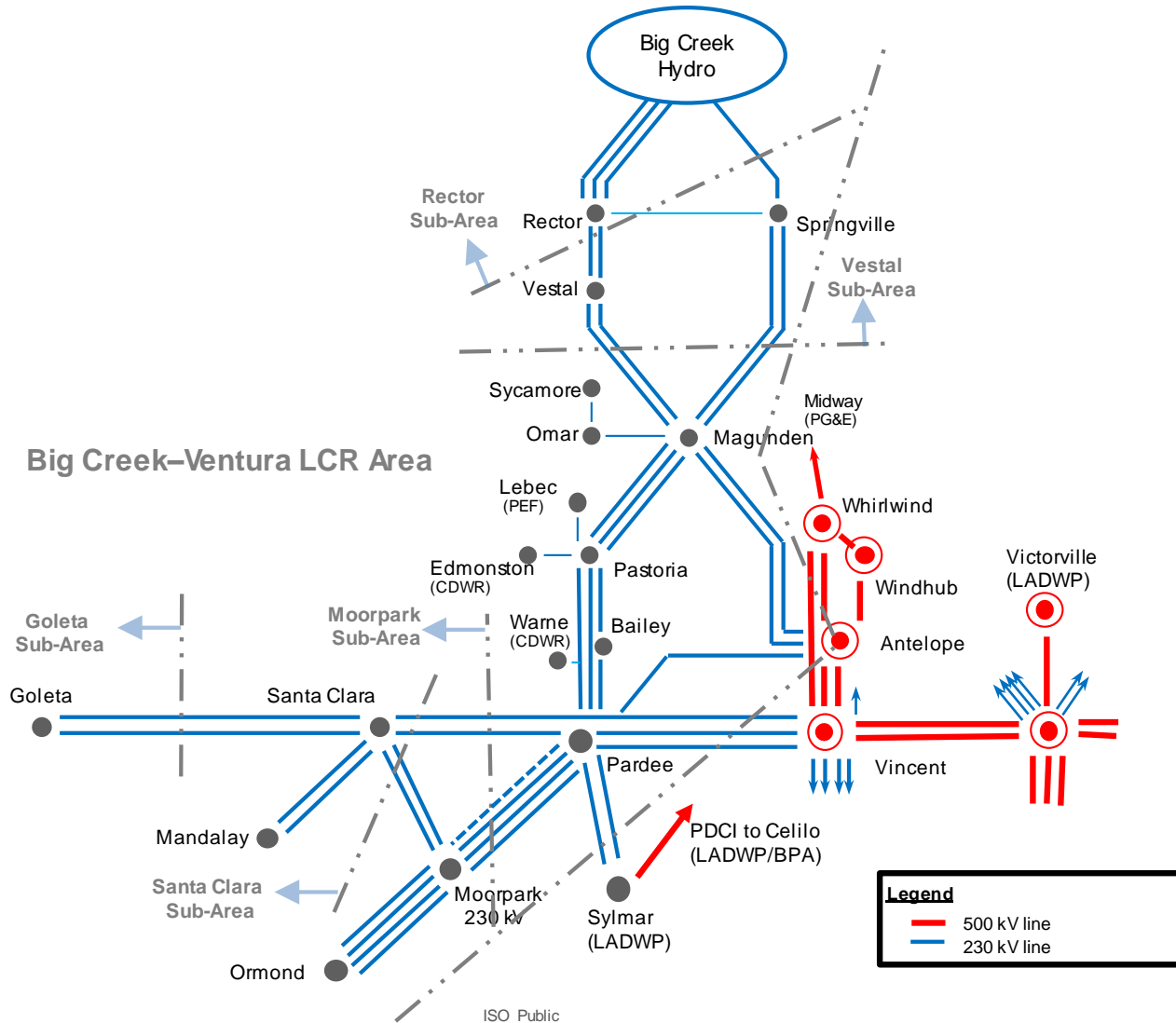
2023 & 2027 Draft LCR Study Results Big Creek/Ventura Area

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Stakeholder Call

March 9, 2022

Big Creek - Ventura Area Transmission System



Major Transmission Projects

- Pardee-Moorpark No. 4 230 kV Transmission Project (ISD – March 2022)
- Pardee-Sylmar 230 kV Rating Increase Project (ISD - December 2025)

Resource Assumptions

- Ormond Beach is assumed to be available in 2023 but not in 2027
- CPUC-approved battery storage resources for the Santa Clara area are modeled in both cases

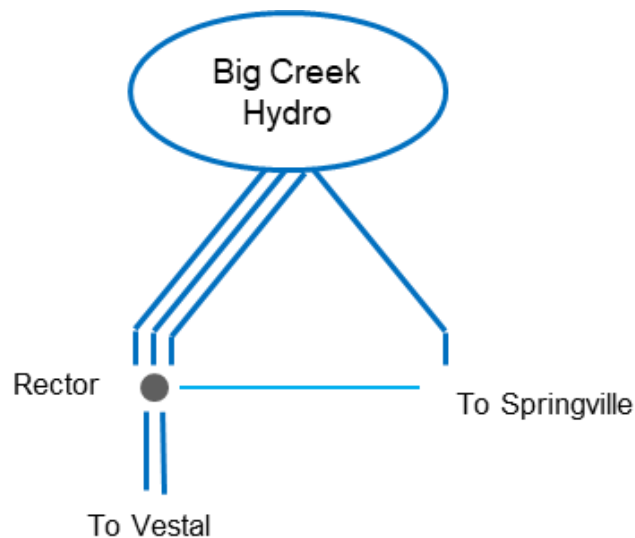
Load and Resources

Load (MW)			Generation NQC (MW)*		
	2023	2027		2023	2027
Gross Load	4464	4454	Market/Net Seller	4160	2678
AAEE	-12	-53	Solar	369	369
Behind the meter PV	-384	-255	Muni	315	315
Net Load	4068	4146	QF	109	109
Transmission Losses	64	57	Battery storage	593	593
Pumps	294	294	Demand Response	63	63
Load+Losses+Pumps	4427	4497	Total Qualifying Capacity	5609	4127

* 2027 generation capacity excludes Ormond Beach.

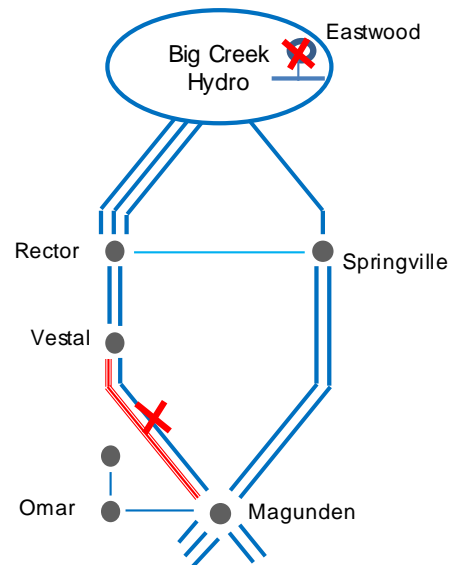
Rector Sub-Area Requirements

Category	Limiting Facility	Contingency	LCR (MW)	
			2023	2027
LCR for Rector is satisfied by the LCR of the larger Vestal sub-area				

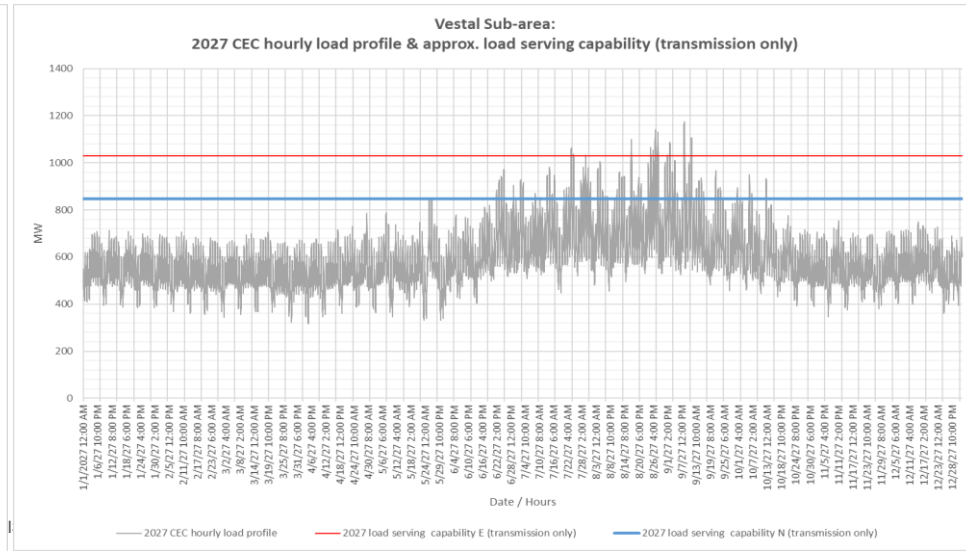
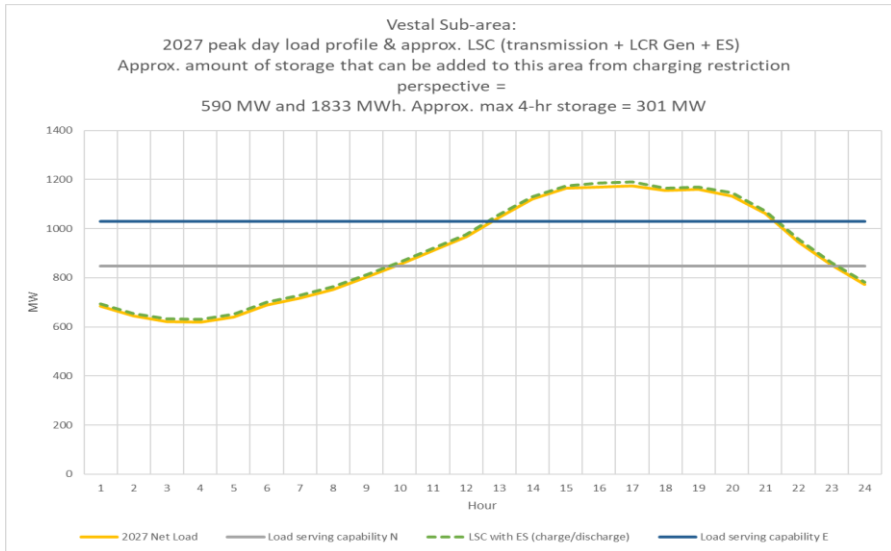
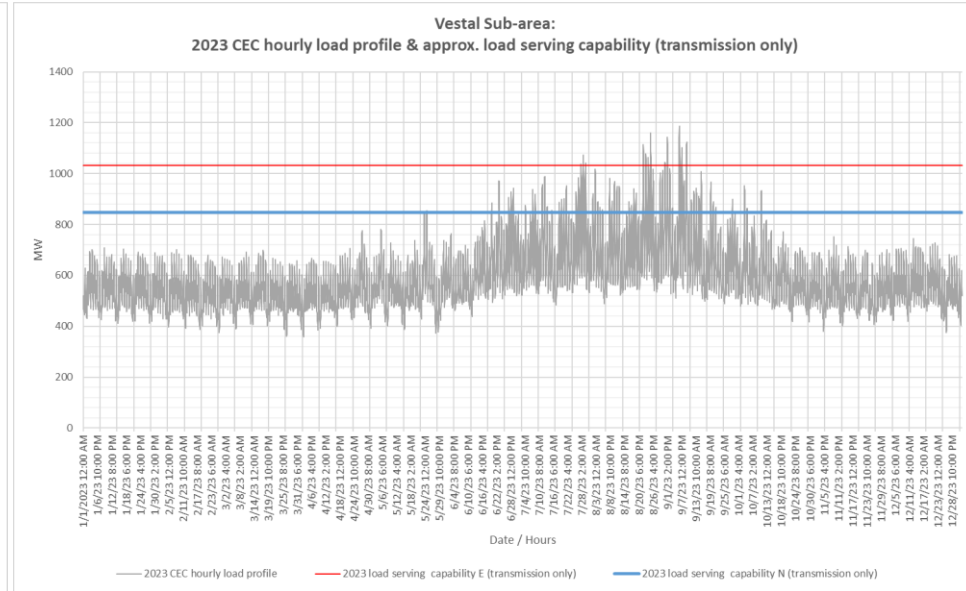
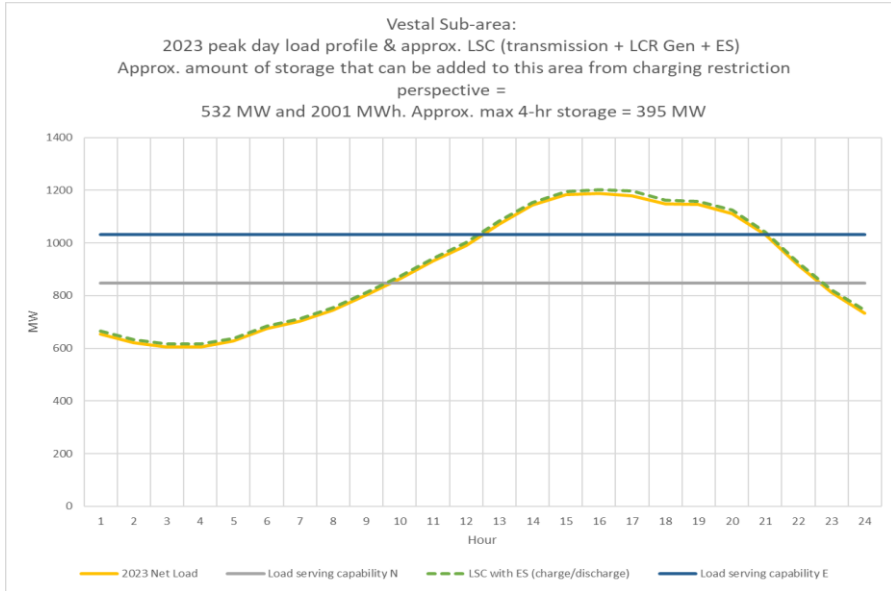


Vestal Sub-Area Requirements

Category	Limiting Facility	Contingency	LCR (MW)	
			2023	2027
P3/P6	Magunden–Vestal #1 230 kV line	Magunden–Vestal #2 230 kV line with Eastwood out of service	344	330

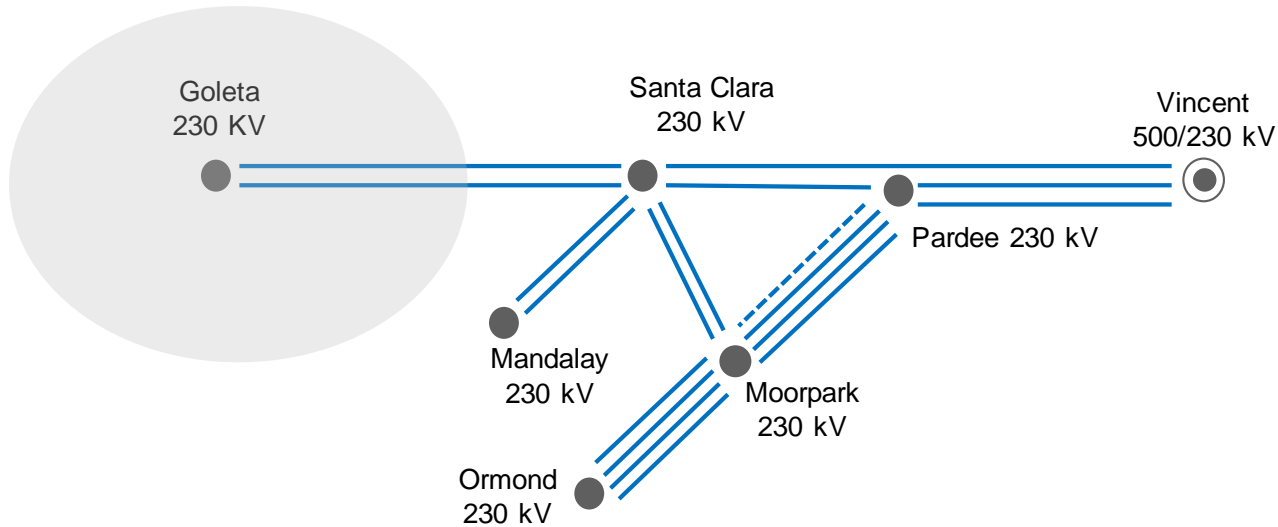


Vestal Sub-Area Load Profiles



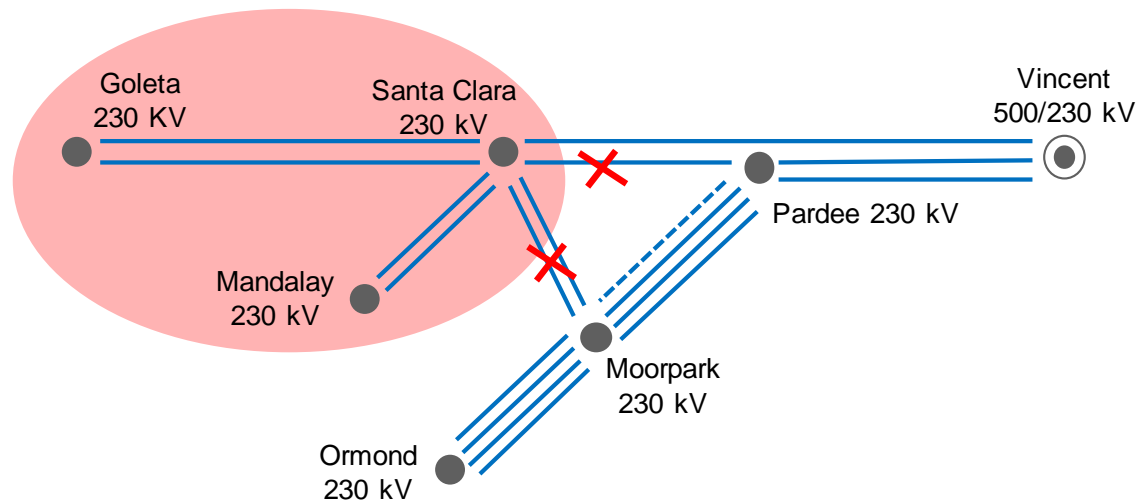
Goleta Sub-Area Requirements

Category	Limiting Facility	Contingency	LCR (MW)	
			2023	2027
LCR for Goleta is satisfied by the LCR of the larger Santa Clara sub-area				

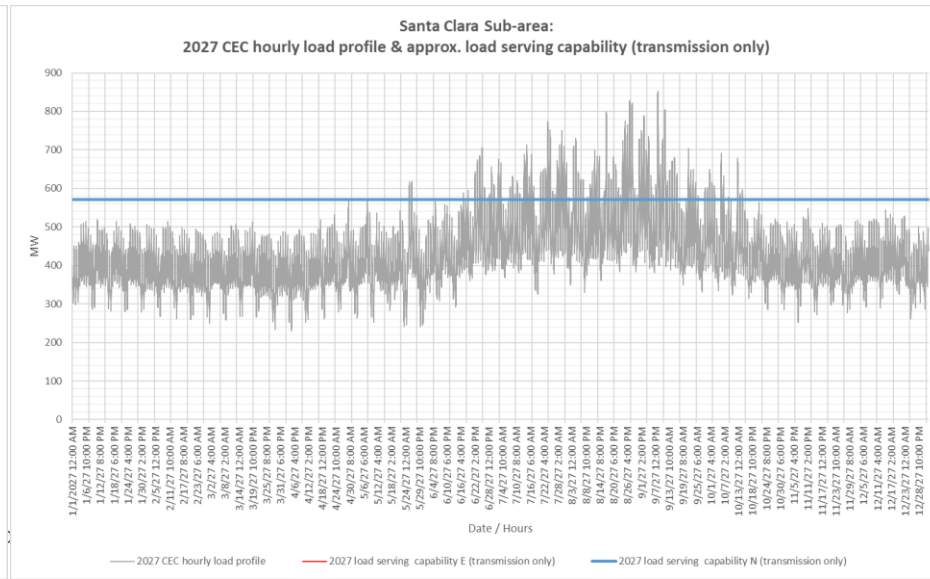
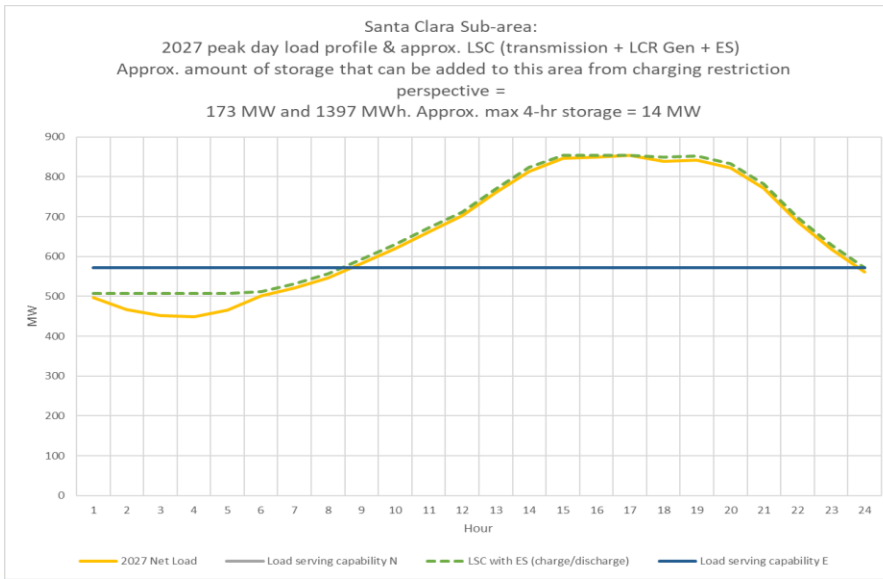
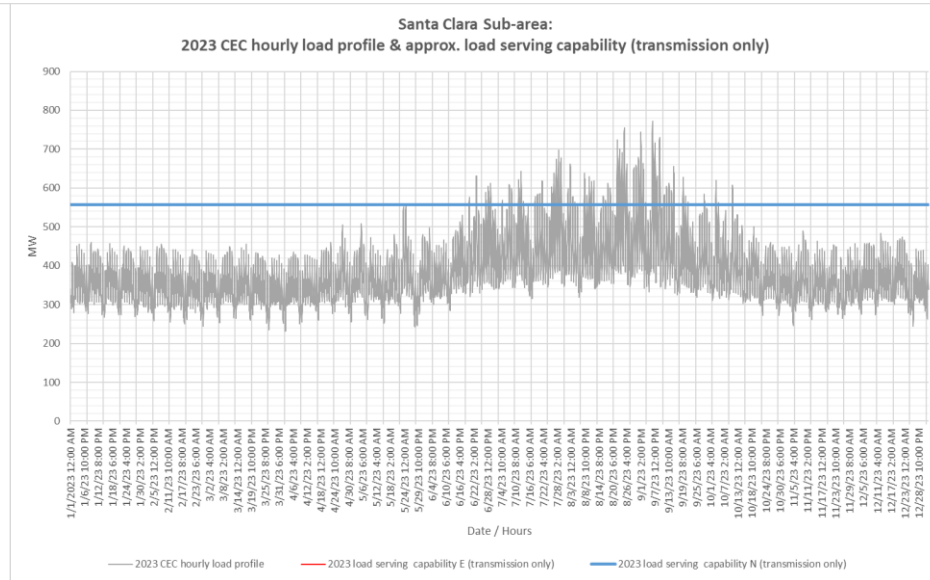
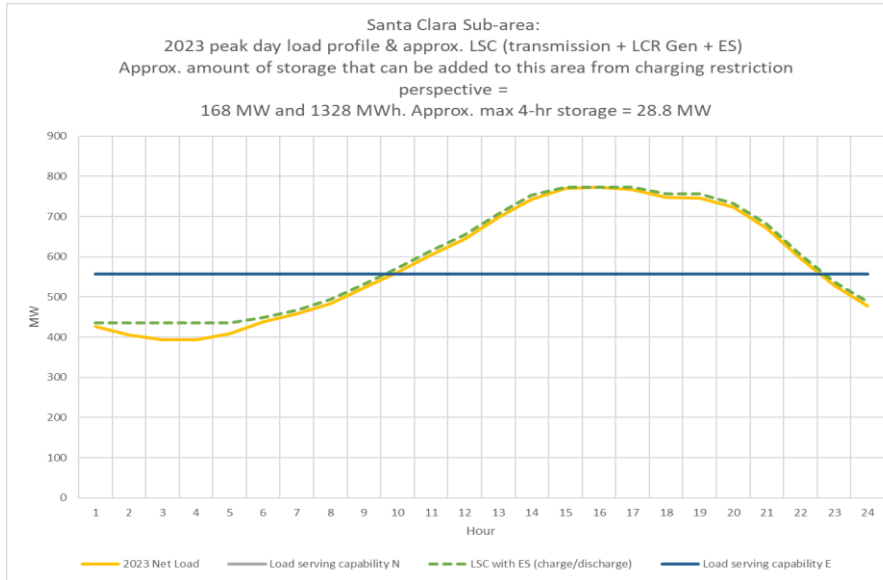


Santa Clara Sub-Area Requirements

Category	Limiting Facility	Contingency	LCR (MW)	
			2023	2027
P1+P7	Voltage Collapse	Pardee–Santa Clara 230 kV line followed by Moorpark–Santa Clara #1 and #2 230 kV DCTL	184	241

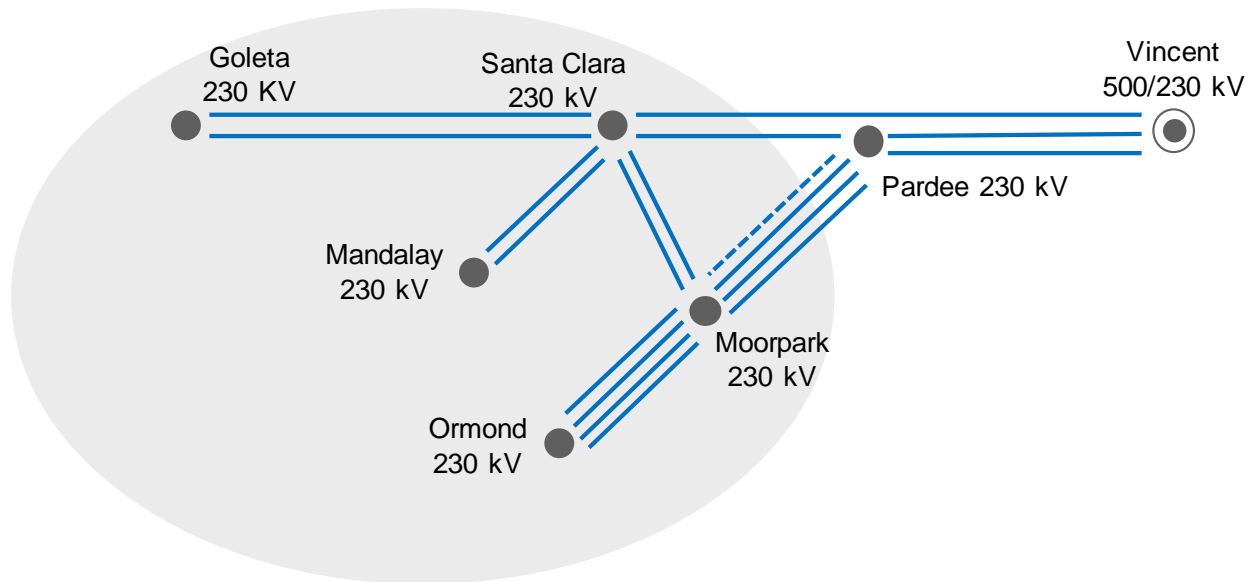


Santa Clara Sub-Area Load Profiles



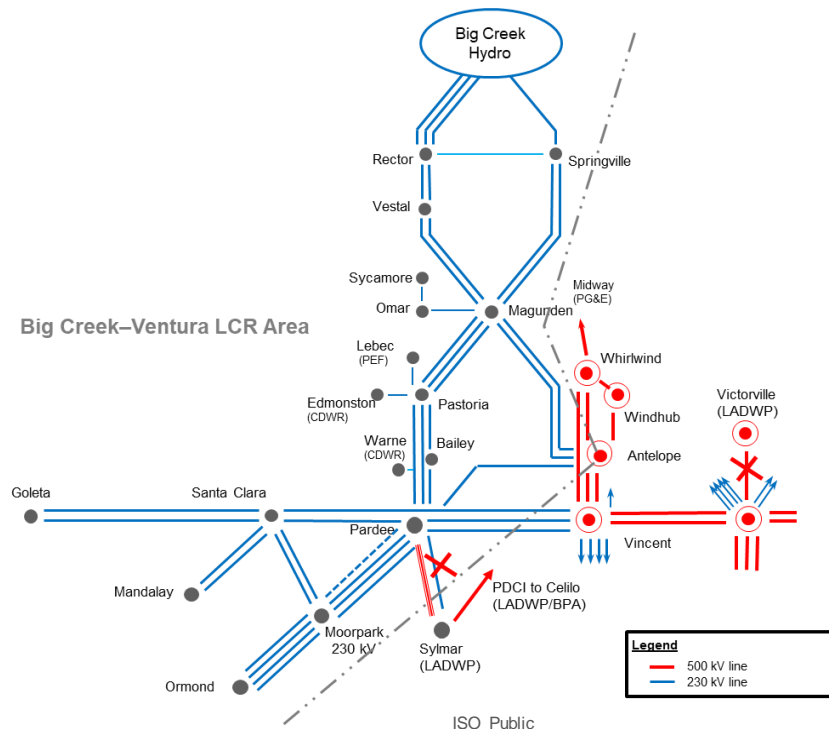
Moorpark Sub-Area Requirements

Category	Limiting Facility	Contingency	LCR (MW)	
			2023	2027
No LCR requirement identified				

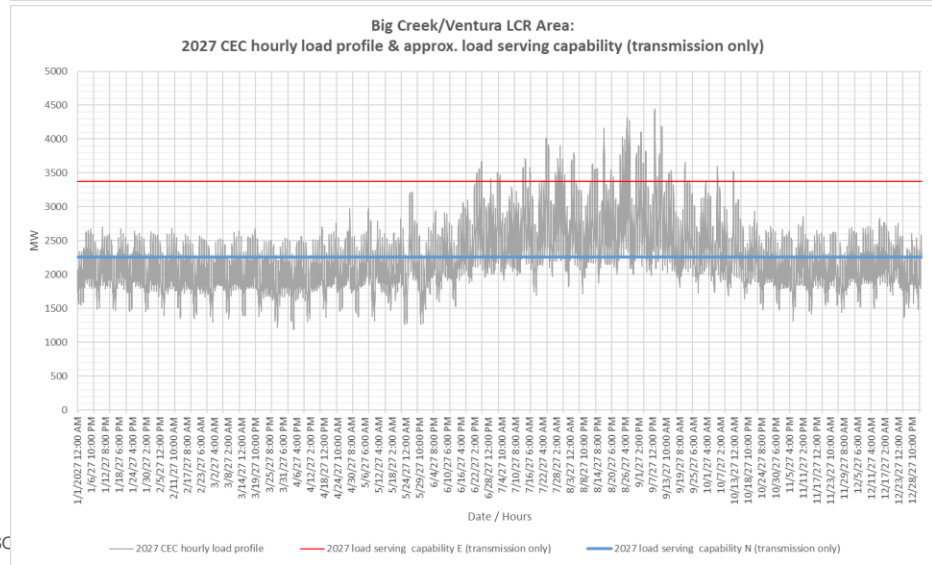
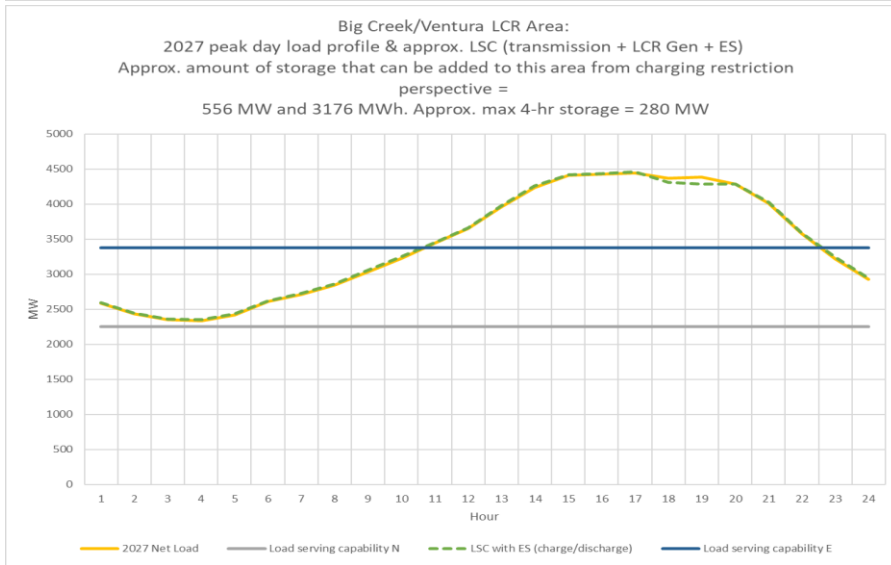
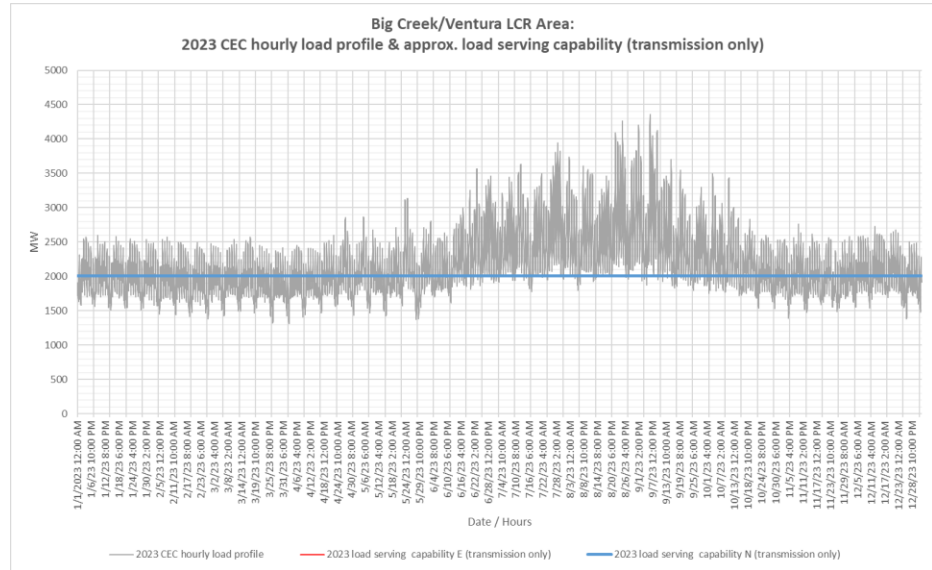
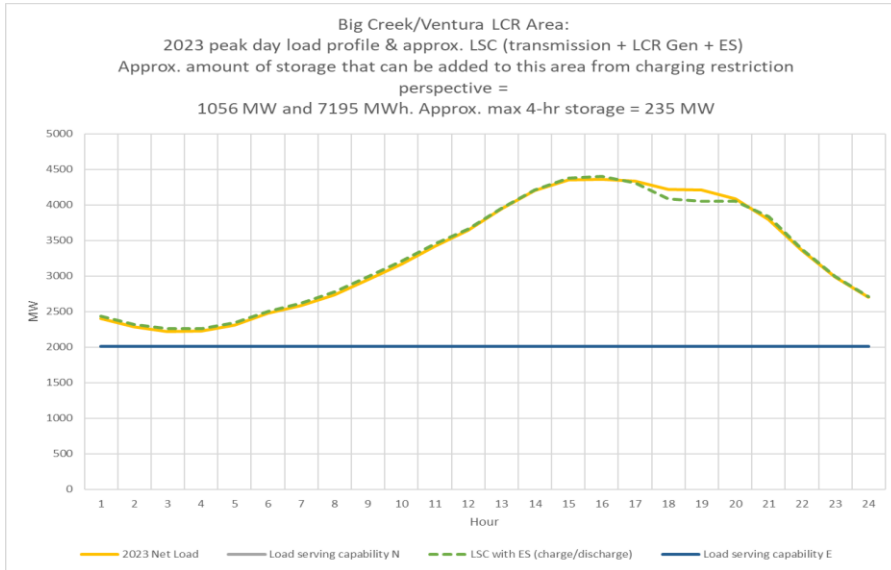


Overall Big Creek-Ventura Area Requirements

Category	Limiting Facility	Contingency	LCR (MW)	
			2023	2027
P6	Pardee-Sylmar #1 or #2 230 kV line	Overlapping outage of Lugo-Victorville 500 kV line and one Pardee-Sylmar 230 kV line	2,240	1,126



Overall Big Creek-Ventura Area Load Profiles



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Big Creek Area Total LCR Need

2023 LCR Need	Existing Generation Capacity Needed (MW)	Deficiency (MW)	Total MW Need
Category P6	2,240	0	2,240

2027 LCR Need	Existing Generation Capacity Needed (MW)	Deficiency (MW)	Total MW Need
Category P6	1,126	0	1,126

Changes Compared to Last Year's Results - 2023

Sub-Area	2022		2023		Possible reason for LCR change
	Load (MW)	LCR (MW)	Load (MW)	LCR (MW)	
Rector	775	-	736	-	No change
Vestal	1,230	351	1,187	344	Load decreased
Goleta	247	-	208	-	No change
Santa Clara	800	193	772	184	Load decreased
Moorpark	1,503	-	1,454	-	No change
Overall Big Creek Ventura	4,316	2,173	4,362	2,240	Load decreased

* Load values do not include losses

Changes Compared to Last Year's Results - 2027

Sub-Area	2026		2027		Possible reason for LCR change
	Load (MW)*	LCR (MW)	Load (MW)*	LCR (MW)	
Rector	791	-	727	-	No change
Vestal	1,250	394	1,174	330	Load decreased
Goleta	247	-	208	-	No change
Santa Clara	798	202	853	241	Load increased
Moorpark	1,493	-	1,528	-	No change
Overall Big Creek Ventura	4,363	982	4,440	1,126	Load increased

* Load values do not include losses

Summary

	Load, MW	LCR, MW	Approximate maximum energy storage		Approximate 4-hour energy storage	Remark
			Capacity (MW)	Energy (MWh)	Capacity (MW)	
2023						
Rector	736	-	N/A	N/A	N/A	No LC requirement
Vestal	1,187	344	532	2,001	395	No gas-fired LC requirement
Goleta	208	-	N/A	N/A	N/A	No LC requirement
Santa Clara	772	184	168	1,328	29	195 MW/780 MWh of existing/contracted ES
Moorpark	1,454	-	N/A	N/A	N/A	No LC requirement
Big Creek–Ventura	4,362	2,240	1,056	7,195	235	827 MW/3308 MWh of existing/contracted storage in area
2027						
Rector	727	-	N/A	N/A	N/A	No LC requirement
Vestal	1,174	330	590	1833	301	No gas-fired LC requirement
Goleta	208	-	N/A	N/A	N/A	No LC requirement
Santa Clara	853	241	173	1397	14	195 MW/780 MWh of ES procured
Moorpark	1,528	-	N/A	N/A	N/A	No LCR requirement
Big Creek–Ventura	4,440	1,126	556	3,176	280	No gas-fired LC requirement; 933 MW of existing/contracted storage