



2021 & 2025 LCR Study Final Results North Coast & North Bay Area

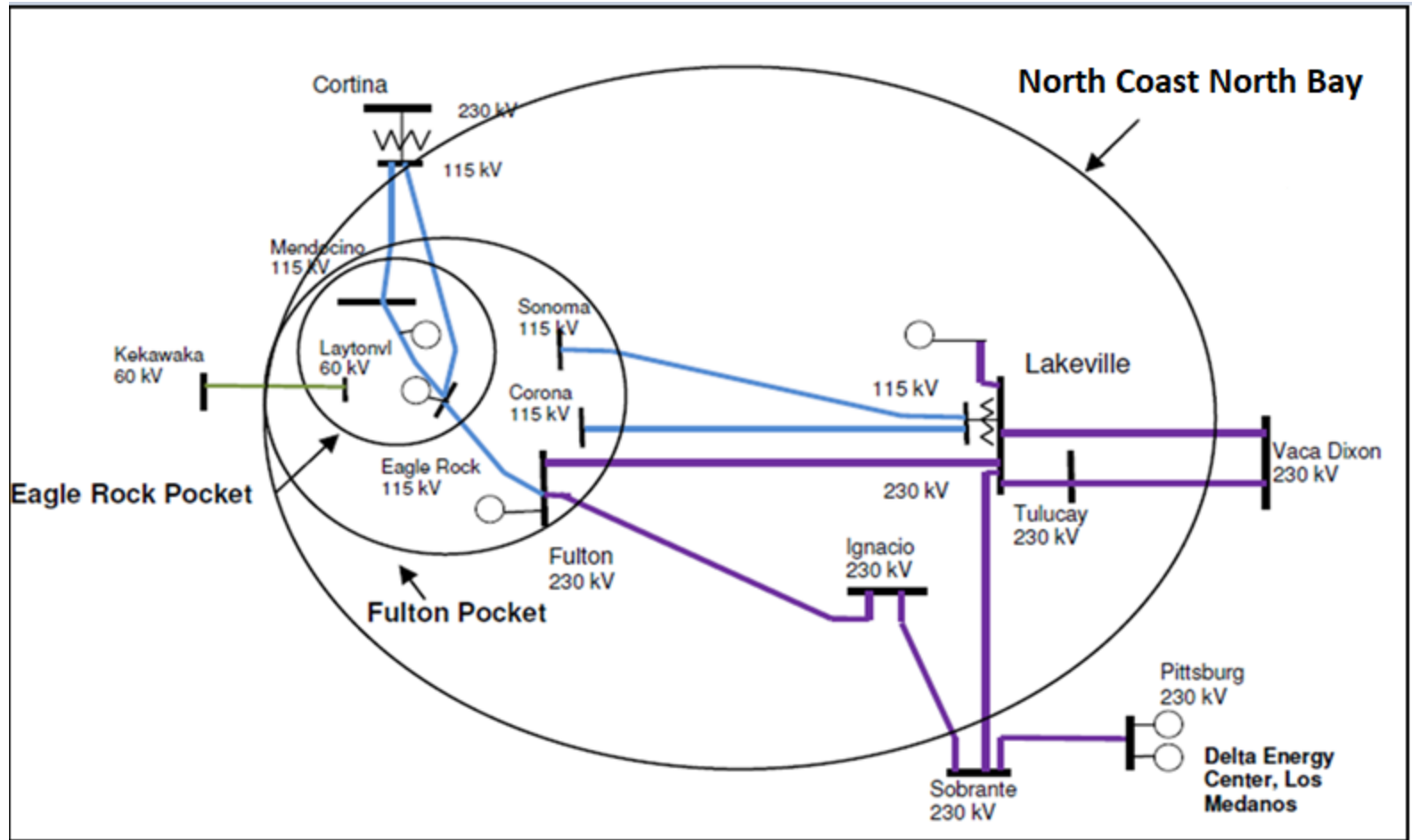
Bryan Fong

Senior Regional Transmission Engineer

Stakeholder Call

April 13, 2020

North Coast & Bay Area Transmission System



Major transmission projects

Project Name	Expected ISD
Lakeville 60 kV Area Reinforcement	2021
Clear Lake 60 kV System Reinforcement	2022
Ignacio Area Upgrade	2023

Resource Additions:

- No new resource additions

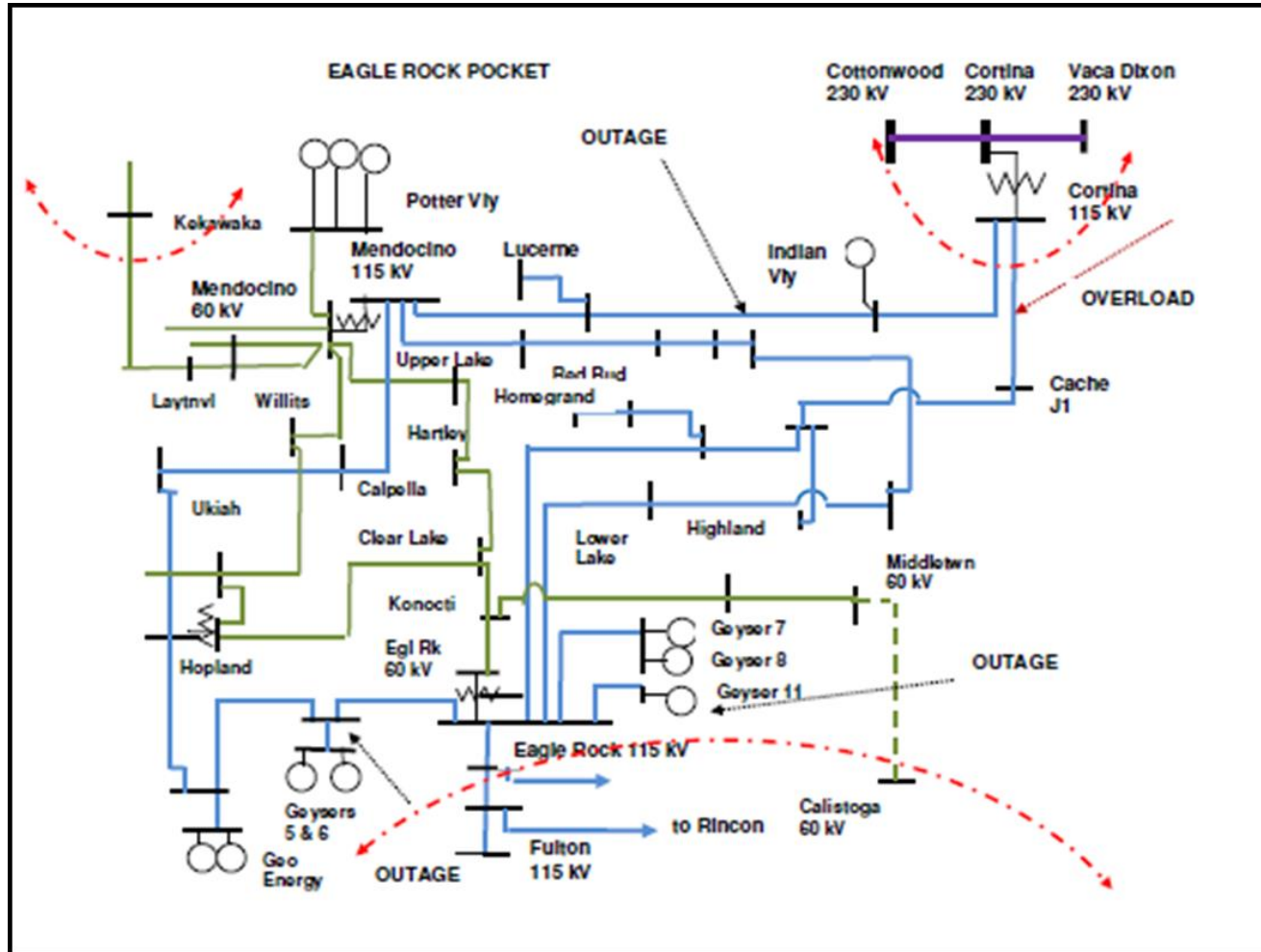
Resource Retirements:

- No new retirements

Eagle Rock Subarea: Load and Resources

Load (MW)	2021	2025	Generation (MW)	2021	2025
Gross Load	222	226	Market	248	248
AAEE	-1	-2	Solar	0	0
Behind the meter DG	0	0	Muni	2	2
Net Load	221	224	QF	0	0
Transmission Losses	11	11	Future preferred resource and energy storage	0	0
Pumps	0	0	Total Qualifying Capacity	250	250
Load + Losses + Pumps	232	235			

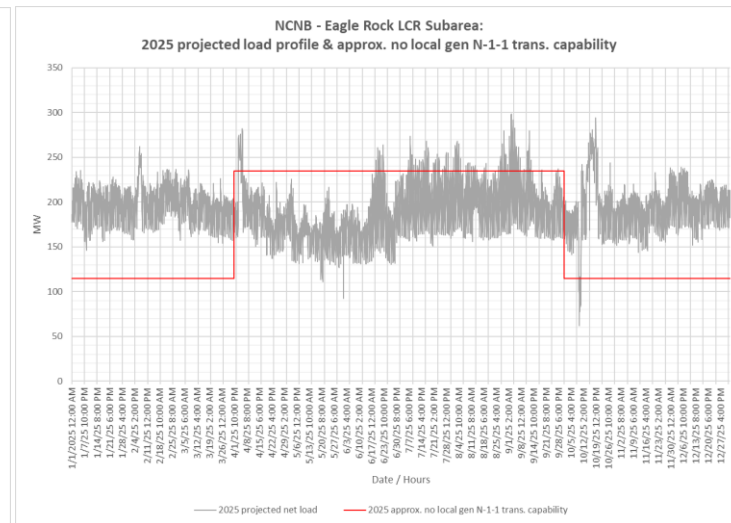
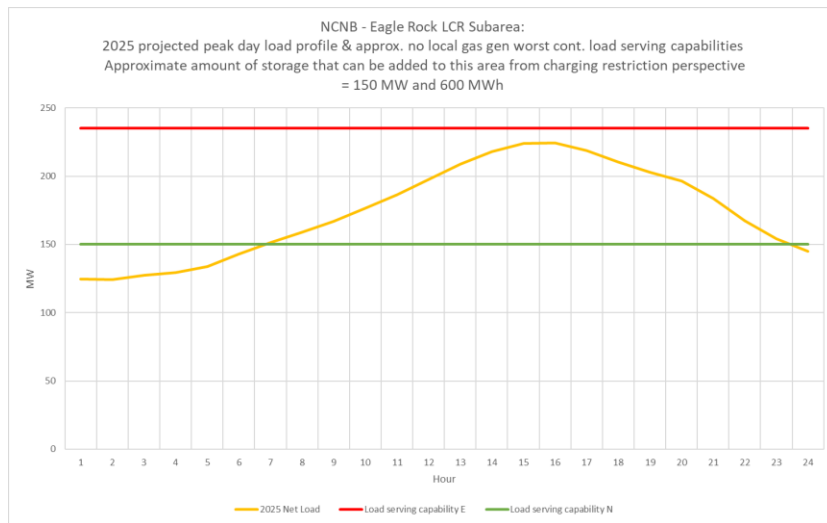
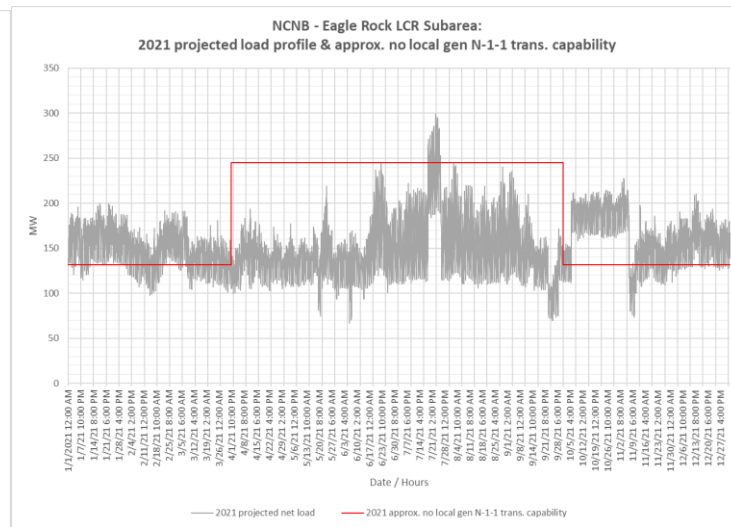
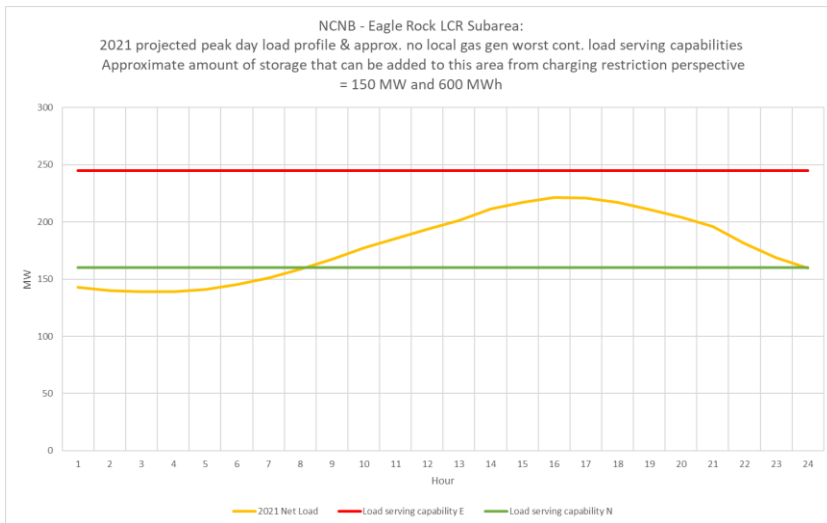
Eagle Rock Sub Area : One-line diagram



Eagle Rock Sub Area : Requirements

Year	Limit	Category	Limiting Facility	Contingency	LCR (MW) (Deficiency)
2021	First Limit	P3	Thermal overload on Eagle Rock-Cortina 115 kV line	Cortina-Mendocino 115 kV line with Geyser #11 unit out of service	184
2025	First Limit	P3	Thermal overload on Eagle Rock-Cortina 115 kV line	Cortina-Mendocino 115 kV line with Geyser #11 unit out of service	188

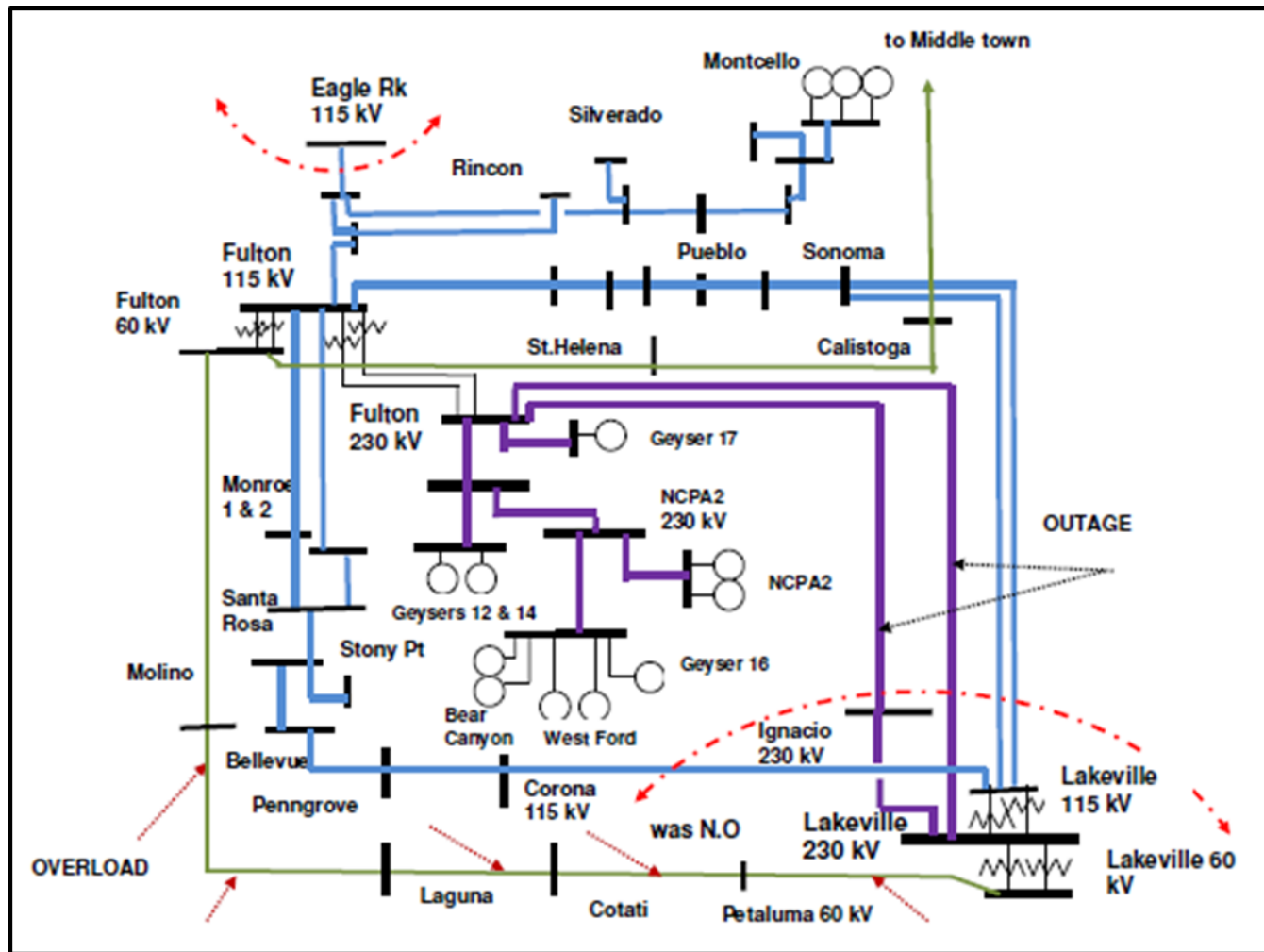
Eagle Rock Sub-area: Load Profiles



Fulton Subarea: Load and Resources

Load (MW)	2021	2025	Generation (MW)	2021	2025
Gross Load	848	859	Market	469	469
AAEE	-4	-9	Wind	0	0
Behind the meter DG	0	0	Muni	54	54
Net Load	844	850	QF	5	5
Transmission Losses	22	22	Future preferred resource and energy storage	0	0
Pumps	0	0	Total Qualifying Capacity	528	528
Load + Losses + Pumps	866	872			

Fulton Sub Area : One-line diagram

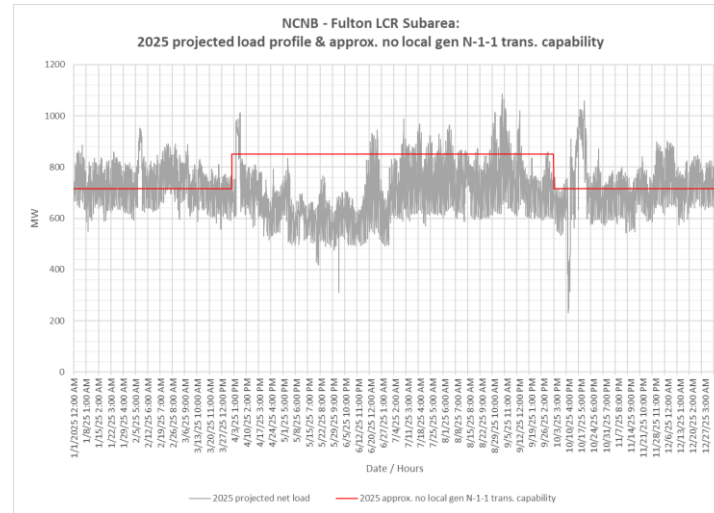
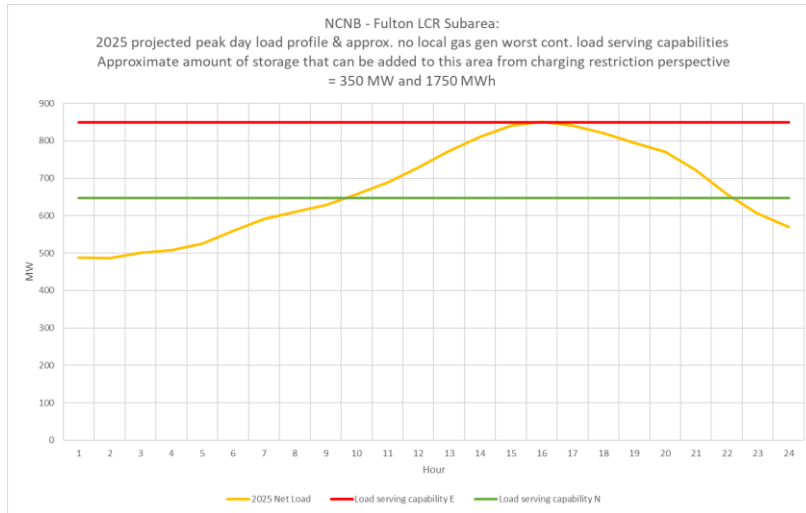
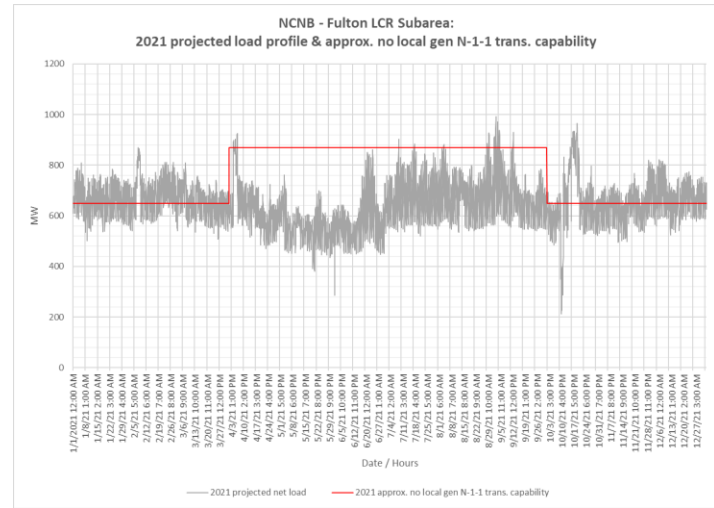
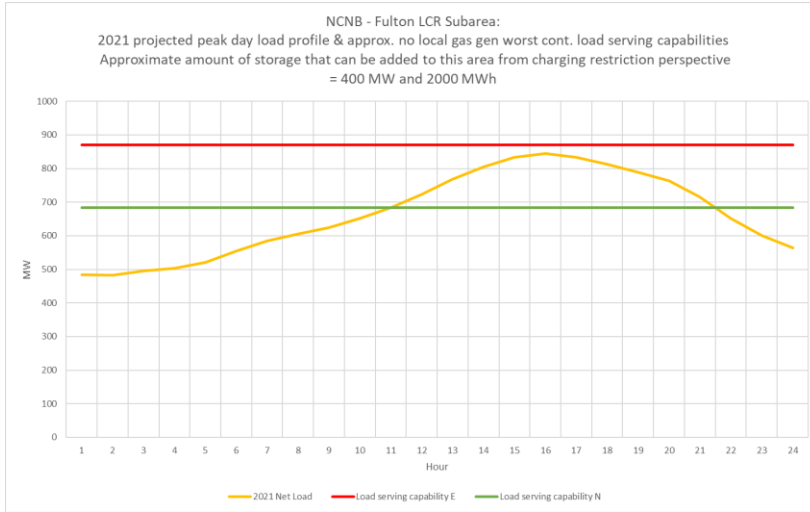


Fulton Sub Area : Requirements

Year	Limit	Category	Limiting Facility	Contingency	LCR (MW) (Deficiency)
2021	First Limit	P6	Thermal overload on Sonoma-Pueblo 115kV Line	Fulton-Lakeville and Fulton-Ignacio 230 kV lines	340
2025	First Limit	P6	Thermal overload on Pengrove-Corona 115kV Line	Fulton-Lakeville and Fulton-Ignacio 230 kV lines	272

Lakeville 60kV Area Reinforcement – Open 60kV line between Cotati and Petaluma - In service date 2021.

Fulton Sub-area: Load Profiles



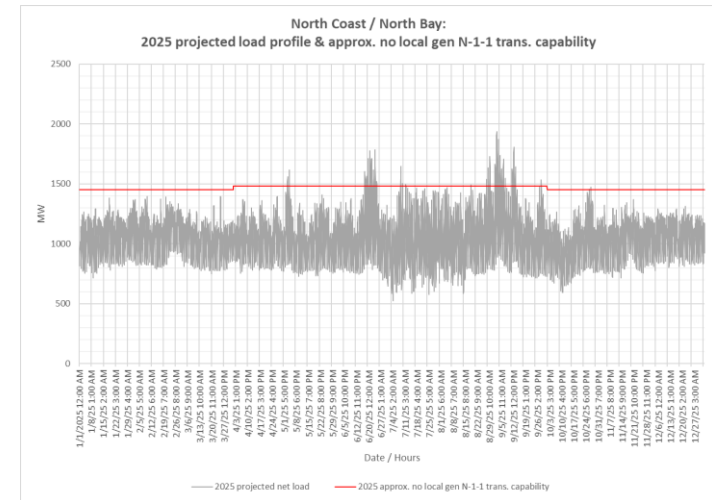
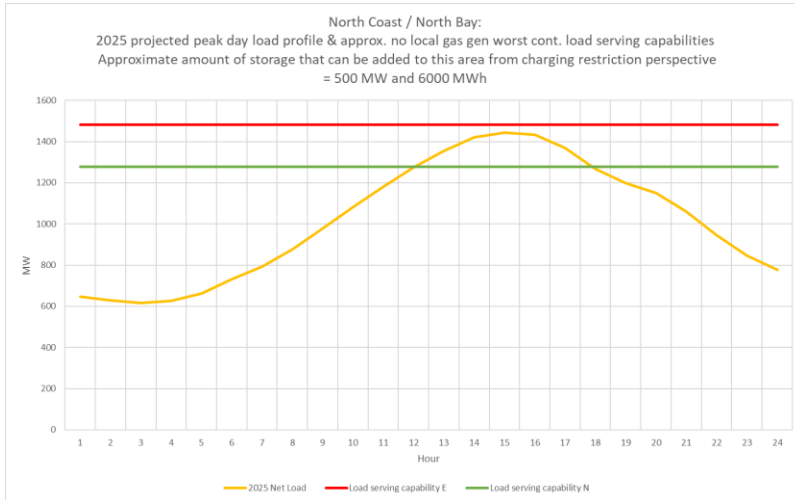
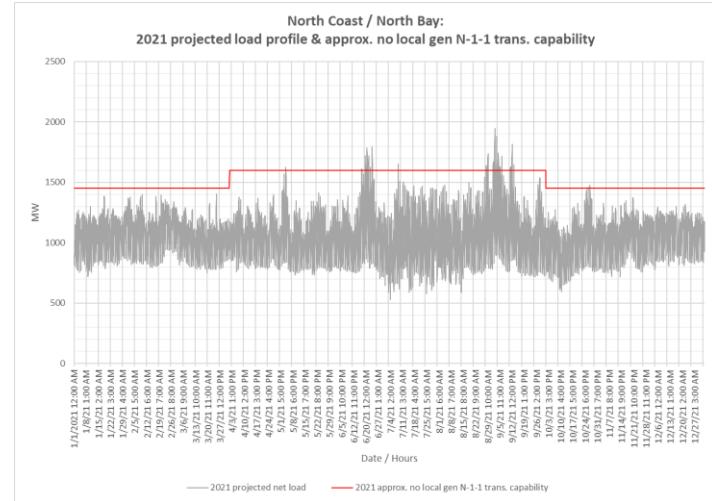
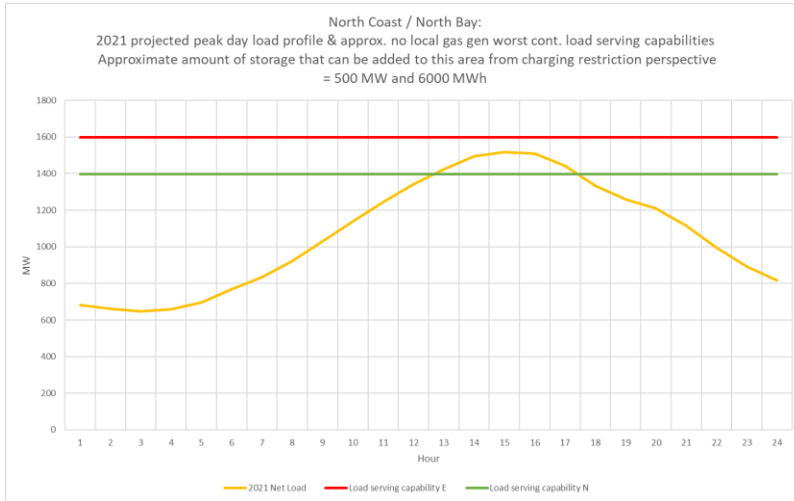
North Coast & North Bay Area Overall: Load and Resources

Load (MW)	2021	2025	Generation (MW)	2021	2025
Gross Load	1525	1458	Market	723	723
AAEE	-7	-16	Wind	0	0
Behind the meter DG	0	0	Muni	114	114
Net Load	1418	1442	QF	5	5
Transmission Losses	38	39	Future preferred resource and energy storage	0	0
Pumps	0	0	Total Qualifying Capacity	842	842
Load + Losses + Pumps	1456	1481			

NCNB Area : Requirement

Year	#	Category	Limiting Facility	Contingency	LCR (MW) (Deficiency)
2021	First Limit	P2-4	Thermal overload on Tulucay – Vaca Dixon 230 kV Line	Lakeville 230 kV – Section 2E & 1E	843 (1)
2025	First Limit	P2-4	Thermal overload on Tulucay – Vaca Dixon 230 kV Line	Lakeville 230 kV – Section 2E & 1E	837
2021	Second Limit	P3	Vaca Dixon-Lakeville 230 kV line	Vaca Dixon-Tulucay 230 kV line with Delta Energy Center power plant out of service	766
2025	Second Limit	P3	Vaca Dixon-Lakeville 230 kV line	Vaca Dixon-Tulucay 230 kV line with Delta Energy Center power plant out of service	739

North Coast & North Bay Area: Load Profiles



North Coast & North Bay Area Total Generation & LCR Need

Generation	Market (MW)	(MW)	Muni (MW)	QF (MW)	Total MW
2021	723	0	114	5	842
2025	723	0	114	5	842

Year	LCR Need	Existing Generation Capacity Needed (MW)	Deficiency (MW)	Total MW Need
2021	P2-4	842	1	843
2025	P2-4	837	0	837

Changes Compared to Previous LCR Requirements

Subarea	2020		2025		2021		2025	
	Load	LCR	Load	LCR	Load	LCR	Load	LCR
Eagle Rock	259	227	263	240	232	184	235	188
Fulton	875	456	898	316	866	340	872	272
Overall	1492	742	1537	706	1456	843	1481	837

LCR increase vs. last year results are due to changes to the LCR criteria.