



2022 & 2026 Final LCR Study Results Humboldt Area

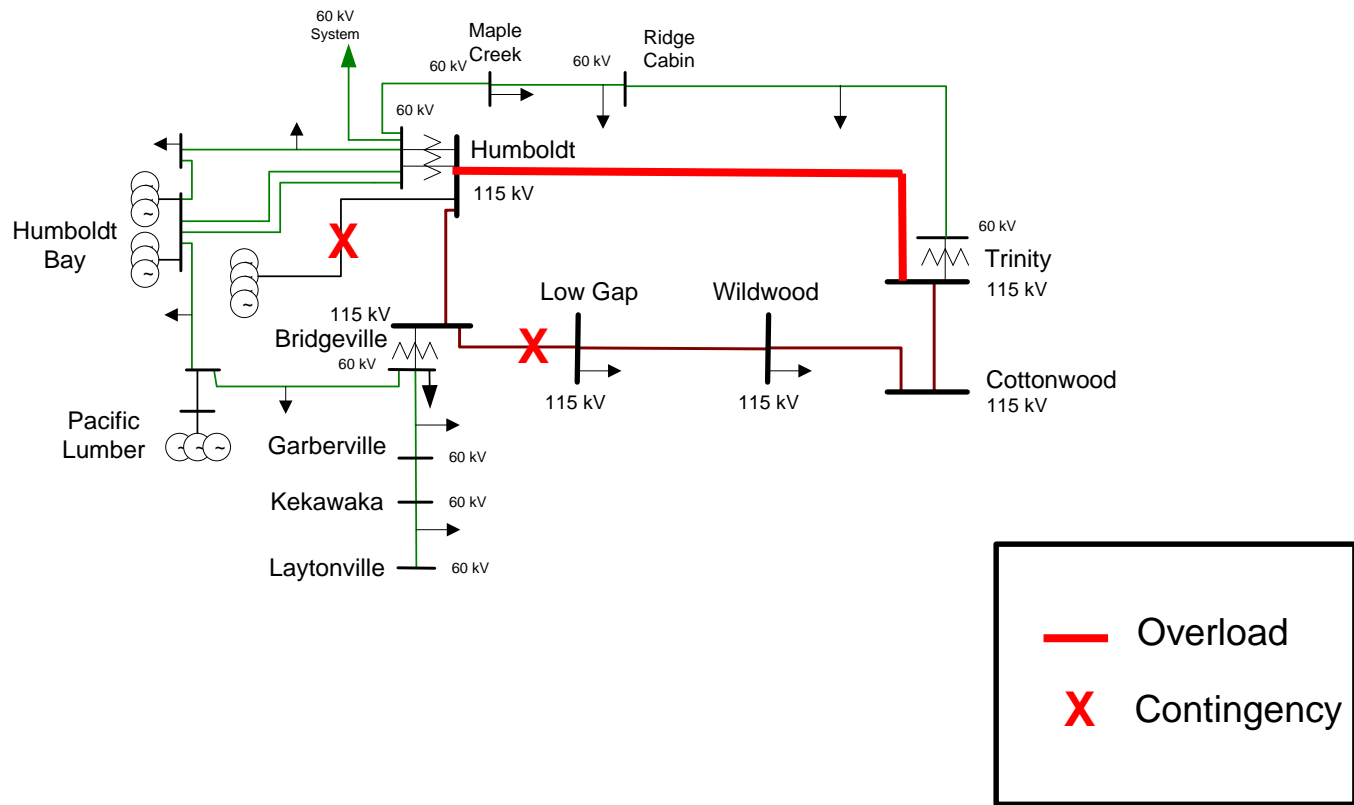
Krithika Gurusankar

Regional Transmission Engineer

Stakeholder Meeting

April 7, 2021

Humboldt Area Transmission System



Humboldt: Load and Resources - 2022

Load (MW)		Generation (MW)	
Gross Load	132	Market	181
AAEE	-1	Wind	0
Behind the meter DG	0	Muni	0
Net Load	131	QF	0
Transmission Losses	13	Total Qualifying Capacity	181
Pumps	0		
Load + Losses + Pumps	144		

Humboldt: Load and Resources - 2026

Load (MW)		Generation (MW)	
Gross Load	151	Market	181
AAEE	-2	Wind	0
Behind the meter DG	0	Muni	0
Net Load	149	QF	0
Transmission Losses	12	Total Qualifying Capacity	181
Pumps	0		
Load + Losses + Pumps	161		

Topology changes

Transmission Additions:

- Maple Creek Reactive Support (year 2026 only)

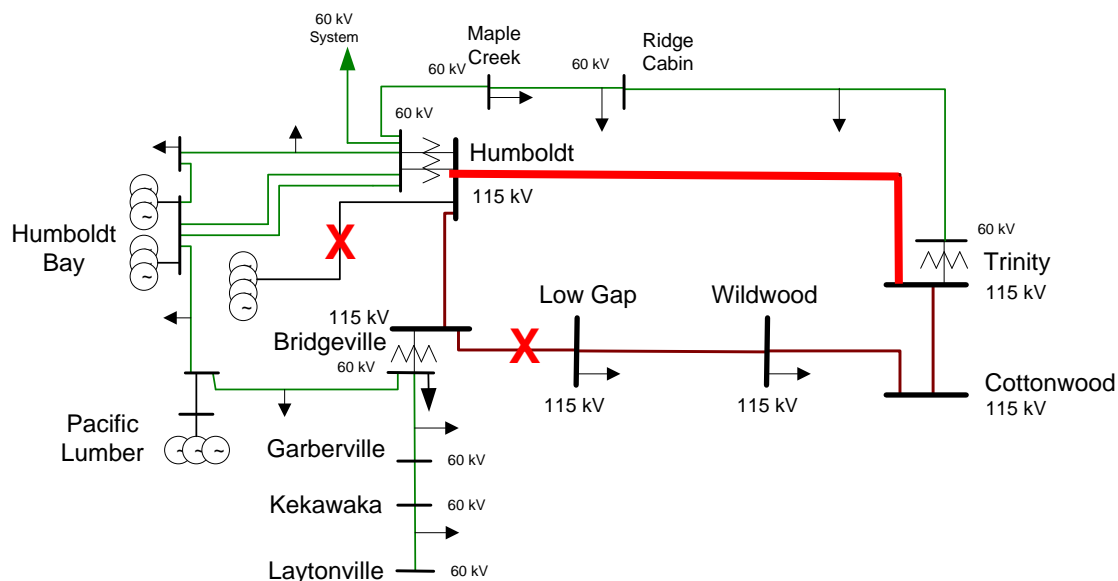
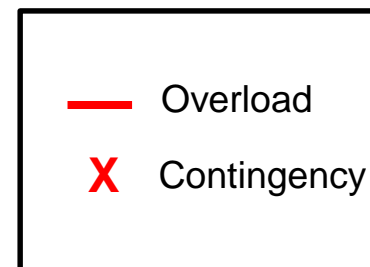
Resource Additions:

- No new resource additions

Resource Retirements:

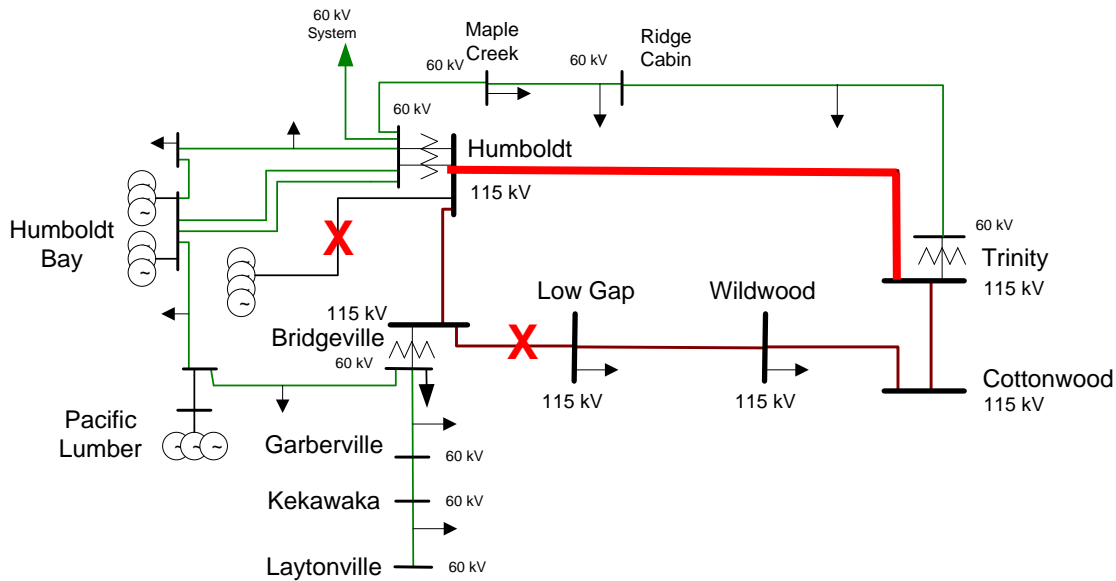
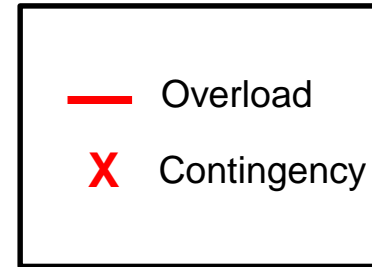
- No new retirements

Humboldt Area: Requirements – 2022



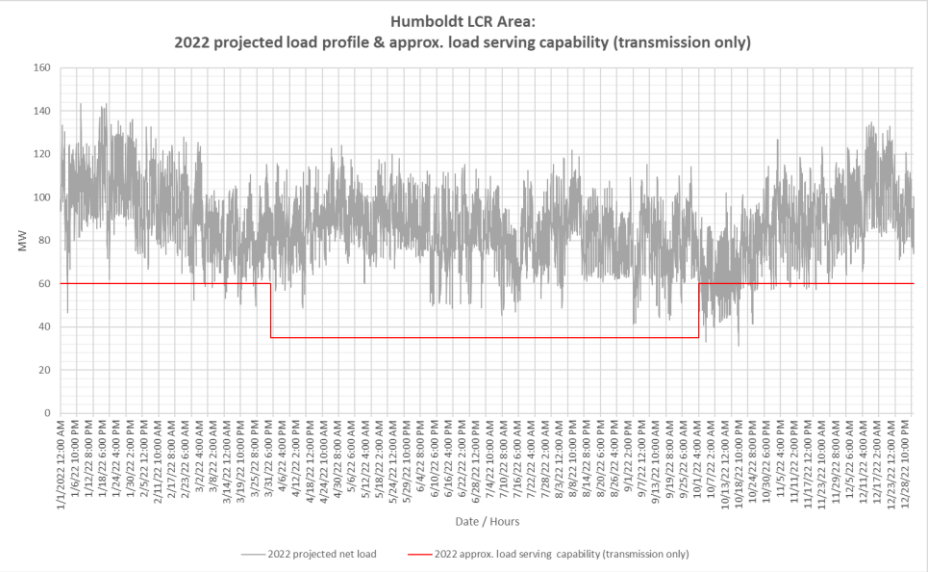
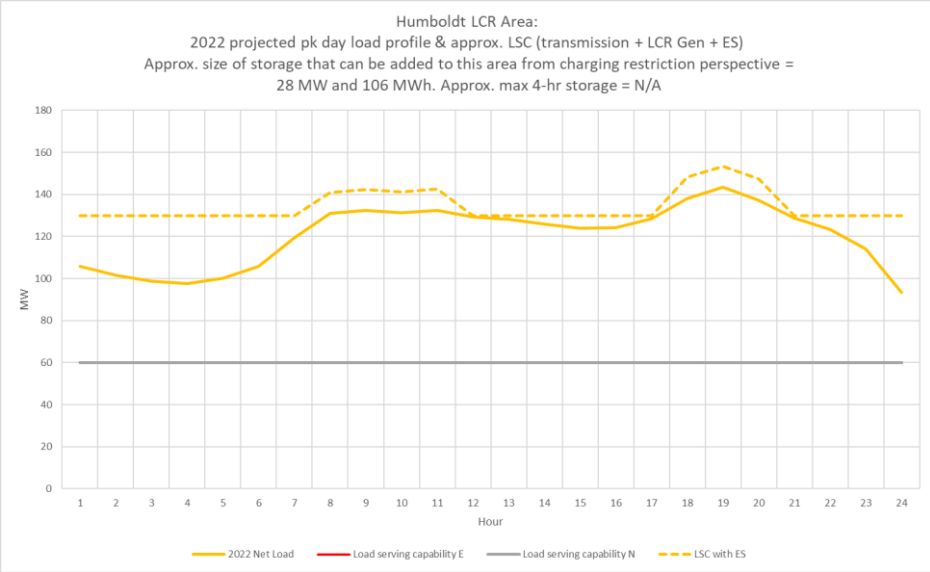
Year	Category	Limiting Facility	Contingency	LCR (MW) (Deficiency)
2021	P6	Thermal overload on Humboldt -Trinity 115 kV line	Cottonwood – Bridgeville 115 kV line + Humboldt – Humboldt Bay 115kV line	130
2022	P6	Thermal overload of Humboldt -Trinity 115 kV	Cottonwood – Bridgeville 115 kV line + Humboldt – Humboldt Bay 115kV line	111

Humboldt Area: Requirements – 2026



Year	Category	Limiting Facility	Contingency	LCR (MW) (Deficiency)
2025	P6	Thermal overload on Humboldt -Trinity 115 kV line	Cottonwood – Bridgeville 115 kV line + Humboldt – Humboldt Bay 115kV line	132
2026	P6	Thermal overload of Humboldt -Trinity 115 kV	Cottonwood – Bridgeville 115 kV line + Humboldt – Humboldt Bay 115kV line	128

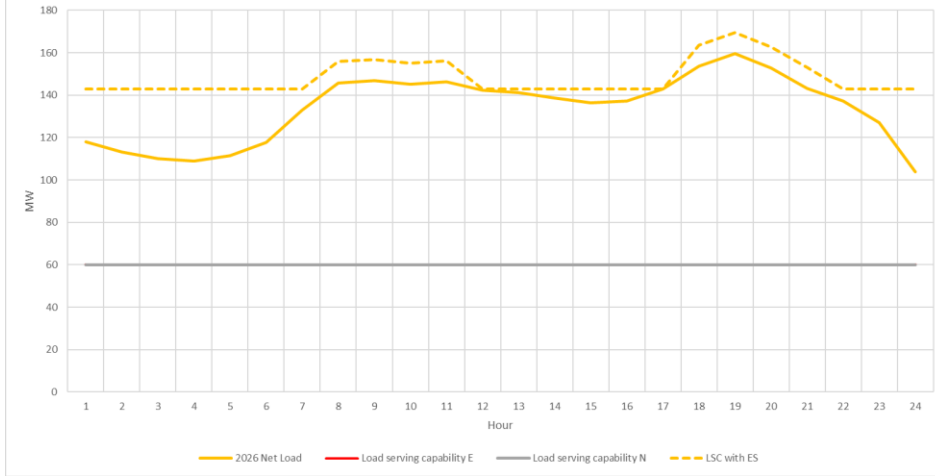
Humboldt Area: Load Profiles - 2022



Humboldt Area: Load Profiles - 2026

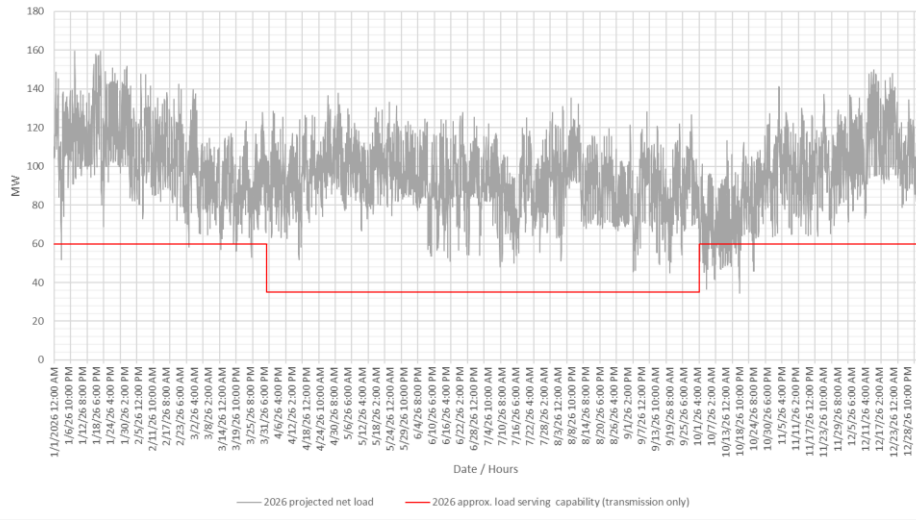
Humboldt LCR Area:

2026 projected pk day load profile & approx. LSC (transmission + LCR Gen + ES)
 Approx. size of storage that can be added to this area from charging restriction perspective =
 45 MWh and 129 MWh. Approx. max 4-hr storage = N/A



Humboldt LCR Area:

2026 projected load profile & approx. load serving capability (transmission only)



Changes between years

Subarea	2021		2022	
	Load	LCR	Load	LCR
Humboldt	153	130	144	111

Subarea	2025		2026	
	Load	LCR	Load	LCR
Humboldt	153	132	161	128

Humboldt Area Total LCR Need - 2022

2021	Existing Generation Capacity Needed (MW)	Deficiency (MW)	Total (MW)
LCR Need	130	0	130

2022	Existing Generation Capacity Needed (MW)	Deficiency (MW)	Total (MW)
LCR Need	111	0	111

Humboldt Area Total LCR Need - 2026

2025	Existing Generation Capacity Needed (MW)	Deficiency (MW)	Total (MW)
LCR Need	132	0	132

2026	Existing Generation Capacity Needed (MW)	Deficiency (MW)	Total (MW)
LCR Need	128	0	128