RIVERSIDE PUBLIC UTILITIES

Board Memorandum

BOARD OF PUBLIC UTILITIES **DATE: FEBRUARY 24, 2025**

GENERAL MANAGER'S REPORT

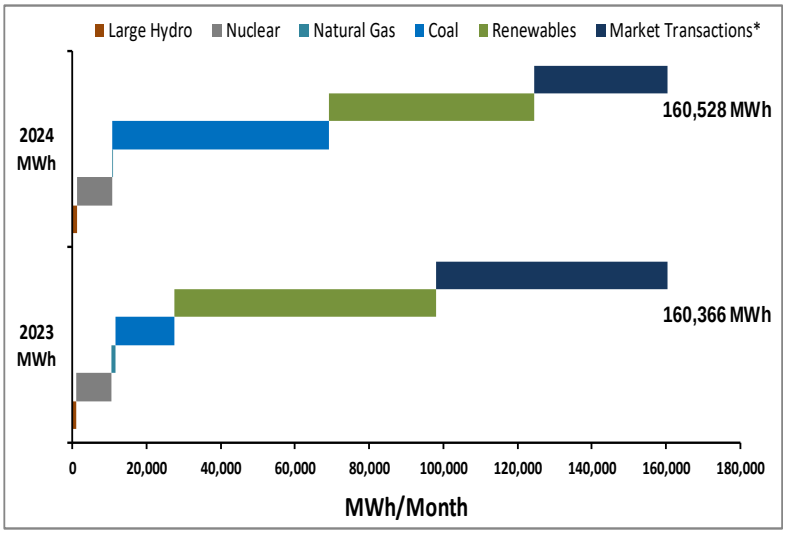
SUBJECT: MONTHLY POWER SUPPLY REPORT – DECEMBER 31, 2024

Monthly Power Usage:

The wholesale load (Vista Substation) for December was 160,528 MWh, an increase of 163 MWh compared to the same month in the previous year. Renewable generation served 34.41% or 55,232 MWh of wholesale load. Coal generation served 36.36% or 58,373 MWh of wholesale load. Nuclear energy served 5.88% or 9,432 MWh. Internal natural gas generation served 0.11% or 179 MWh of wholesale load. Hydro generation served 0.76% or 1,218 MWh of wholesale load. Finally, the balance for December was covered by Market Transactions, which served 22.48% or 36,094 MWh of the load. Coal generation increased significantly in December 2024, as compared to December 2023, due to the need for Riverside to consume its remaining coal supply at IPP.

Wholesale Resource Mix - December 2023 vs 2024

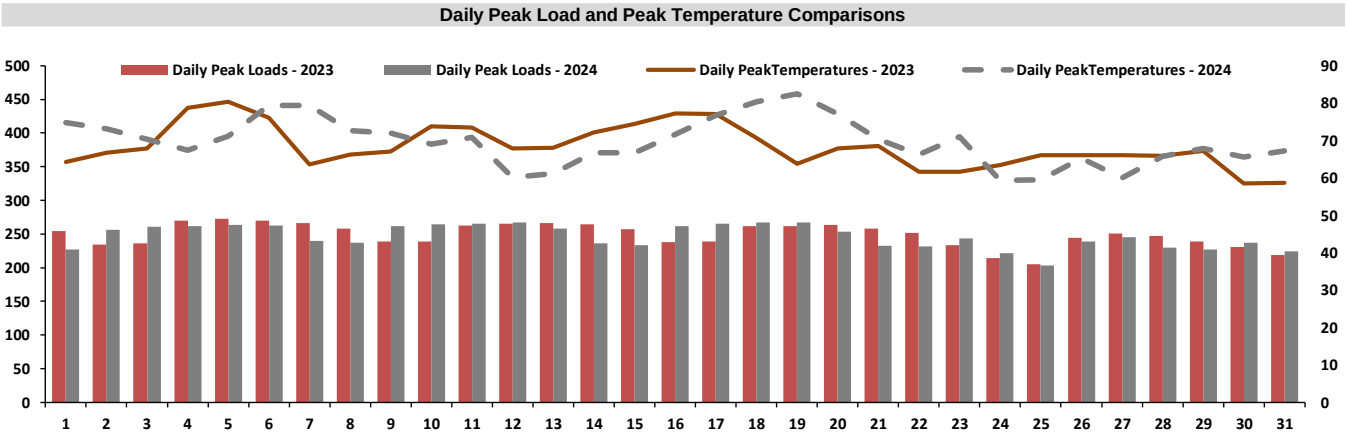
Energy	2023 MWh	2024 MWh	% Δ
Large Hydro	1,087	1,218	12.05%
Natural Gas	1,142	179	-84.32%
Nuclear	9,384	9,432	0.51%
Coal	15,966	58,373	265.61%
Market Transactions*	62,402	36,094	-42.16%
Renewables	70,385	55,232	-21.53%
Wholesale Load (Vista)	160,366	160,528	0.10%



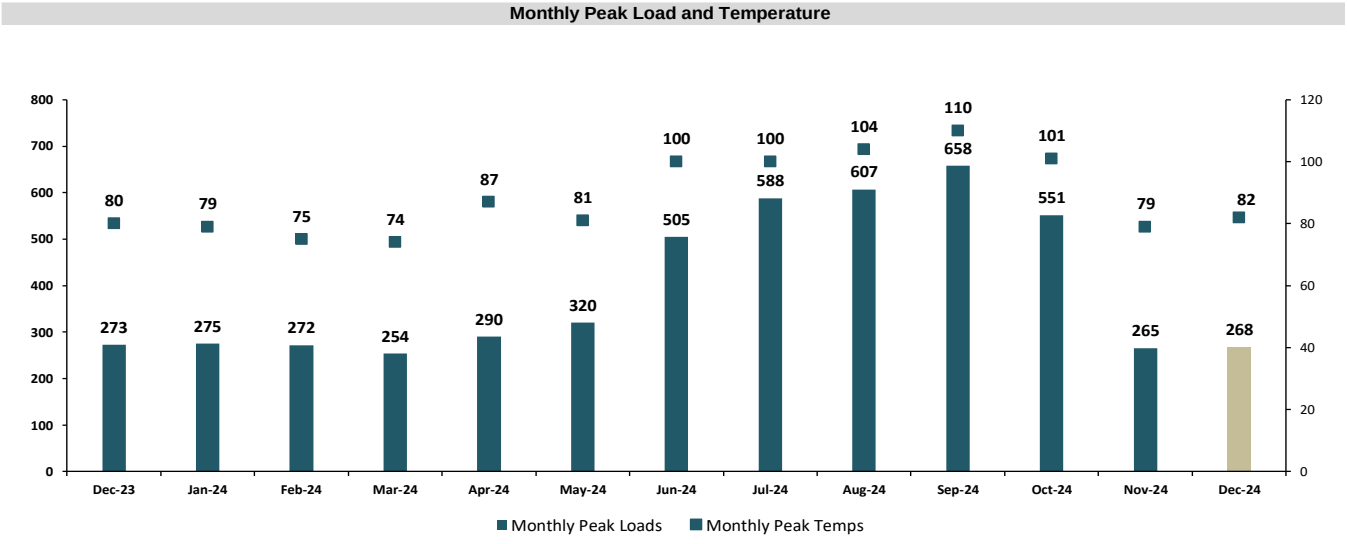
* The Market Transaction category comprises bilateral power contracts and purchases(sales) from(to) the CAISO.

Daily & Monthly Load & Temperature Trends

Weather, especially the variable temperature, significantly impacts electricity demand. Typically, as temperatures increase, electricity demand will also increase, and vice versa. The charts below graphically extrapolate the correlation between weather and electricity demand. In December 2024, average daily peak temperatures oscillated around 70 degrees. In December 2023, average daily peak temperatures oscillated around 68 degrees. The monthly peak temperature in December 2024 was 83 degrees, while the monthly peak temperature in December 2023 was 80 degrees. Differences in the graphical representation of average temperatures may be due to differences in the day of the week and/or weather trends presenting themselves in earlier or later parts of the month.



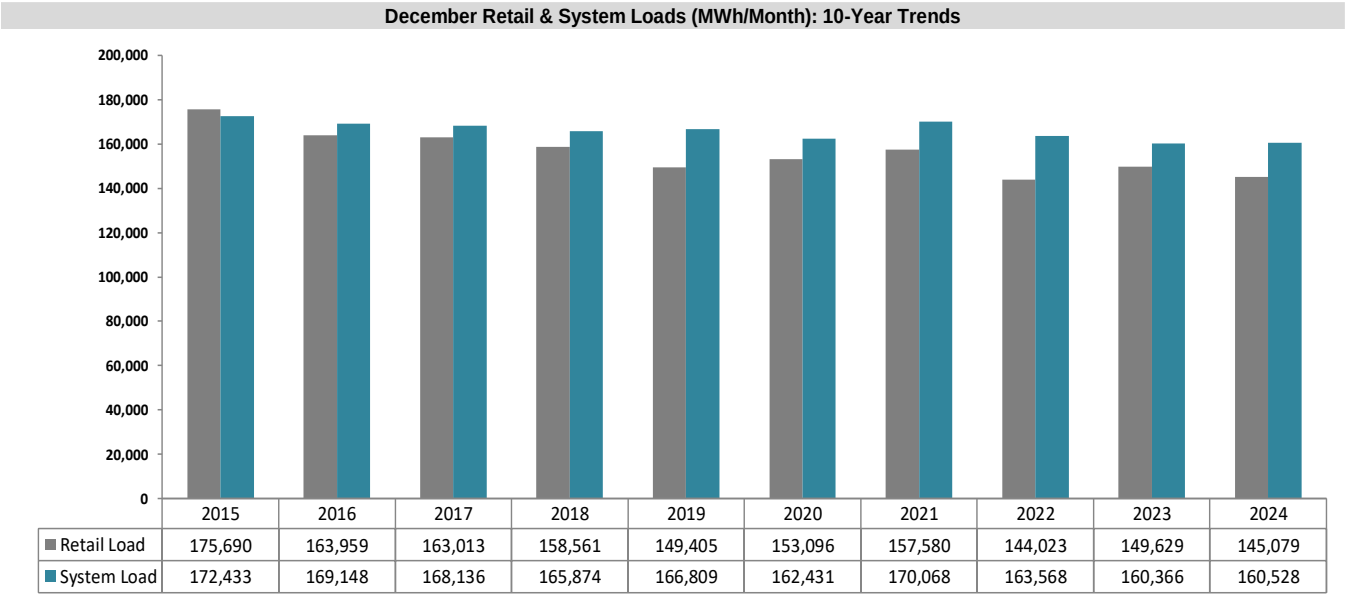
Average weather patterns were similar in December 2023 compared to December 2024. In December 2024, the average daily peak load was 247 MW, with the monthly peak load reaching 268 MW. The average daily peak load in December 2023 was 249 MW, with the monthly peak load reaching 273 MW.



Hourly demand peaked at 268 MW on 12/19/24 HE 19, a decrease of 5 MW compared to a peak of 273 MW the same month last year. Riverside's resources covered 100% of the hourly peak demand on 12/19/24.

10-Year Retail Load Trends

The retail load for December 2024 was 145,079 MWh, a decrease of 4,550 MWh from the previous year's reading of 149,629 MWh. The System load for December 2024 was 160,528 MWh, an increase of 163 MWh from the prior year's reading of 160,366 MWh. Retail load values can be impacted by the significant adoption of residential PV solar, efficiency programs, adoption of energy-efficient appliances, available meter data, etc.

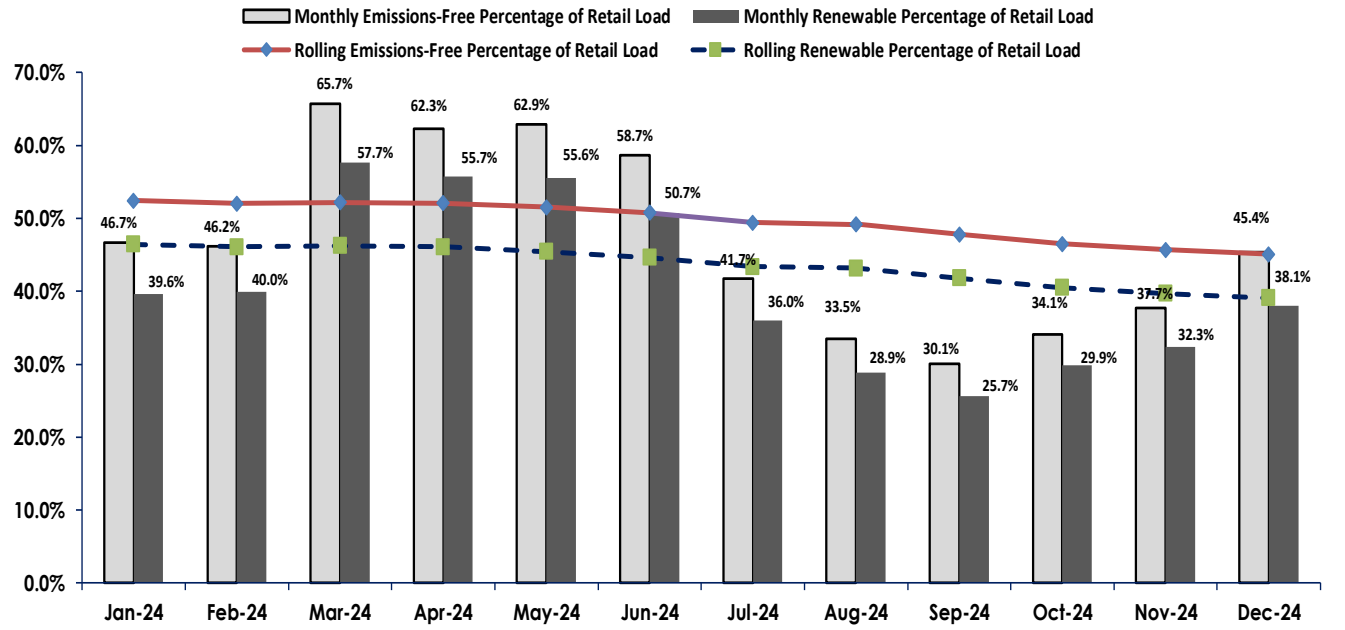


	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Retail Load	175,690	163,959	163,013	158,561	149,405	153,096	157,580	144,023	149,629	145,079
System Load	172,433	169,148	168,136	165,874	166,809	162,431	170,068	163,568	160,366	160,528

Renewable Generation Trends

In December 2024, nuclear generation experienced an increase of 17.4% in production compared to November 2024 and an increase of 0.5% compared to December 2023. Total hydroelectric generation experienced a decrease of 25% compared to November 2024 and an increase of 12.1% compared to December 2023. In December 2024, wind generation experienced a decrease of 33% in production compared to November 2024 and about an increase of 78% compared to December 2023. In December 2024, solar generation experienced a decrease of 13% in production compared to November 2024 and an increase of 14% in production compared to December 2023. In December 2024, geothermal generation experienced a decrease of 1.5% in production compared to November 2024 and a 28% decrease in production compared to December 2023. In December 2024, renewable generation, as a percentage of retail load, increased by about 5.7 percentage points from November 2024 and decreased by about 9 percentage points compared to December 2023. Lastly, in December 2024, Emissions-Free generation, as a percentage of retail load, increased by about 8 percentage points from November 2024 and decreased by 9 percentage points compared to December 2023. The driving factors for the decreased percentages in December 2024, compared to December 2023, are attributed to slight decreases in geothermal with increases in total load over the month. The Emissions Free and Renewable Resources summary graph reflects a rolling 12-month trend line.

Emission Free and Renewable Resources' Summary



*Riverside's emmisions free resources are composed of renewables plus hydro and nuclear
*Riverside's renewable resources are composed of solar, wind and geothermal.

December 2024 Resource Availability - Internal Generation

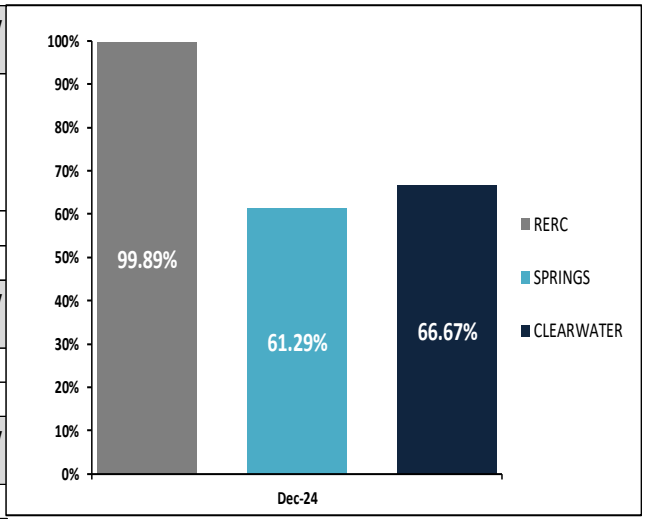
- RERC's availability for the month was 99.89%.
- Spring's availability for the month was 61.29%.
- Clearwater's availability for the month was 66.67%.

Resource Availibility

Dec-24	Total Outage Hours	Total Monthly Hrs.	Actual Available Hrs.	Availability %
RERC1	3.30	744.00	740.70	99.56%
RERC2	0.00	744.00	744.00	100.00%
RERC3	0.00	744.00	744.00	100.00%
RERC4	0.00	744.00	744.00	100.00%
RERC	**3.30**	**2976.00**	**2972.70**	**99.89%**

Dec-24	Total Outage Hours	Total Monthly Hrs.	Actual Available Hrs.	Availability %
SPRINGS	**1152**	**2976**	**1824**	**61.29%**

Dec-24	Total Outage Hrs.	Total Monthly Hrs.	Actual Available Hrs.	Availability %
CLEARWATER	**248**	**744**	**496**	**66.67%**

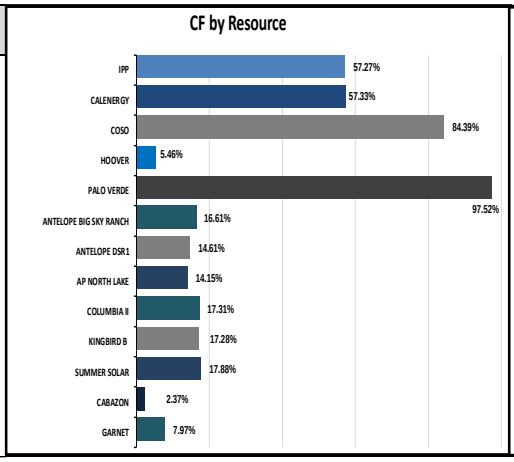


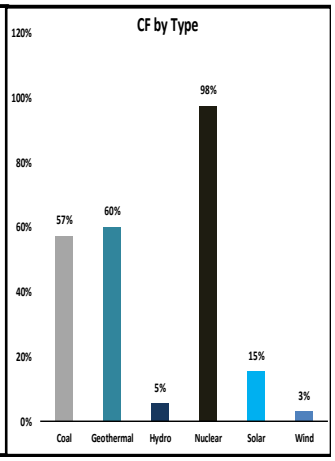
December 2024 Resource Availability – External Resources

Solar resources had capacity factors ranging from 10.88% to 17.88%. Wind resources had capacity factors ranging from 2.37% to 7.97%. Riverside's Palo-Verde nuclear share had steady production with a capacity factor of 97.52%. Hoover is an energy-limited resource and continues to be affected by lake-level restrictions. The resource maintained a 5.46% capacity factor for the month. Riverside's monthly IPP coal resource maintained a capacity factor of 57.27%. Riverside's geothermal resources had capacity factors ranging from 57.33% to 84.39%, affected slightly by under-generation. It is worth noting that intermittent renewable resources, including wind and solar, have capacity factors that are affected by natural factors such as cloud cover, blowing wind, etc.

Resource Capacity Factor

Dec-24	Resource Type	Max. Monthly Actual Energy		Capacity Factors
		MWH	MWH	
IPP	Coal	101,928	58,373	57.27%
CALENERGY	Geothermal	63,984	36,681	57.33%
COSO	Geothermal	7,440	6,278	84.39%
HOOVER	Hydro	22,320	1,218	5.46%
PALO VERDE	Nuclear	9,672	9,432	97.52%
ANTELOPE BIG SKY RANCH	Solar	7,440	1,236	16.61%
ANTELOPE DSR1	Solar	18,600	2,717	14.61%
AP NORTH LAKE	Solar	14,880	2,105	14.15%
COLUMBIA II	Solar	8,288	1,435	17.31%
KINGBIRD B	Solar	10,416	1,800	17.28%
SUMMER SOLAR	Solar	7,440	1,331	17.88%
TEQUESQUITE	Solar	5,580	607	10.88%
CABAZON	Wind	29,016	686	2.37%
GARNET	Wind	4,464	356	7.97%





Resource Outages and Transmission Constraints

- RERC
  - Unit 1 plant trouble
- SPRINGS
  - Various maintenance tasks – Fall Outage
- CLEARWATER
  - Various maintenance tasks – Fall Outage