

Reliability, Reliability, Reliability!!!

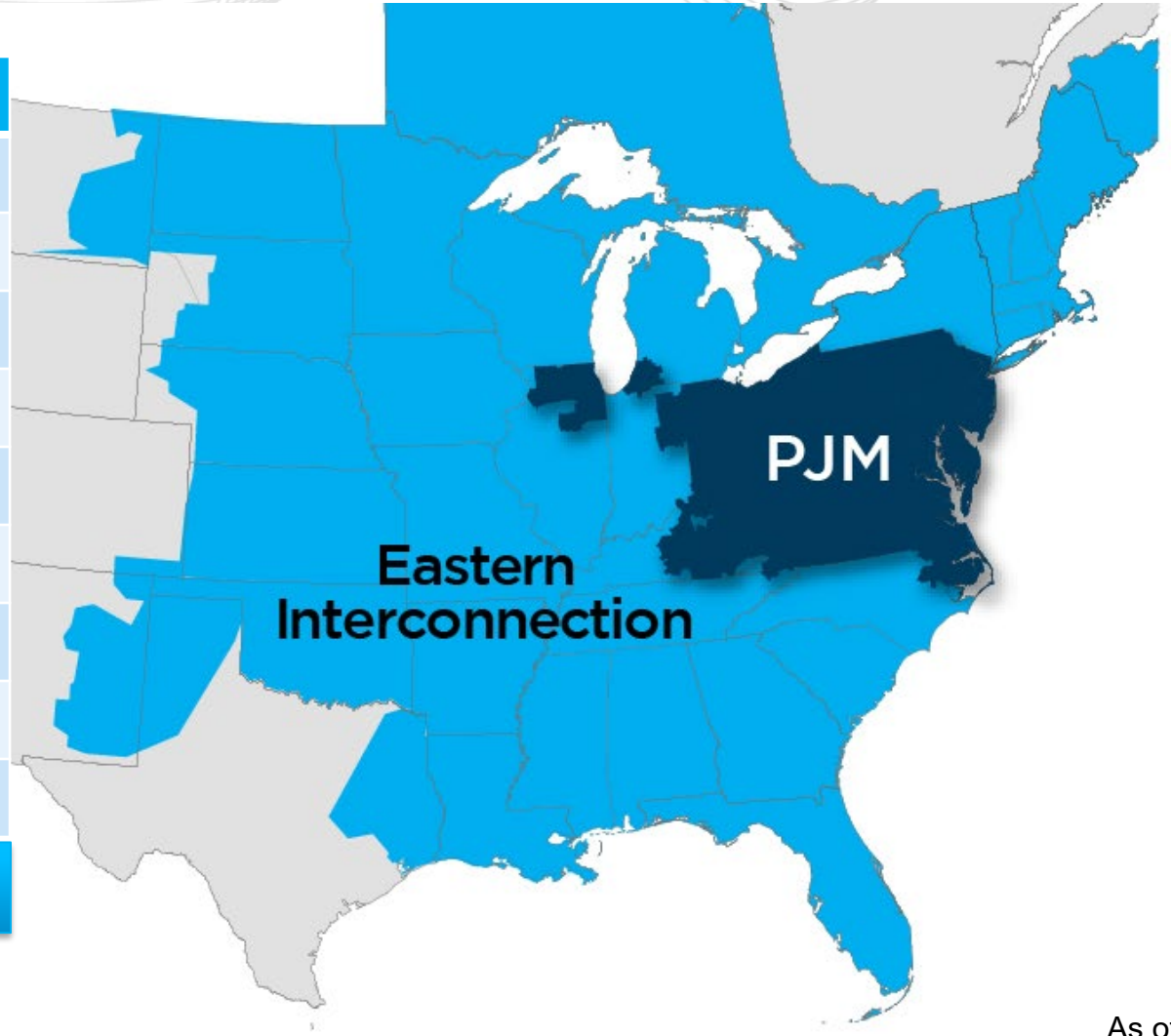
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Managing Partner, State Government Policy

July 18, 2023

Key Statistics

Member companies	1,110+
Millions of people served	65+
Peak load in megawatts	165,563
Megawatts of generating capacity	183,254
Miles of transmission lines	88,115
Gigawatt hours of annual energy	795
Generation sources	1,419
Square miles of territory	368,906
States served	13 + DC

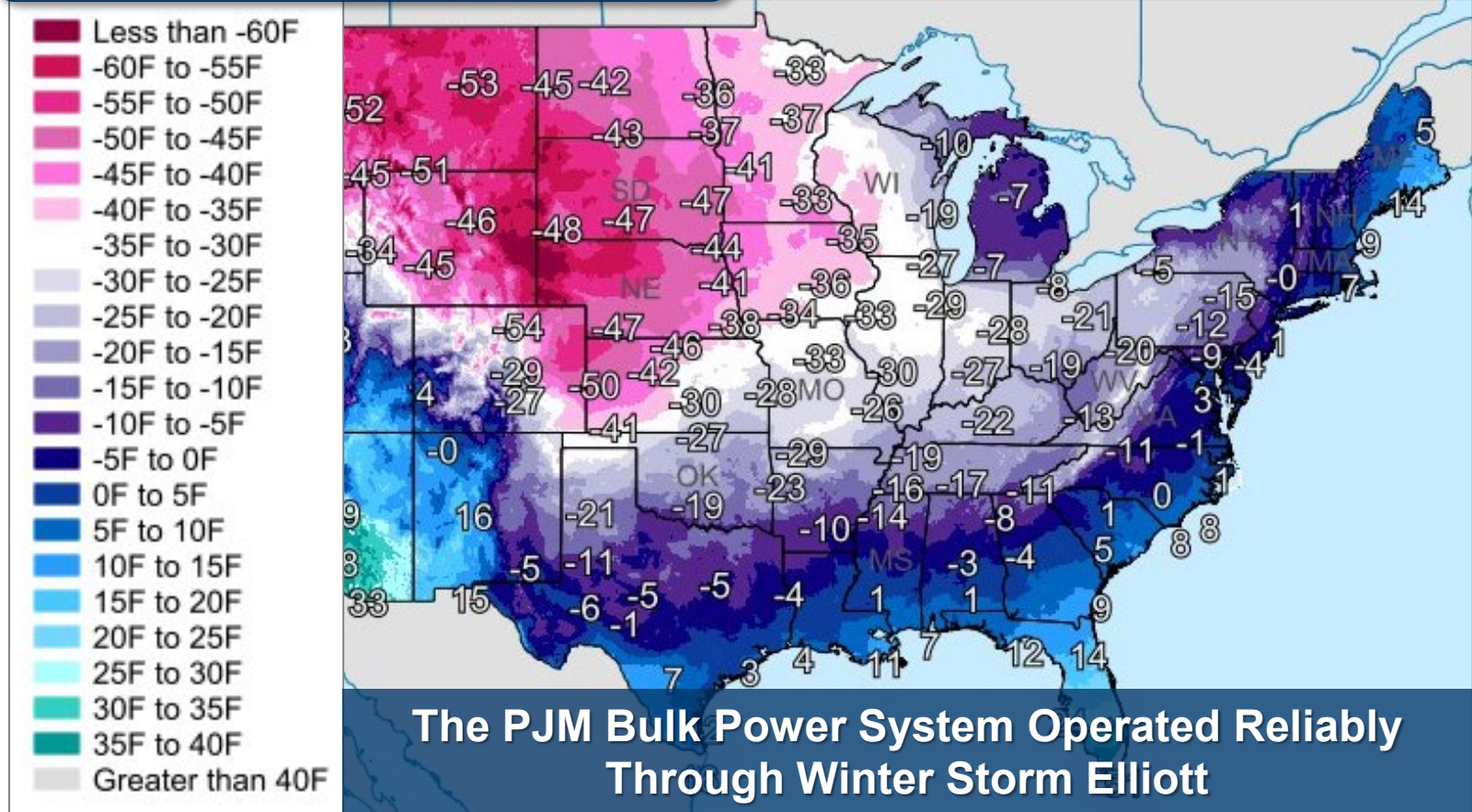
21% of U.S. GDP produced in PJM



As of 2/2023

Coldest Wind Chill

Valid Ending Saturday December 24th, 2022 at 12 PM CST



Source: NOAA

Temperatures across the RTO plummeted beginning on Dec. 23 and lasted into the morning of Dec. 25 with record lows in some areas as well as record drops in some regions.

Source: NOAA and the National Weather Service; Graphic created on Dec. 21, 2022.

1. **Near-Term Reliability: Ensuring Generator Performance**

We have enough resources and essential reliability services today, but they need to perform (Winter Storm Elliott).

2. **Mid-Term Reliability: Having Enough Resources**

Resource retirements and load growth could potentially outpace new entry (at the current pace of new entry, resource adequacy risks could emerge by 2028–2030) (PJM Paper: Resource Retirements, Replacements and Risks).

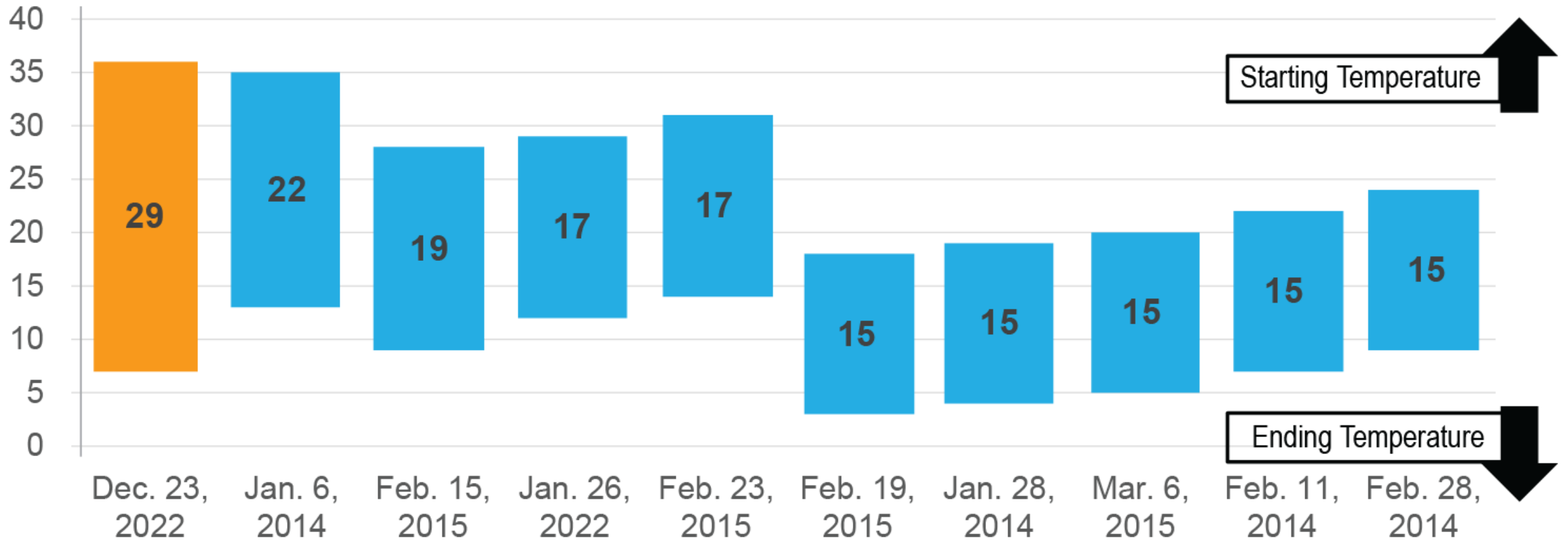
3. **Long-Term Reliability: Having Enough Resources and Essential Reliability Services**

Thermal generators provide essential reliability services, and an adequate supply will be needed until a substitute is deployed at scale (PJM Paper: Energy Transition in PJM 1.0).

APPENDIX

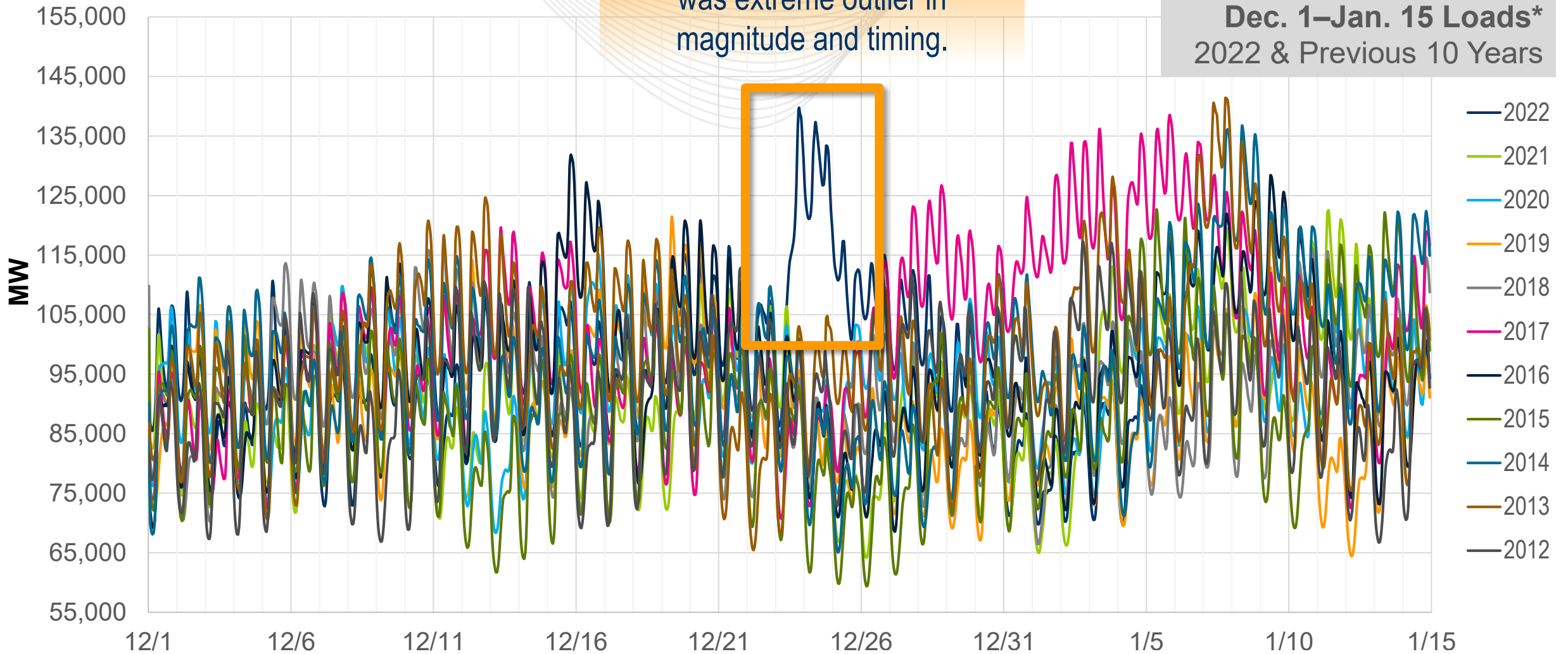
Most Drastic Temperature Drop in a Decade

Top Ten 12-Hour Temperature Drops Ending Under 15°



2022 holiday weekend load was extreme outlier in magnitude and timing.

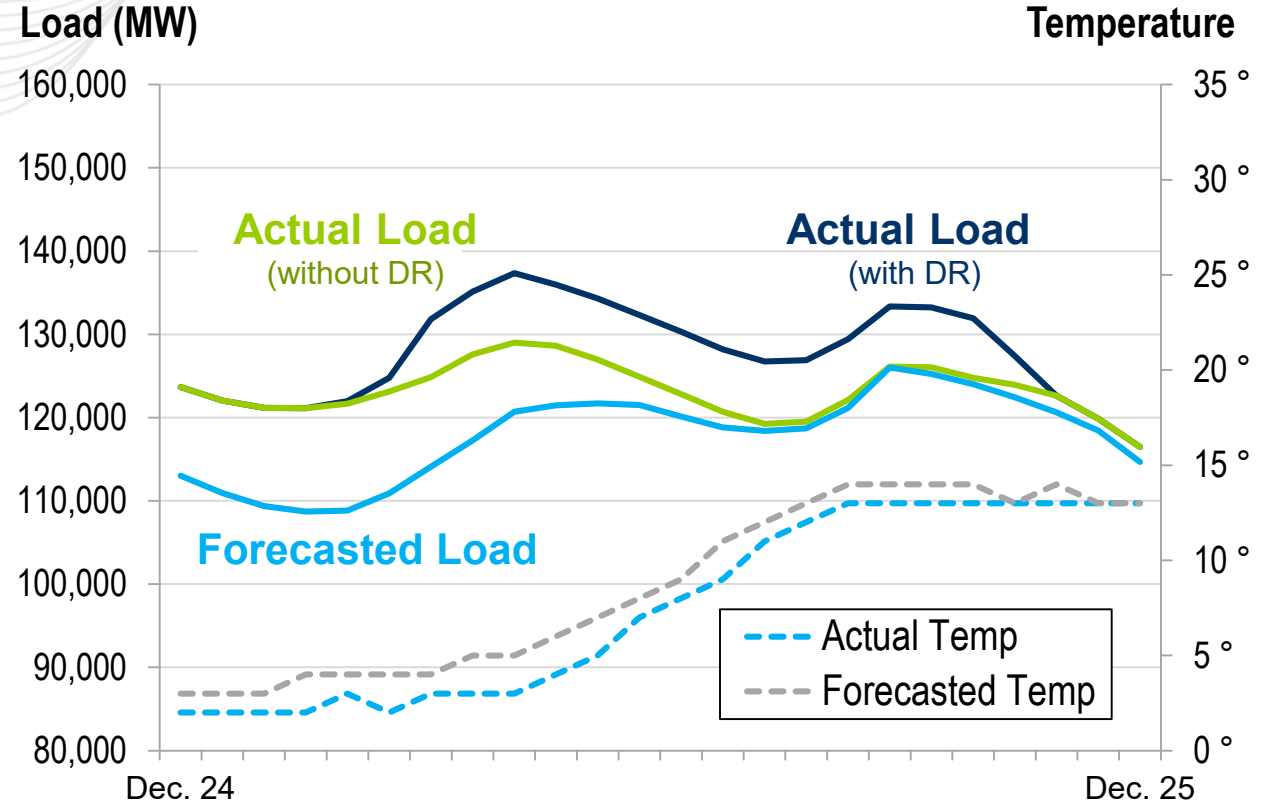
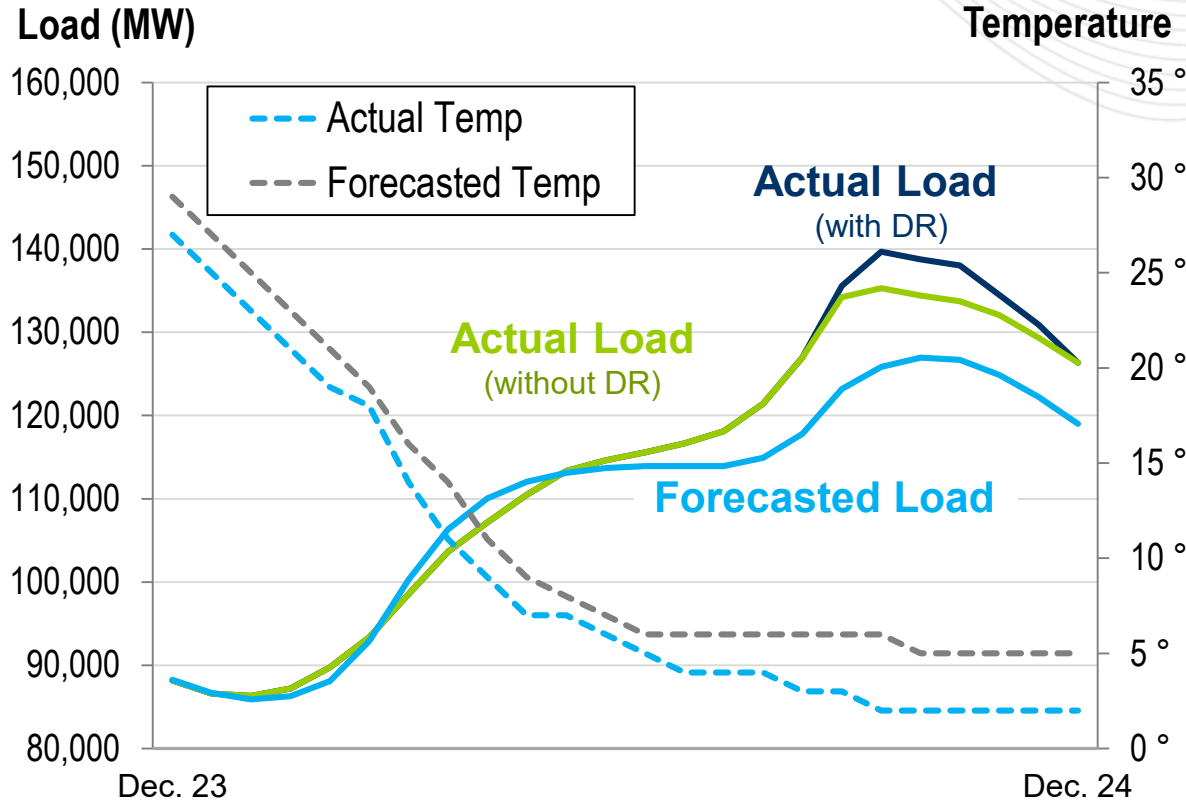
Dec. 1–Jan. 15 Loads*
2022 & Previous 10 Years



*Note: Load values include the estimated demand response (DR) added back.

Dec. 23

Dec. 24

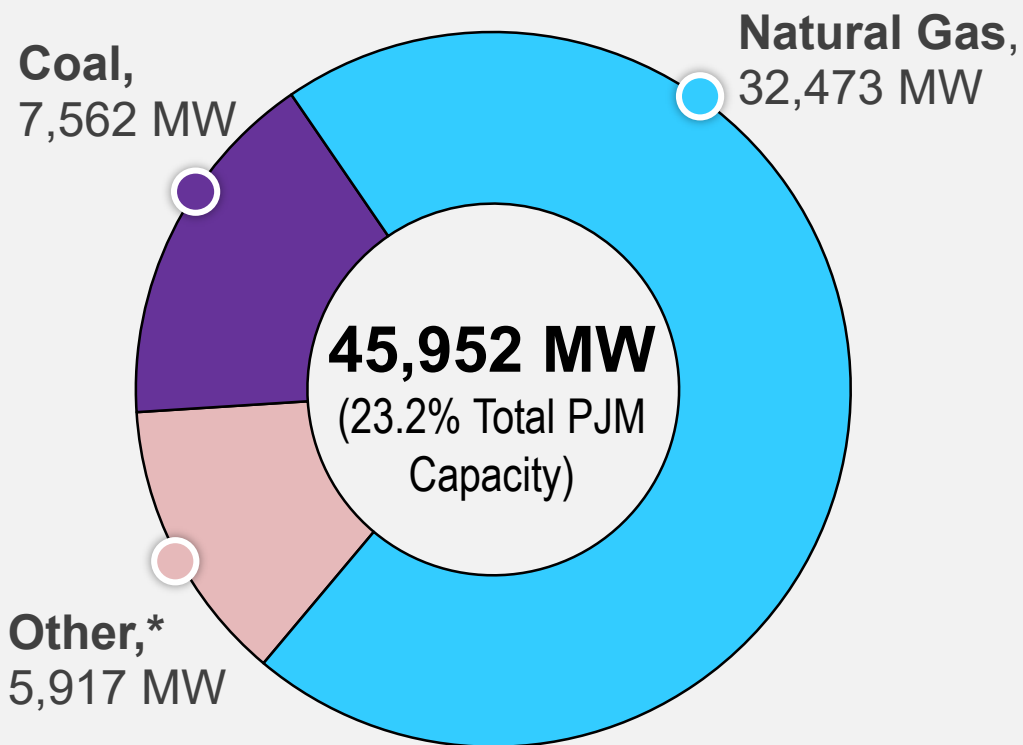


Actual load came in over 10% over forecast.

- Severe cold and blizzard conditions
- Most drastic temperature drop in a decade

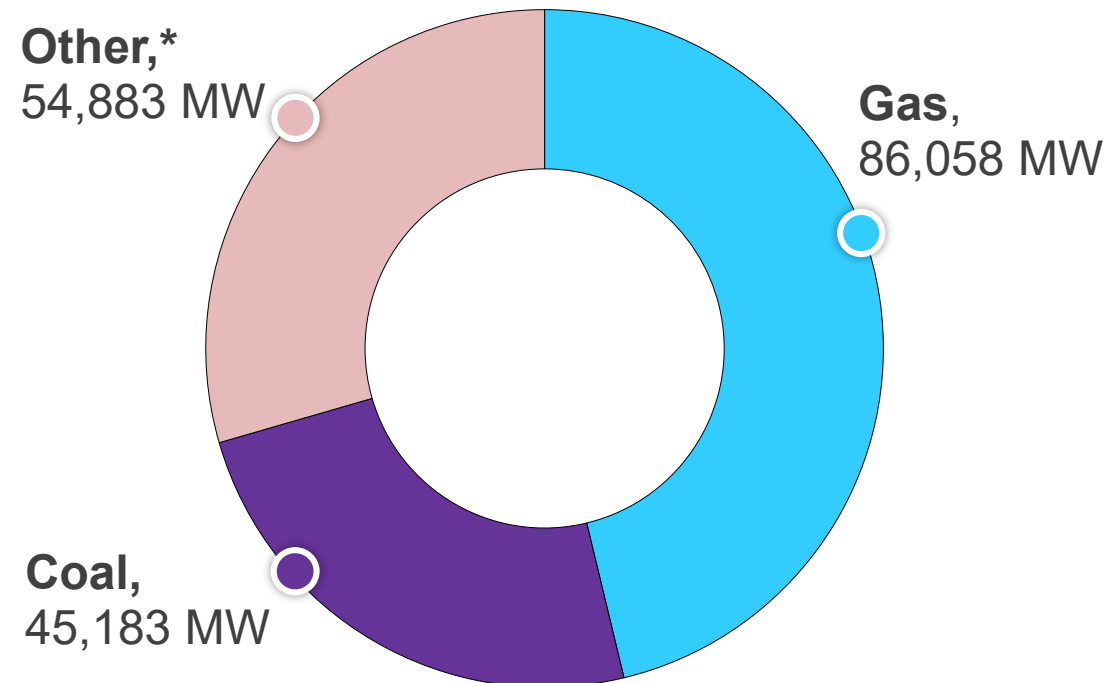
- Early occurrence of cold weather
- Holiday impacts: rare instance of under-forecasting

TOTAL FORCED OUTAGES – DEC. 24, 2022



*Other = nuclear, oil, wind, solar, etc.

GENERATOR UCAP 2022/2023 DELIVERY YEAR



PJM's Total Fleet Capacity – 186 GW