ODEC Old Dominion Electric Cooperative®

ELCC Solution Package

July 25, 2025

ODEC's ELCC Accreditation Proposal

Supplement PJM's proposal by reducing the probability of drawing the performance data for both PV1 and WSE by 33%

PJM's ELCC Sensitivities

Results of New Sensitivity Analyses

Results	24/25 Data* x1 No Alpha	24/25 Data* x1 Alpha=0.2	24/25 Data* x1 Alpha=0.3	24/25 Data* x2 No Alpha	24/25 Data* x2 Alpha=0.2	24/25 Data* x2 Alpha=0.3
Solved Load	160,476	160,759	160,242	160,560	160,682	161,087
IRM	19.2%	19.0%	19.4%	19.2%	19.1%	18.8%
Overall Winter LOLH Share	69%	68%	77%	64%	68%	59%
LOLH Risk Contribution of Jan 7 2014 Performance Pattern	32%	16 %	12%	27%	14%	10%
LOLH Risk Contribution of Dec 24 2022 Performance Pattern	34%	49%	63%	35%	51%	46%
LOLH Risk Contribution of Winter 2013/14 Performance Pattern	34%	17%	12%	28%	15%	11%
LOLH Risk Contribution of Winter 2022/23 Performance Pattern	35%	52%	65%	36%	53%	48%
Conditional Probability of Drawing PV1 or WSE Performance	9.1%	9.9%	10.6%	8.3%	8.1%	7.9%
Weight in Perf. Adj Calculation of 24/25 winter performance (x1 or x2)	6.1%	11.9%	18.7%	10.5%	21.8%	25.5%

* The 24/25 data to calculate loads, temperature bins and resource performance is preliminary. For some hours, estimated values have been used.

Weather Comparison between WSE and MLK Winter Storms

Winter Storm Elliott Dec. 23–26, 2022			January 18-23, 2025 Cold Wave	
Cities	Coldest Air Temperature	Coldest Wind Chill	Coldest Air Temperature	Coldest Wind Chill
Chicago	-8°F	-35°F	-8°F	-29°F
Columbus	-7°F	-34°F	-3°F	-18°F
Louisville	-5°F	-31°F	4°F	-12°F
Philadelphia	7°F	-14°F	10°F	-6°F
Richmond	8°F	-11°F	9°F	2°F

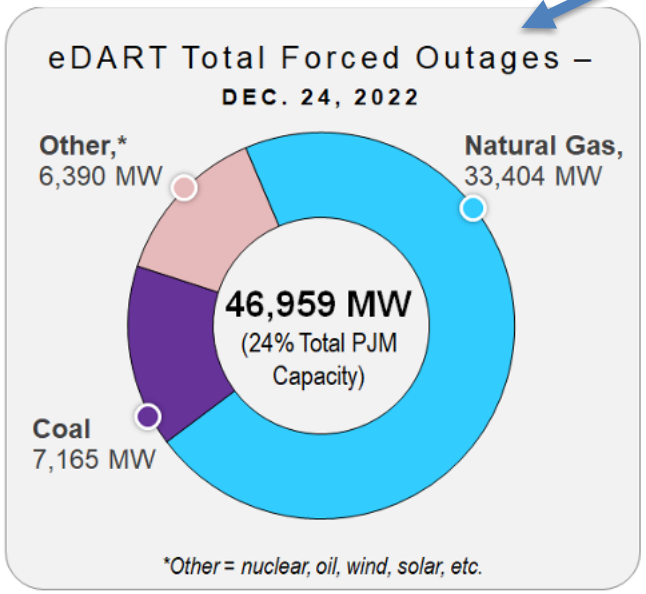
Outage Rate Comparison Between WSE and MLK Winter Storms

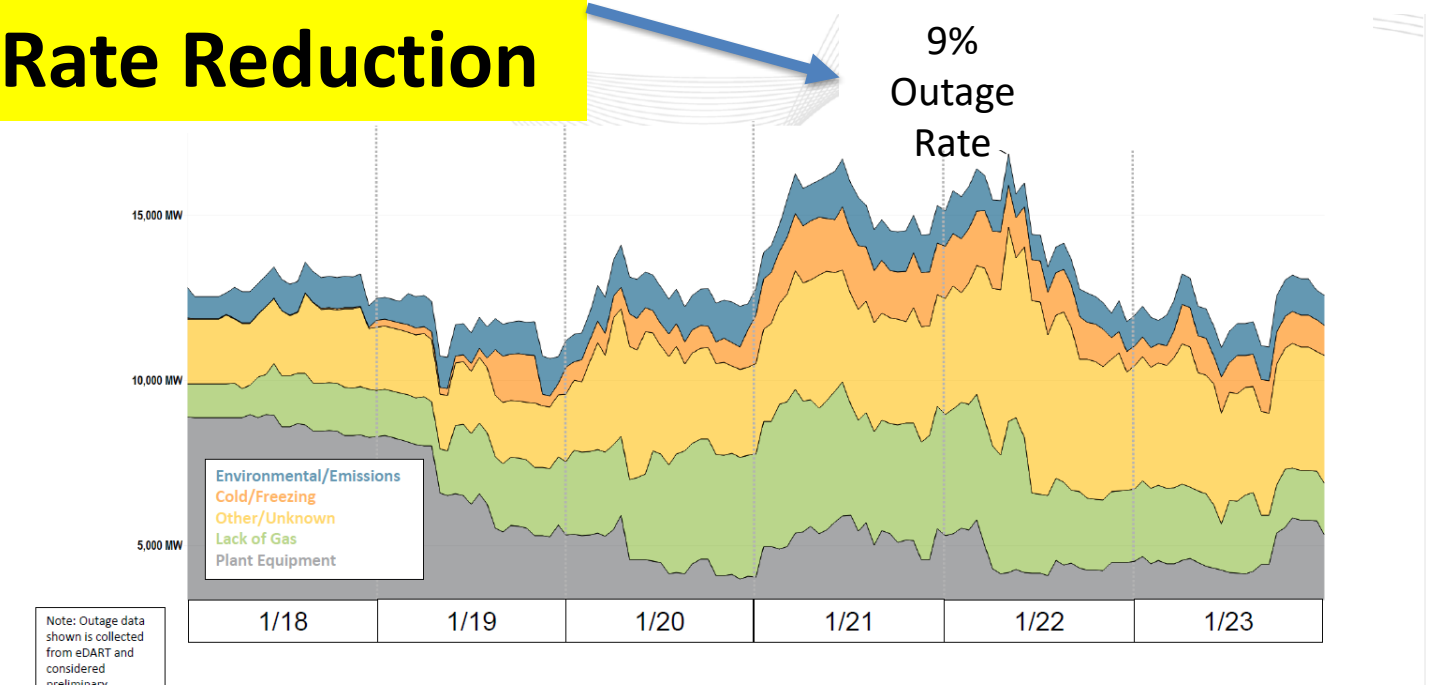
WSE Storm

63% Outage Rate Reduction

MLK Storm

Figure 29. Forced Outages





Source:
Winter Storm Elliott
Event Analysis and Recommendation Report
July 17, 2023

Source:

PJM March 12, 2025 Cold Weather Operations Report for 1/18/25 to 1/23/25

PJM Conservative Operation Steps

Unit Commitment

Risk-based scheduling approach – Unit startup and operating risk, natural gas availability	• Units with extended start times were evaluated and started early to ensure units were online before extreme cold weather settled in. Strategy was to have units warm and ready to ramp up. • Evaluated units that have not operated in the past four weeks and potential need for additional start time • Tested CTs that have not ran to ensure operational capability • Minimized cycling of units
Reliability cases were conducted, and units were committed for reliability based on anticipated congestion and capacity projections.	
Advanced commitment to gas only resources, CTs & Steam units considering multi day extended gas nomination period. Sunday – Thursday commitment	• Considerations were given to min. down time on units to determine if they would be able to come back in time for higher projected loads. • CTs were surveyed for fuel availability – value in having fuel status

ODEC's ELCC Task Force Observations

- Approximately a 63% of the overall annual risk occurs due to the Polar Vortex 1 (prior to Capacity Performance) and WSE (prior to Conservative Operations) generator outage performance patterns.

- Both PJM Staff and the IMM has previously indicated they believe the Capacity Performance construct and the Conservative Operations Protocol have the effect of improving generator performance.

- Need to acknowledge these important operational changes to not create a paper capacity shortage on top of a real capacity shortage especially during this period of unprecedent data center load growth and the possibly of record capacity clearing prices.

ODEC's ELCC Accreditation Proposal

Proposal -- Supplement PJM's proposal by reducing the probability of drawing the PV1 and WSE performance data by 33%

- Rational behind the recommendation is that PJM's Capacity Performance rules and its Conservative Operations practices make these events less likely than the historical data suggests.
- The 33% reduction is about half of the overall improvement we saw in forced outage rates between WSE Dec in 2023 and the MLK Jan. 2005 winter storm.
- Reducing the draw probability as opposed to haircutting the outage rate itself preserves the possibility of such events could occur in the future (although at a lower likelihood)