January Cold Weather Operations

Operating Committee
February 5, 2026

Operations Update

1	Key Takeaways
2	Emergency Procedures
3	Unit Commitment
4	Cold Weather Operating Limits (CWOL)
5	Weather, Temperature and Load Forecast Accuracy
6	Scheduled Interchange
7	Generation Performance
8	Gas Performance
9	Transmission Performance

Cold Weather Operations
January 16–21, 2026

Key Takeaways for Operations

Instantaneous Peak Load 135,121 MW–Jan. 21 @ 07:40

Successes

- No advance commitment required for an extended weekend gas package
- Sufficient generation to cover reserves, serve load and exports
- Limited emergency procedures

Challenges

- No significant challenges

Emergency Procedures

Cold Weather Advisory – RTO

Jan. 19, 2026, 00:00 through Jan. 21, 2026, 23:59 (issued Jan. 15, 2026)

Cold Weather Alert – Western Zone

Jan. 19, 2026, 00:00 through Jan. 20, 2026, 23:59 (issued Jan. 15, 2026)

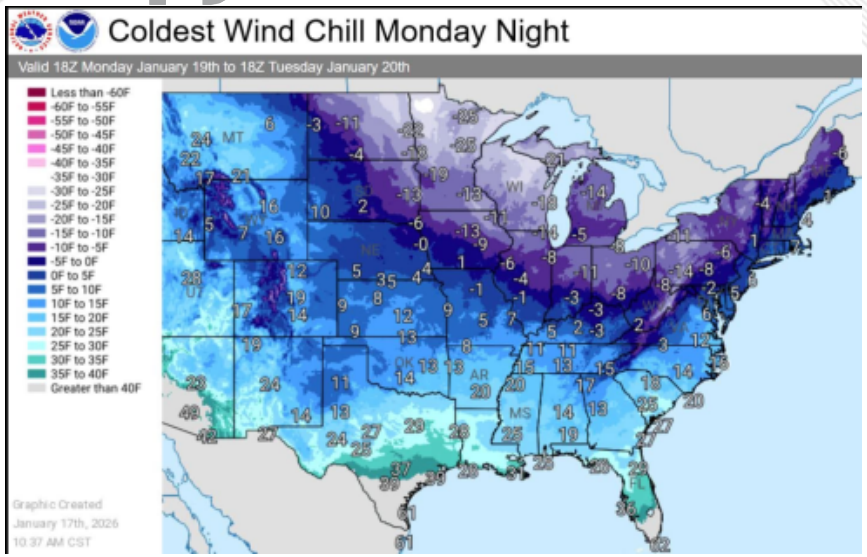
Cold Weather Alert – RTO

Jan. 20, 2026, 00:00 through Jan. 21, 2026, 23:59 (issued Jan. 15, 2026)

Unit Commitment

Risk-based scheduling approach – Unit startup and operating risk, natural gas availability	PJM projected adequate generation availability to meet electric demand, reserve requirements and interchange schedules leading up to cold weather period. Limited at-risk megawatts associated with Cold Weather Operating Limitations.
Reliability cases were conducted, and units were committed for reliability based on anticipated congestion and capacity projections.	
No advanced commitment to gas only resources, CTs & steam units	• Strategically staffed CT sites to support start up success rate • CTs were surveyed for fuel availability – value in having fuel status.

Temperatures – Jan 16-21, 2026



On Jan 18: Colder temperatures pushed into COMED

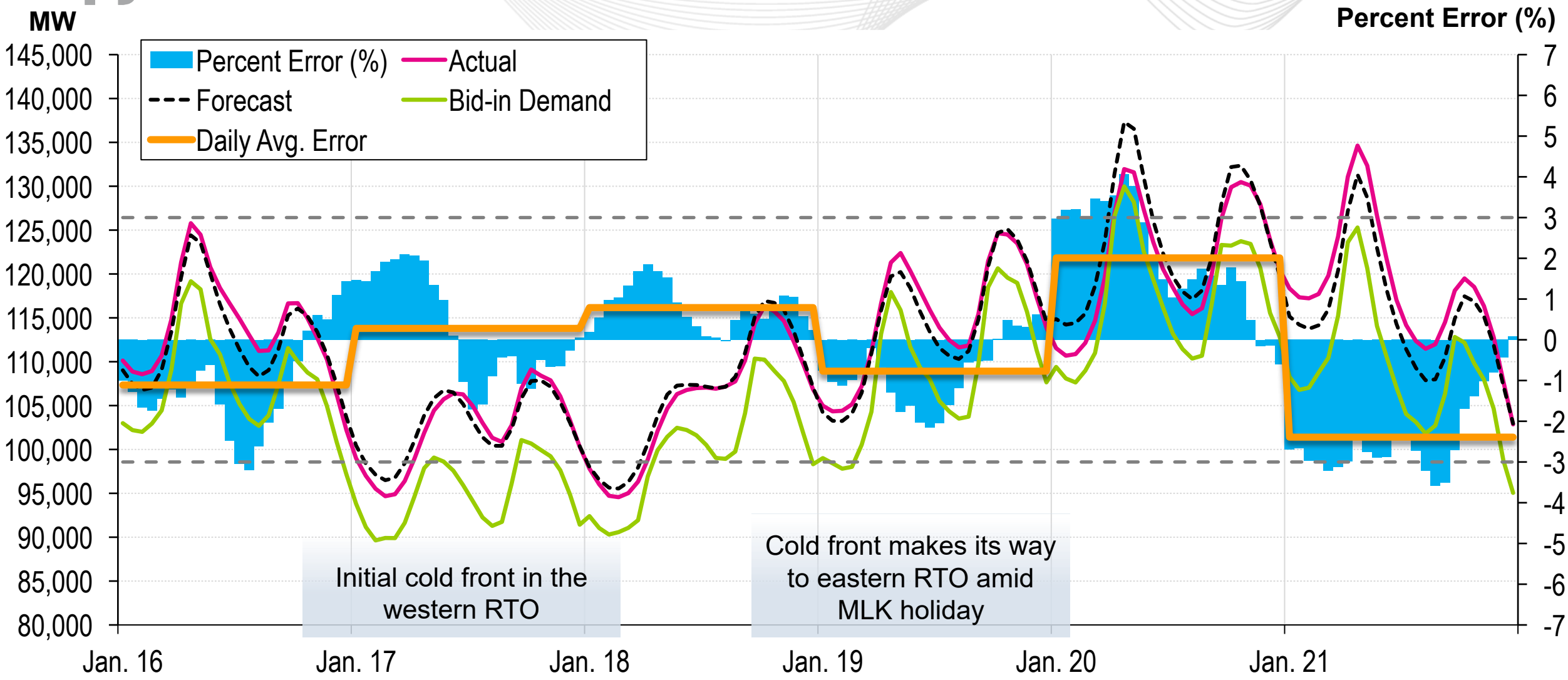
On Jan 20: Coldest morning in RTO

On Jan 21: Modifying temperatures

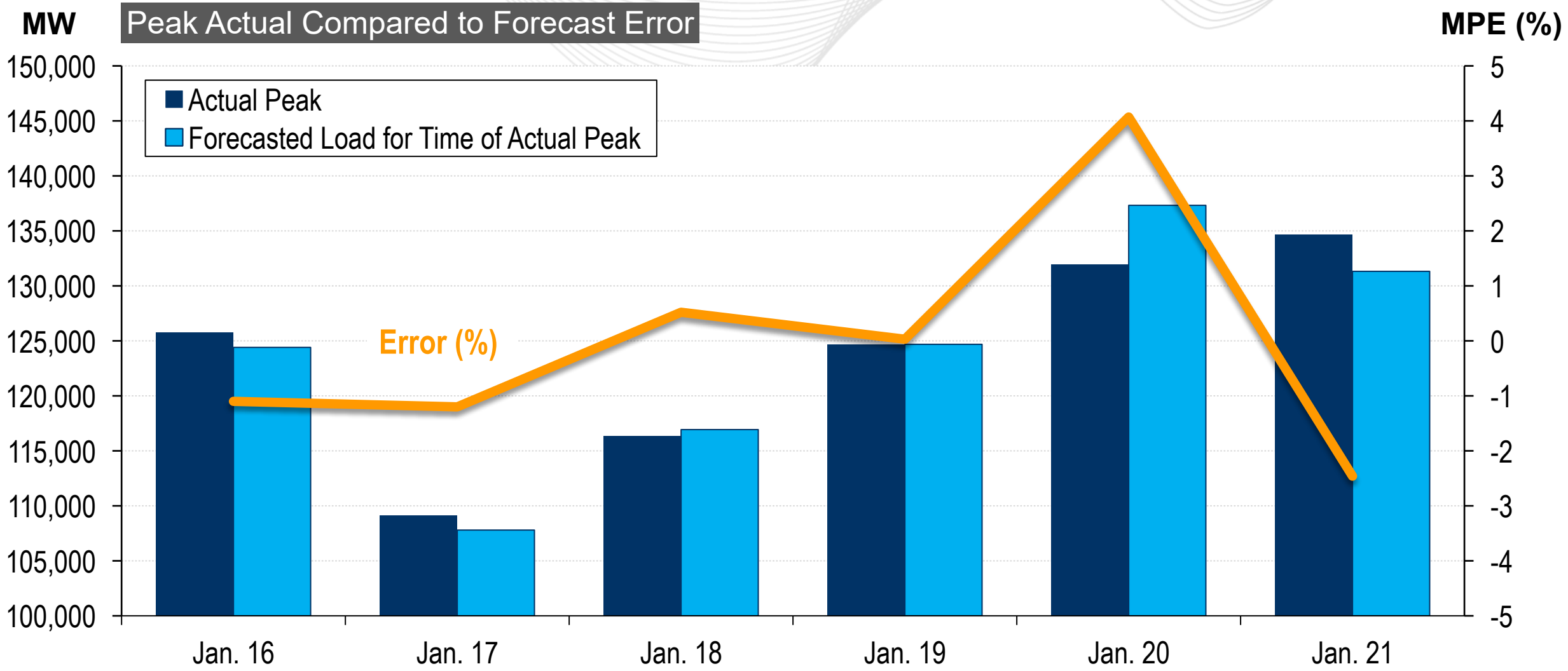
From Jan 19-20: Much colder temperatures spread over RTO, falling below freezing

	Winter Storm Elliott Dec. 23-26, 2022		January 18-23, 2025 Cold Wave		January 16-21, 2026 Cold Wave #1	
Cities	Coldest Air Temperature	Coldest Effective Temperature	Coldest Air Temperature	Coldest Effective Temperature	Coldest Air Temperature	Coldest Effective Temperature
Chicago	-8°F	-26°F	-8°F	-19°F	-1°F	-16°F
Columbus	-7°F	-24°F	-3°F	-8°F	7°F	0°F
Louisville	-5°F	-22°F	4°F	-1°F	11°F	8°F
Philadelphia	7°F	8°F	10°F	2°F	16°F	12°F
Richmond	8°F	-3°F	13°F	10°F	16°F	15°F
RTO Ld.-Wtd. Avg	4°F	-7°F	5°F	0°F	11°F	7°F

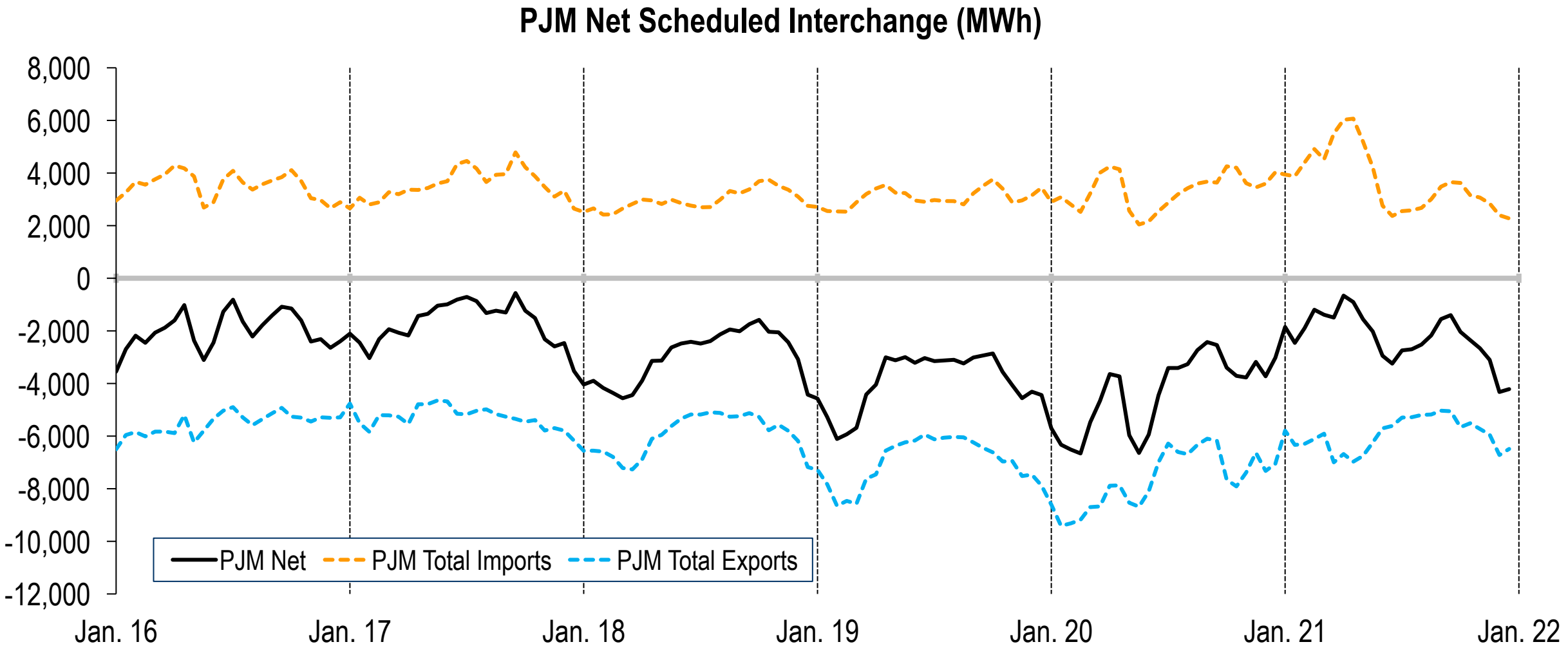
Forecast Performance (Jan. 16–21, 2026)



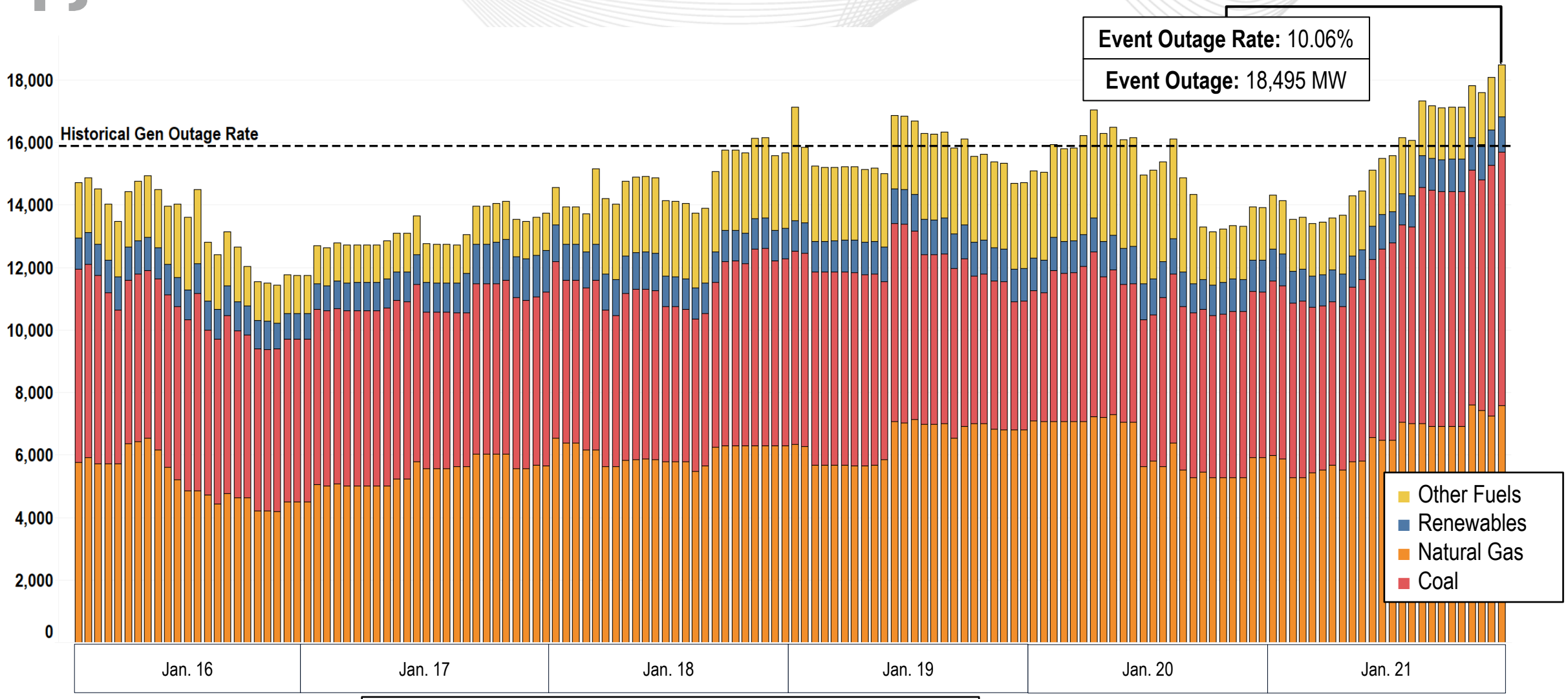
Forecast Error Trend for Jan. 16–21, 2026



PJM Net Schedule Interchange

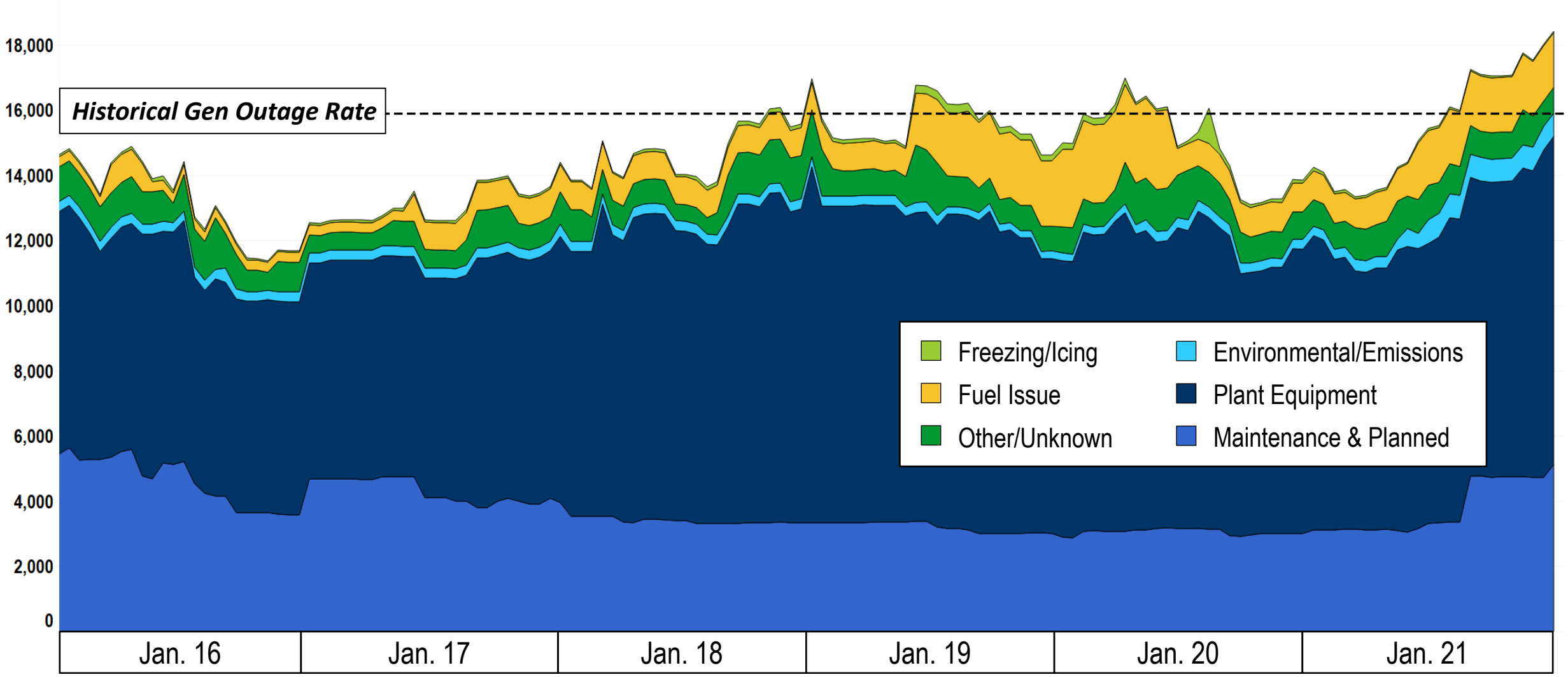


Generation Performance (Jan. 16–21, 2026)



Note: Outage data shown is collected from eDART and considered preliminary.

Generation Performance (Jan. 16–21, 2026)



Note: Outage data shown is collected from eDART and considered preliminary.

Natural Gas System Performance (Jan. 16–21, 2026)

- All pipelines enforcing tariff provisions
- Several LDCs announced interruptions
- Natural gas supply remained steady with virtually no loss of daily production
- Two colder than average days surrounded by much milder conditions helped to mitigate any large spot gas price increases as gas liquidity remained strong

Outage Coordination

Transmission Outage Coordination

- PJM held an SOS-G/T call on Jan. 16 to discuss projected conditions.
- PJM and Transmission Owners coordinated to reschedule transmission outages causing significant congestion.
- Transmission Owners proactively rescheduled outages of lesser impact to minimize risk.
- Recalled outages to maximize generation deliverability.

Transmission Performance

Transmission Performance

Generation Deliverability

- Transmission system performance was good
- Issued 4 PCLLRWs (1 Non-Market PCCLRW)
  - Local thermal and voltage
  - List of January PCLLRWs found January 2026 Operations Summary.
- Bedington 500/138 kV Transformer #2 for the loss of 500 kV Bedington – Doubs line (Thermal)
  - Due to nearby long duration, unrecallable transmission maintenance

Cold Weather Operations
January 23 – February 2, 2026

Key Takeaways for Operations

Instantaneous Peak Load 140,049 MW – Jan. 29 @ 08:05

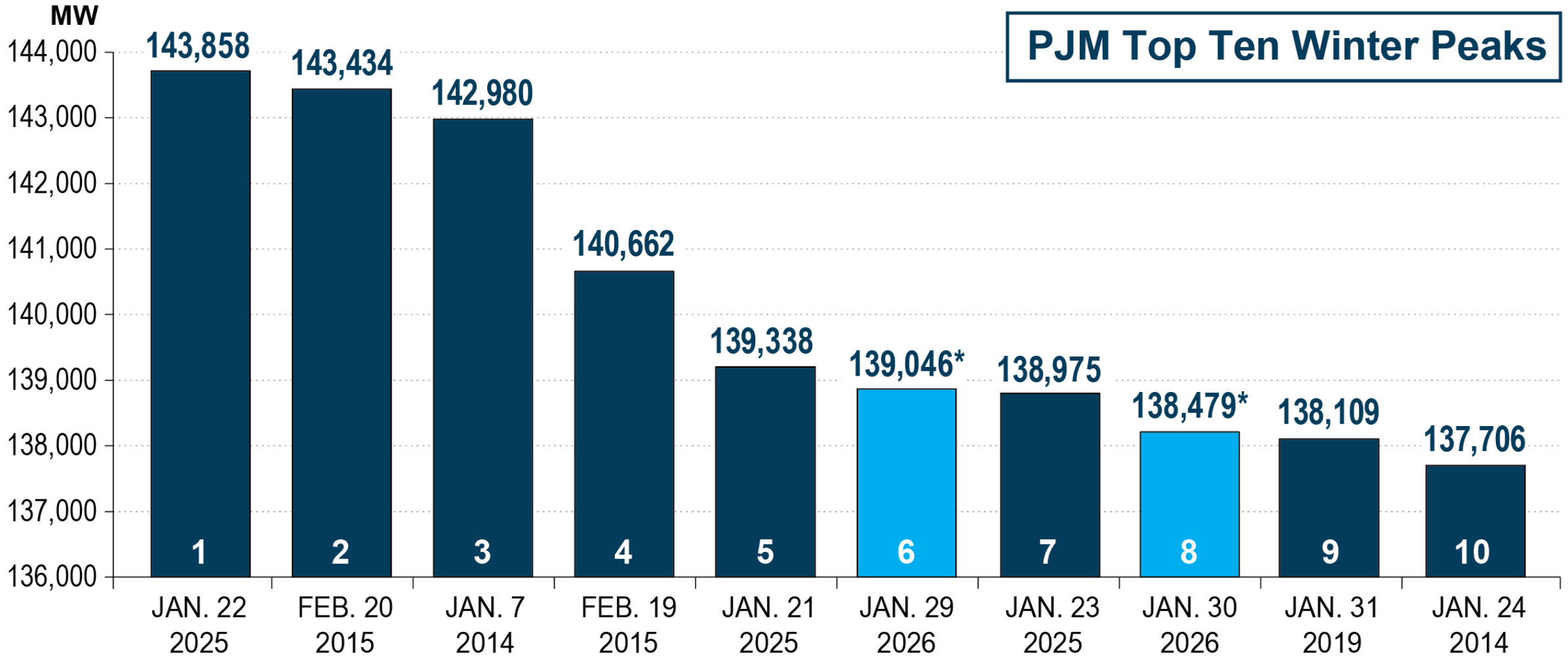
Successes

- Sufficient generation to cover reserves, serve load and exports.
- Close coordination with Generation Owners to effectively managed oil fuel inventory and emissions (Emergency 202c Order No. 202-26-2) to ensure capacity was available during forecasted peaks.
- Close coordination with neighbors throughout the event providing emergency sales as requested.
- Minimal impact on transmission outages due to winter storm effects.

Challenges

- Significant uncertainty and risk resulting from extended severe cold weather across the RTO which impacted gas pipeline flexibility, CWOL, oil fuel inventory, and emission limitations.
- Gas/electric market misalignment resulting in advance commitment prior to the day ahead.
- Load forecast accuracy impacted by actual temperature warmer than forecasted and extended school/government closings.

PJM Top Ten Winter Peaks (Hourly Integrated Load)



Source: https://dataminer2.pjm.com/feed/hrl_load_metered/definition

* This data is preliminary should not be used as the basis for decision-making. As of Feb. 1, 2026.

Communications Timeline

Call/Meeting Type	Jan. 22	Jan. 23	Jan. 24	Jan. 25	Jan. 26	Jan. 27	Jan. 28	Jan. 29
SOS-T								
SOS-T Monthly								
SOS-Joint								
SOS-Monthly								
TO Communicators								

Transmission Owners Generation Owners TO Communications Team

Inside Lines – Operational Updates (General public, stakeholders, media)

Stakeholder Email – Ops. Update (All PJM Stakeholders)

Daily Ops. Updates to States (State Contacts)

Communications regarding DOE 202c (Emissions) and DOE 202c (Backup Generation)

Pre-Storm Briefing by Governmental Services
(State Utility Commissioners and staff, state emergency contacts, consumer advocates)

Email update to member, stakeholders and customers
(State Contacts)

JAN. 22 | JAN. 23 | JAN. 24 | JAN. 25 | JAN. 26 | JAN. 27 | JAN. 28 | JAN. 29 | JAN. 30

Emergency Procedures (Jan. 23–Feb. 2)

Cold Weather Advisory – RTO

Jan. 24, 2026, 00:00 through Feb. 02, 2026, 23:59 (issued Jan. 20, 2026)

Cold Weather Advisory – ComEd

Jan. 23, 2026, 00:00 through Jan. 23, 2026, 23:59 (issued Jan. 20, 2026)

Maintenance Outage Recall – RTO

Effective as of 13:24 on Jan. 25, 2026, through Feb. 02, 2026, 23:59 (issued Jan. 21, 2026)

Cold Weather Alert – Western Zone

Jan. 23, 2026, 00:00 through Jan. 23, 2026, 23:59 (issued Jan. 21, 2026)

Cold Weather Alert – RTO

Jan. 24, 2026, 00:00 through Feb. 02, 2026, 23:59 (issued Jan. 21, 2026)

Emergency Procedures (Jan. 23–Feb. 2) (cont.)

Conservative Operations – RTO

Jan. 24, 2026, 00:00 through Feb. 02, 2026, 23:59 (issued Jan. 22, 2026)

*Issued in conjunction with Advanced Unit Commitment / 202C filing

Long Duration Extreme Event – Fuel Limited Resources

Jan. 25, 2026, 00:00 – Jan. 27, 2026, 00:00 (issued Jan. 24, 2026)

*Max Emergency entry criteria updated from 16 hours to 32 hours to conserve fuel for oil fired CTs

Pre-Emergency Load Management Action - BGE/DOM/PEP 120-60-30 min

Jan. 25, 2026, 12:30 through Jan. 25, 2026, 19:00

*Issued for Localized Transmission Constraint Management

Maximum Generation Emergency / Load management Alert and EEA1

Jan. 27, 2026, 00:01 through Jan. 27, 2026, 23:59 (issued Jan. 26, 2026)

Low Voltage Alert

Jan. 27, 2026, 00:01 through Jan. 31, 2026, 23:59 (issued Jan. 26, 2026)

Unit Commitment

Risk-based scheduling approach – Unit startup and operating risk, natural gas availability, on site fuel inventory level, emission and resource limitations, duration of cold weather event	PJM projected adequate generation availability to meet electric demand, reserve requirements and interchange schedules leading up to cold weather period. Increased Risk to electric and Gas infrastructure related to winter storm Fern High value of at-risk megawatts associated with Cold Weather Operating Limitations resulting in committing generation in advance to mitigate start-up risk.
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 due to Fuel Uncertainty	• Strategically staffed CT sites to support start up success rate • CTs were surveyed for fuel availability which impacted commitment.

Cold Weather Operating Limits

PJM collects Operating Limit and Startup temperatures yearly as part of the Cold Weather Preparation Checklist.

Operating Limit	***Startup Temp***
Ambient temperature that the plant designed to reliably operate down to. Considering all plant systems, components, controls, electrical, mechanical and water systems, including switchyard equipment owned by the Generating Facility	Minimum temperature at which the plant could start reliably while shut down and in a cold state

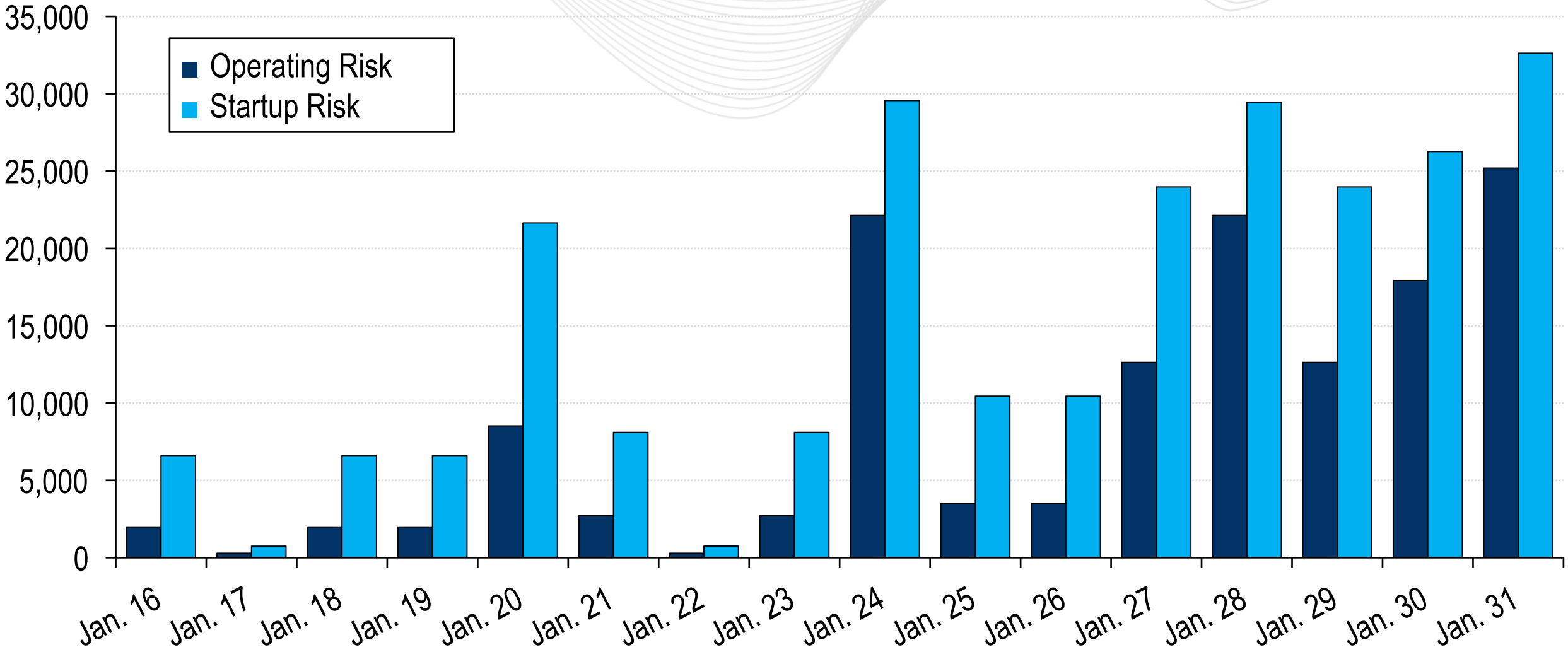
Data is analyzed and passed to PJM Dispatch to inform operations planning and situational awareness.

Manual 14D Section 6.3.4: Other Requirements

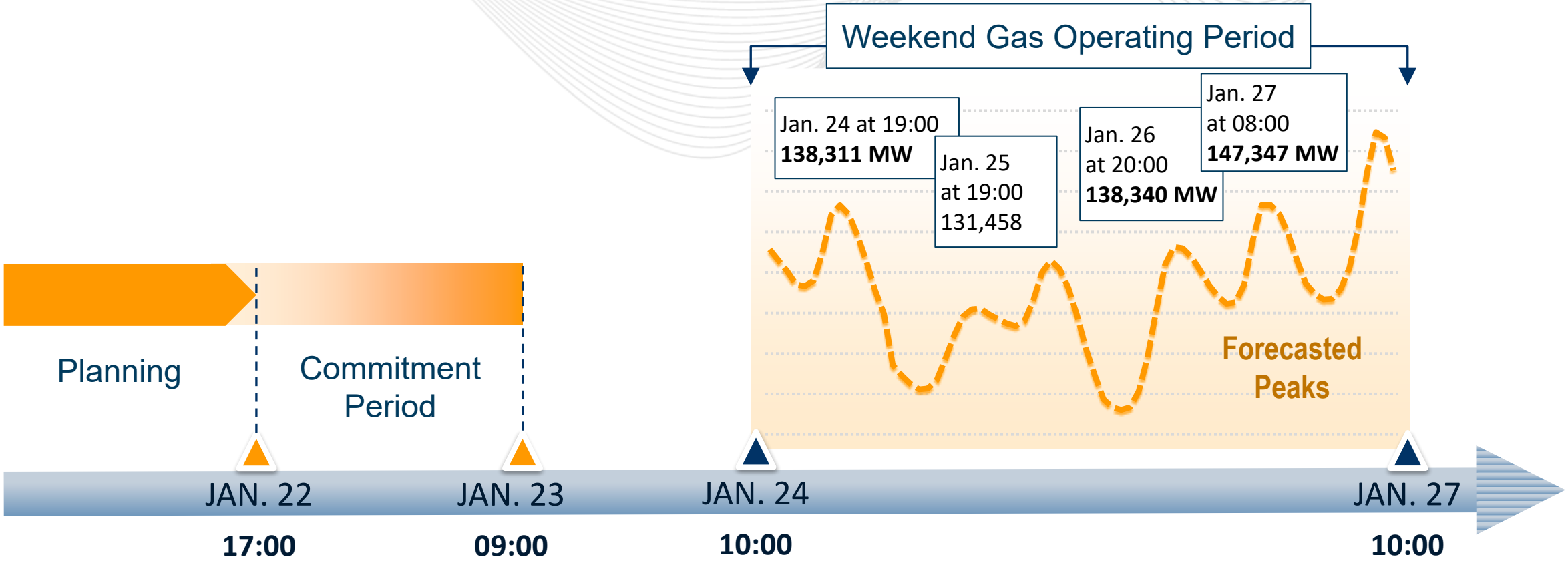
> Prior to entering commercial operations, and upon any material change affecting cold weather operating limits, all Generating Facilities must provide PJM with design data specific to cold weather. This includes, but is not limited to, the lowest temperature the facility is designed to operate reliably down to, and any procedural or contractual limits that require action when outside temperature reaches a specific low temperature. Additional data is required from inverter based resources.

Aggregated CWOL Data

Cold Weather Operating Risk

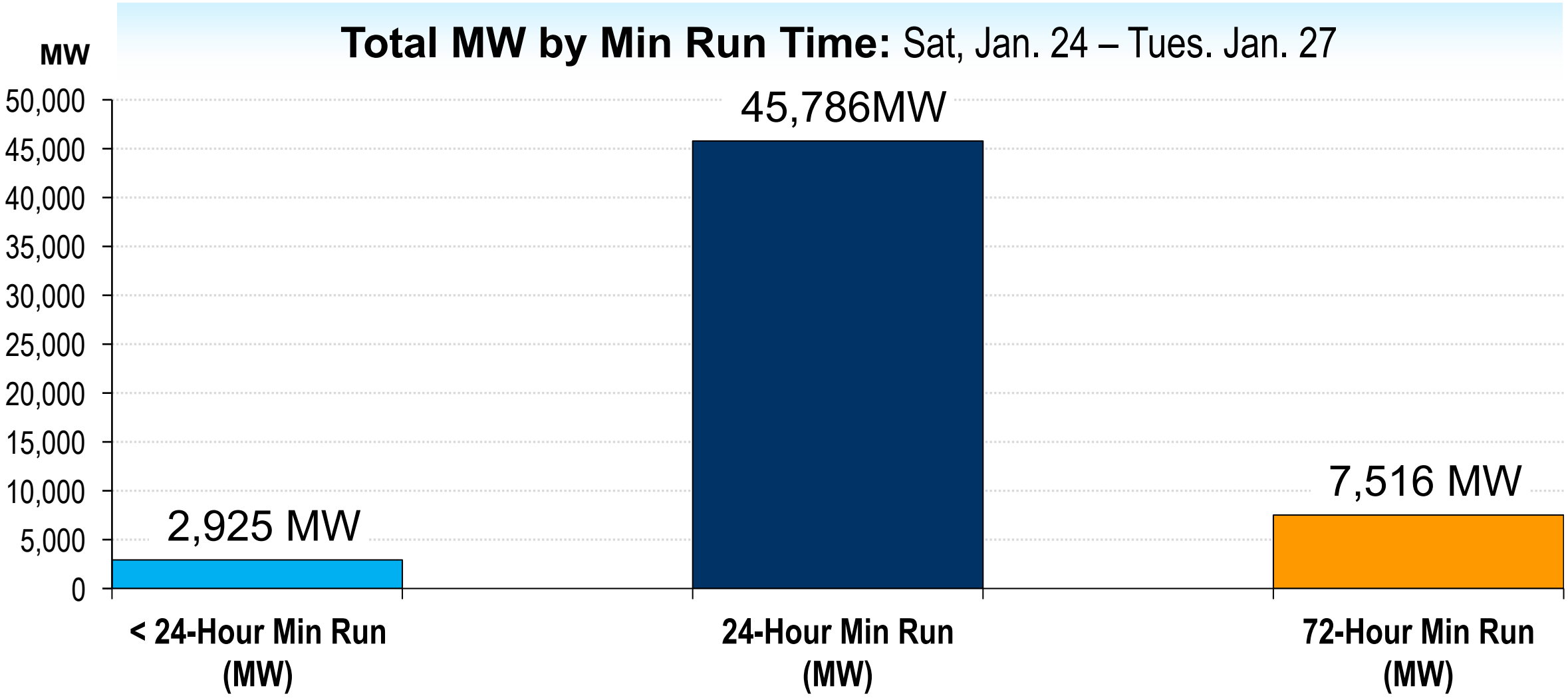


Weekend Gas Unit Commitment

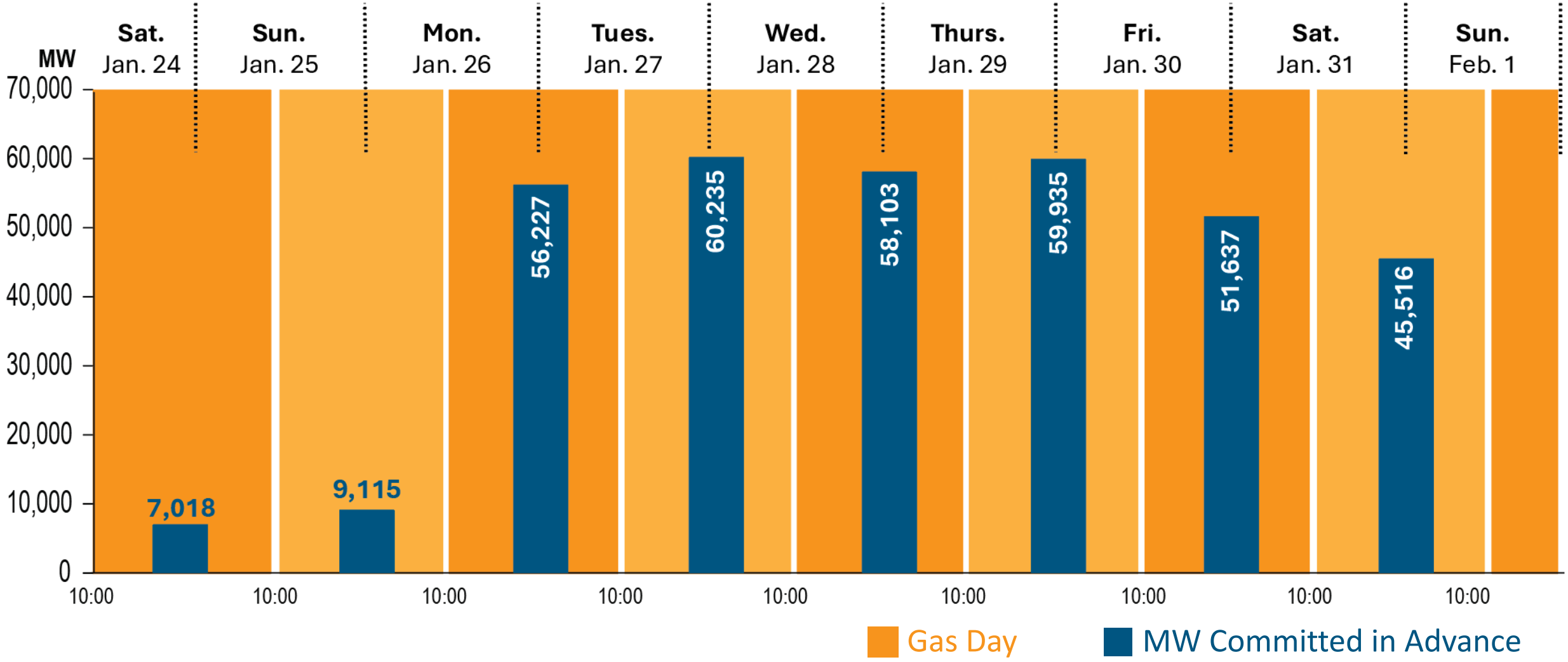


All unit commitments required by Jan. 23 @ 09:00
for the Jan. 24 @ 10 - Jan. 27 @ 10 operating period timeframe

Gas Only Unit Weekend Minimum Run Time



Gas Generation Advance Commitment
Jan. 24-Feb. 1, 2026



Fuel Limited Oil Fired CTs Max Emergency

- On January 24, 2026 18:50 PJM issued an All-Call requesting fuel limited oil fired CTs with 32 hours or less of run time into Max Emergency from 1/25/2026 00:01 through 1/27/2026 00:01 to preserve oil for extended cold weather
- Approximately 5 GW of ICAP across 90 units entered Max Emergency

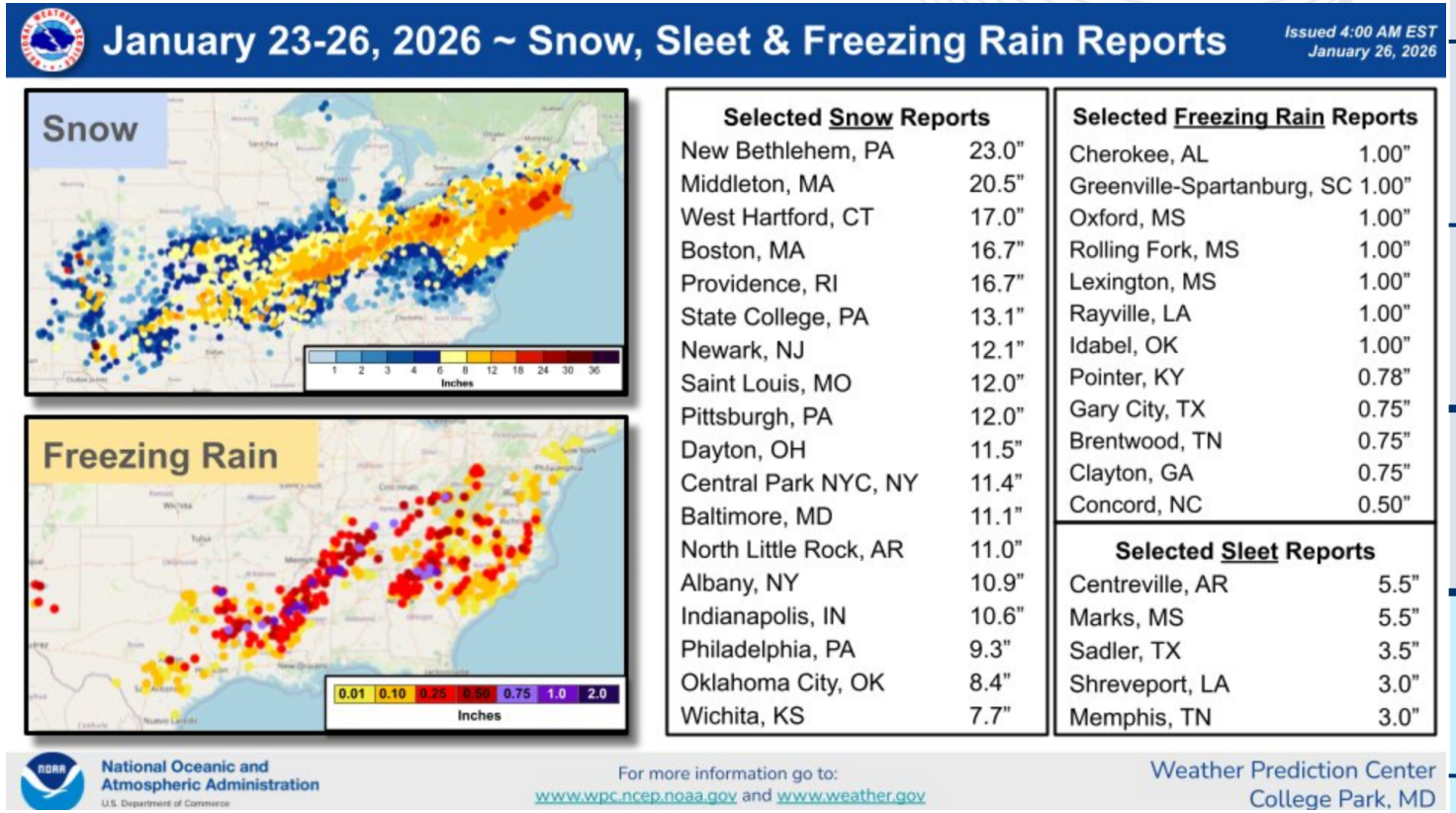
DOE Order No.202-26-2

- PJM was granted DOE 202c waiver (Order No.202-26-2) for generators with permit limit concerns to allow units to continue to operate for reliability
- Generators operating under the 202c waiver with run hours above permit limits were reported to DOE daily

Generators Covered by DOE 202c		
Plants	Units	ICAP
74	255	~39 GW

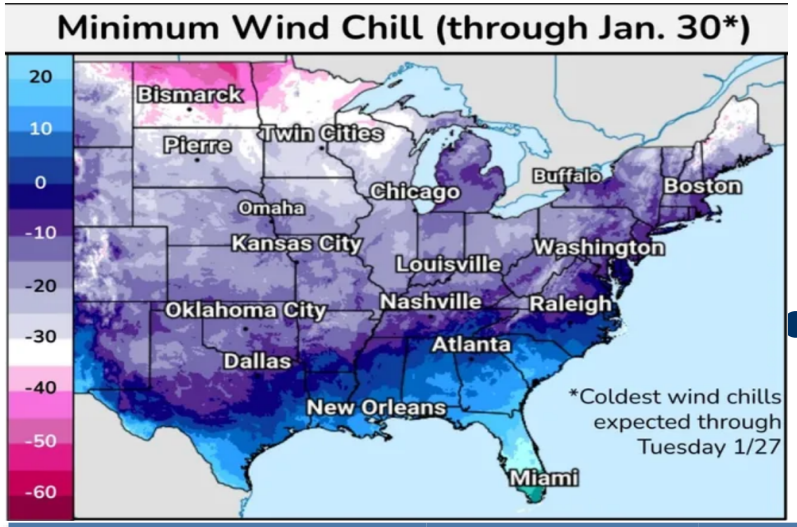
Generators Operated Above Permit Limits Under DOE 202c			
Plants	Units	ICAP	Total Hours
15	39	~5.2 GW	1,035

Winter Storm (Jan. 23–26, 2026)



- Heavy snow, sleet and ice across much of RTO
- Heaviest in Ohio Valley and portions of Mid-Atlantic where 10-20”+ accumulated
- Additional sleet, up to 4" encrusted snow in Southern and Mid-Atlantic Regions
- Highest icing occurred in southern RTO, up to around ½"
- Top 10 daily snowstorm all-time for many in middle Ohio Valley
- Extreme cold for days following the storm led to little melting of snow and ice

Temperatures – Jan 22-30, 2026



On Jan 22: Temperatures warmed across RTO

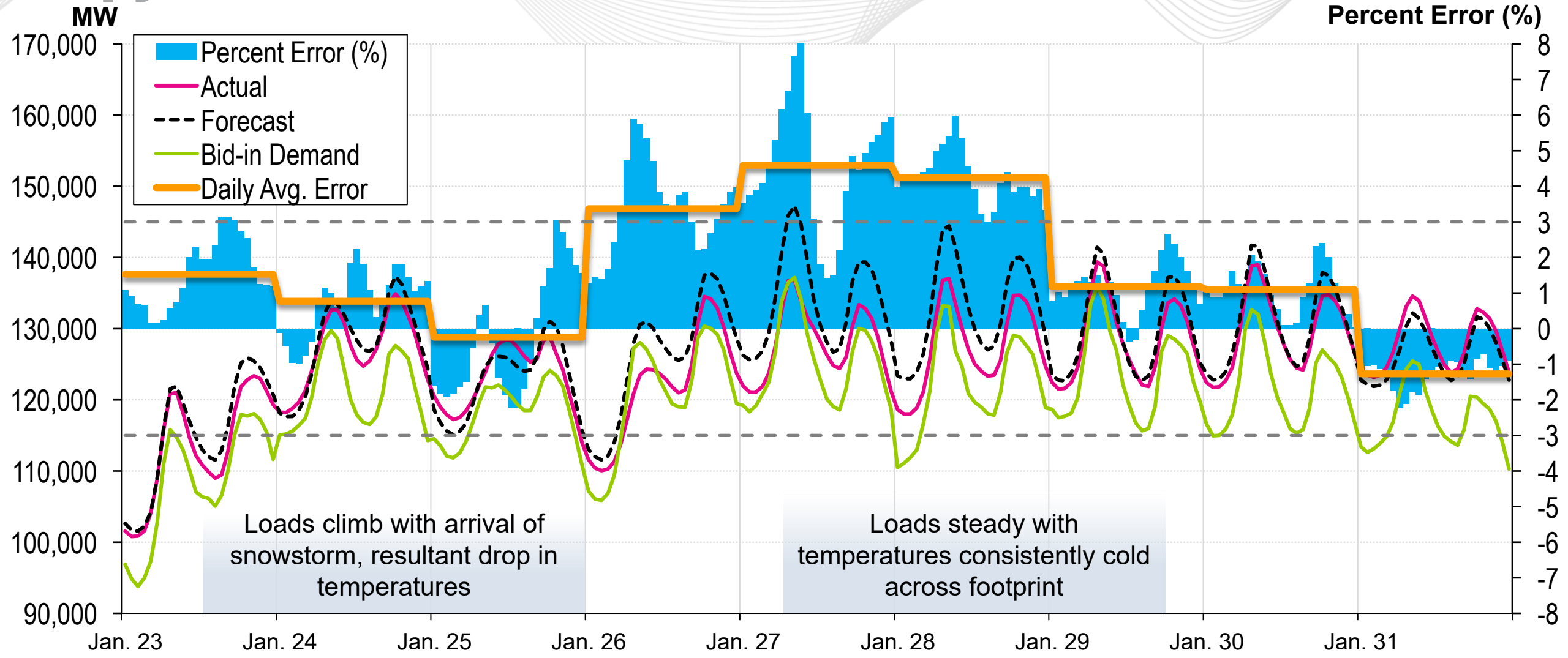
From Jan 23-24: Surge of Arctic air pushed back in from west to east

From Jan 24-25: Winter storm brought significant snow/sleet/ice

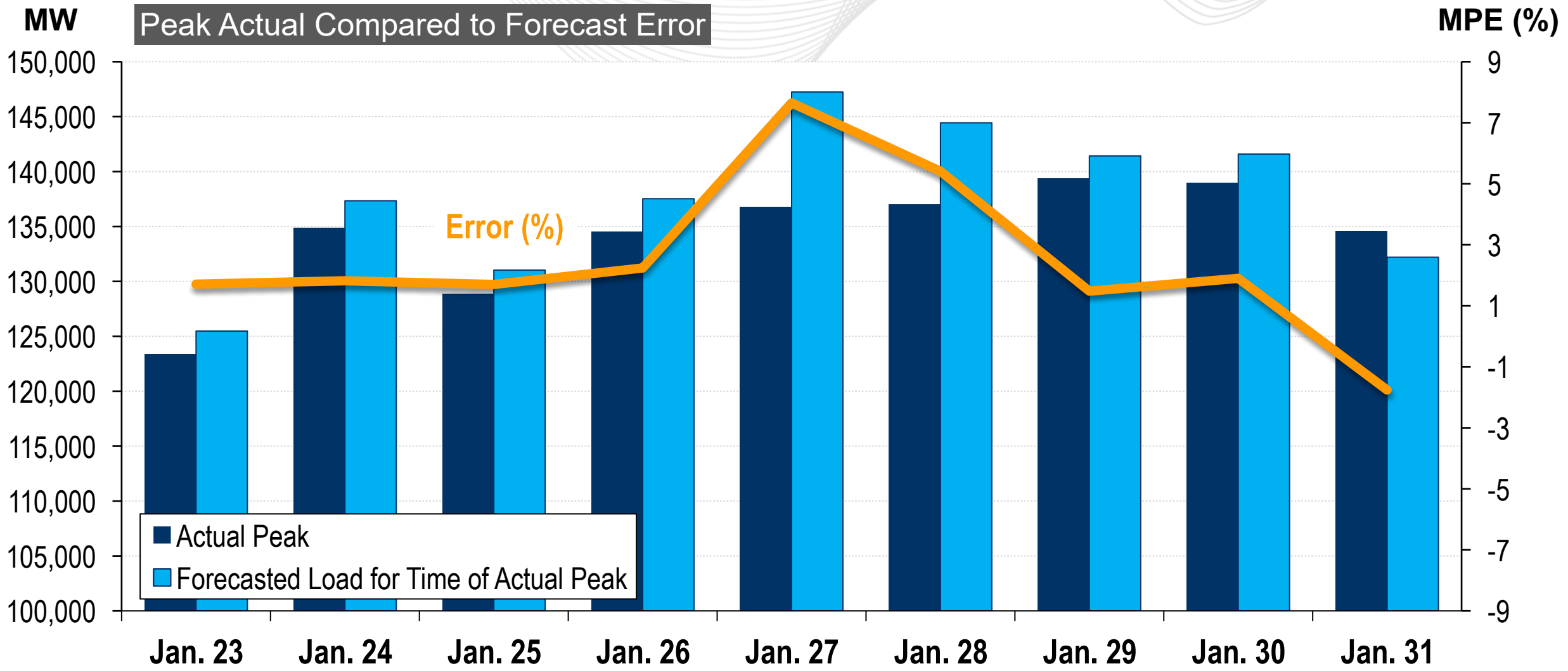
On Jan 28: Coldest morning in RTO

	Winter Storm Elliott Dec. 23-26, 2022		January 18-23, 2025 Cold Wave		January 22-30, 2026 Cold Wave #2	
Cities	Coldest Air Temperature	Coldest Effective Temperature	Coldest Air Temperature	Coldest Effective Temperature	Coldest Air Temperature	Coldest Effective Temperature
Chicago	-8°F	-26°F	-8°F	-19°F	-11°F	-26°F
Columbus	-7°F	-24°F	-3°F	-8°F	-8°F	-9°F
Louisville	-5°F	-22°F	4°F	-1°F	6°F	1°F
Philadelphia	7°F	8°F	10°F	2°F	11°F	2°F
Richmond	8°F	-3°F	13°F	10°F	9°F	7°F
RTO Ld.-Wtd. Avg	4°F	-7°F	5°F	0°F	6°F	0°F

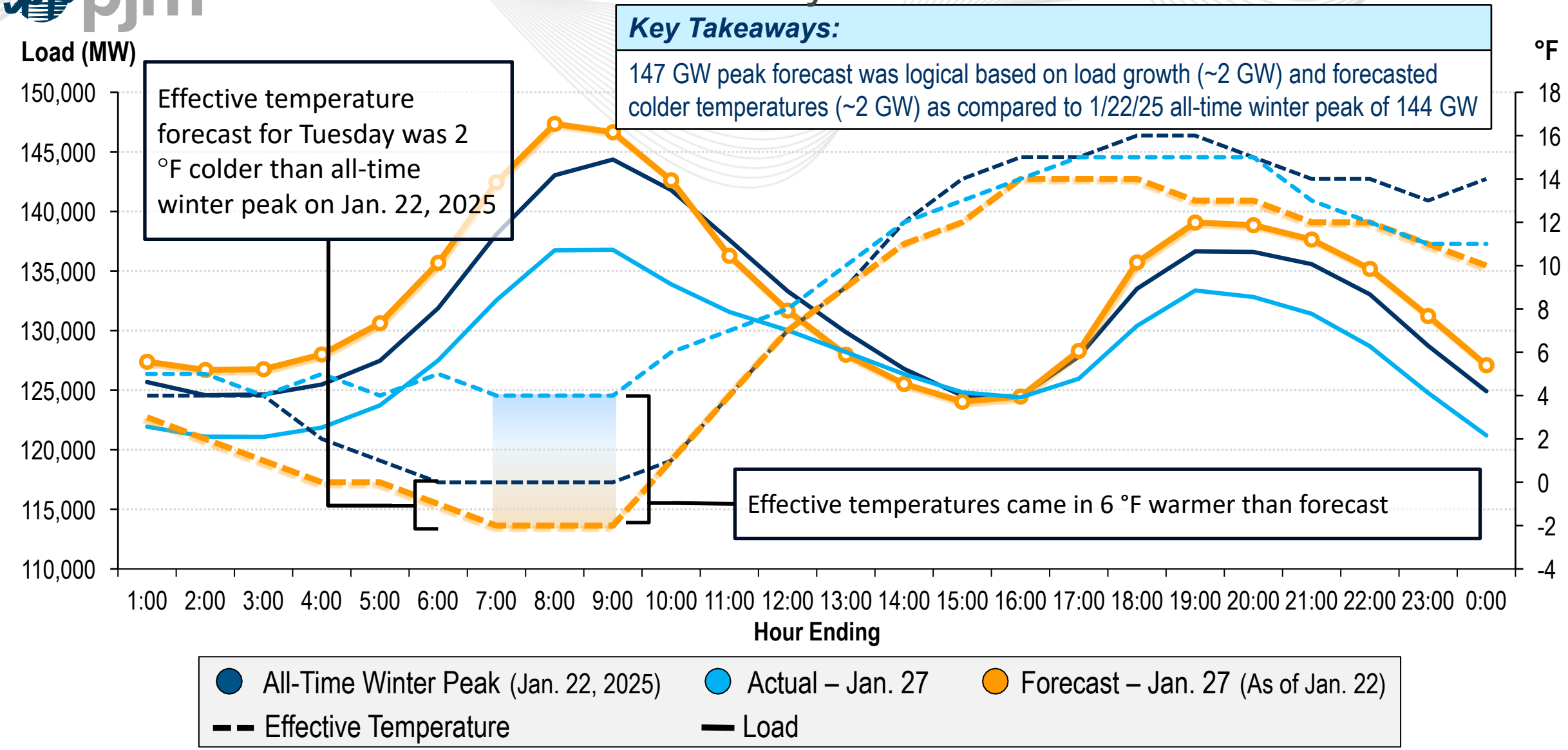
Forecast Performance (Jan. 23–31, 2026)



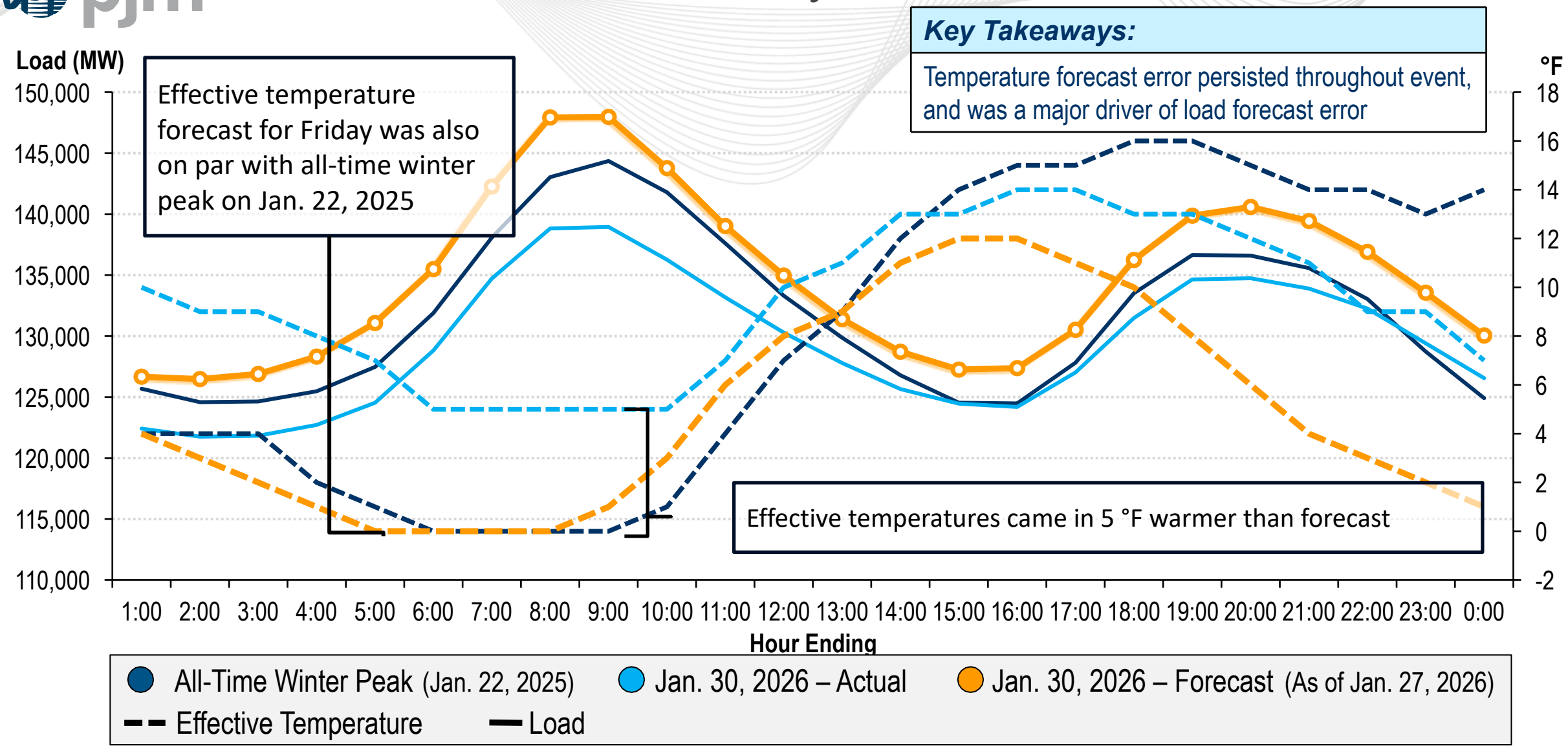
Forecast Error Trend for Jan. 23–31, 2026



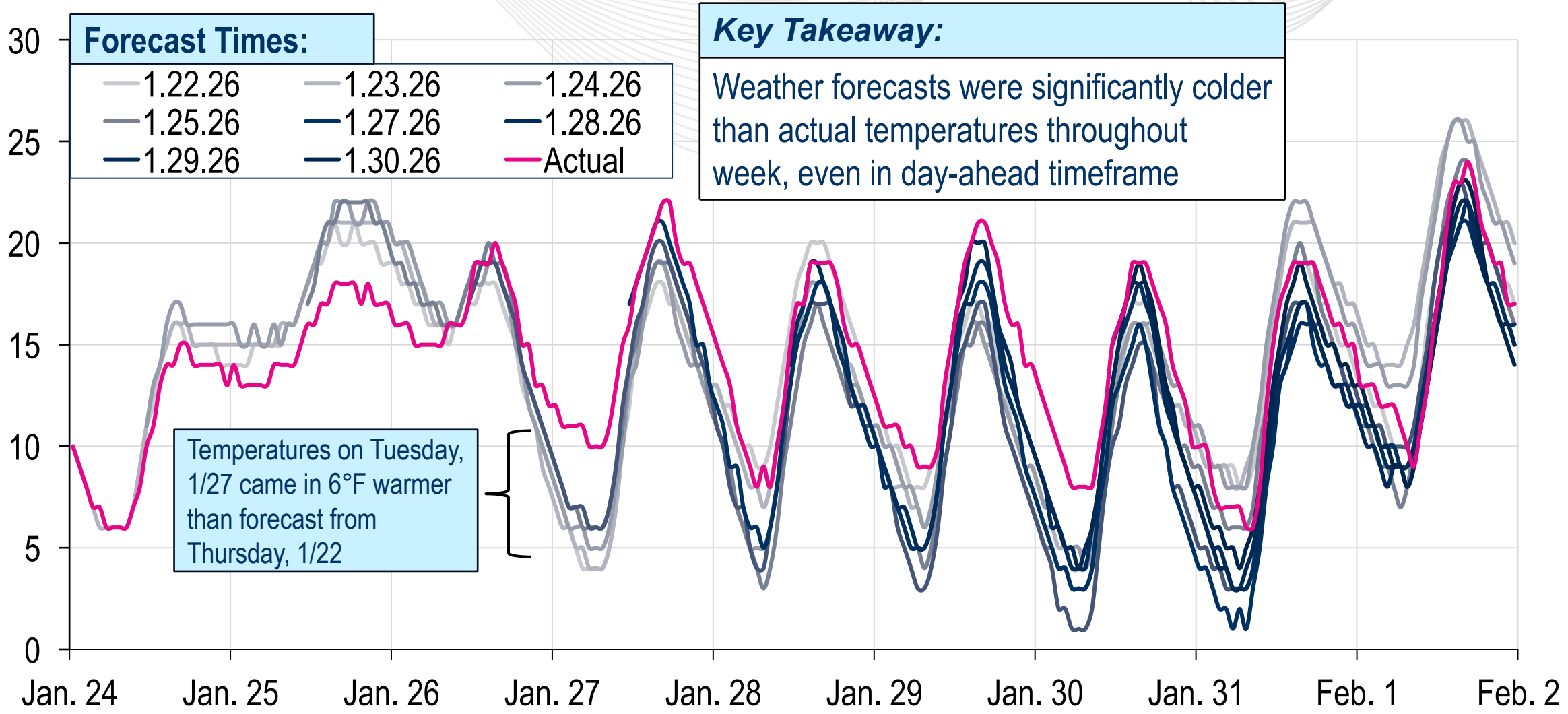
January 27 – Load and Weather Forecast



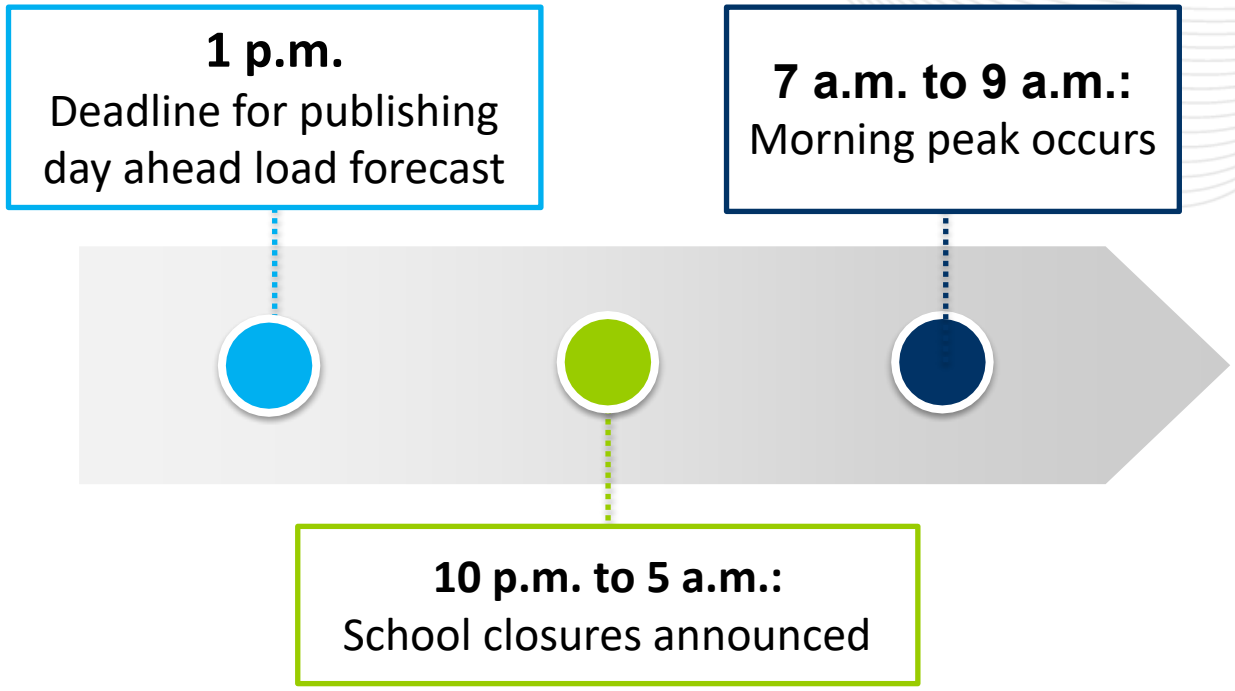
January 30 – Load and Weather Forecast



Temperature Forecast Progression



Challenges Arising from Building Closures



While PJM has a better understanding of temperature impact on load forecast error, we are working to better understand closure effects and exploring opportunities to better account for them in forecasts

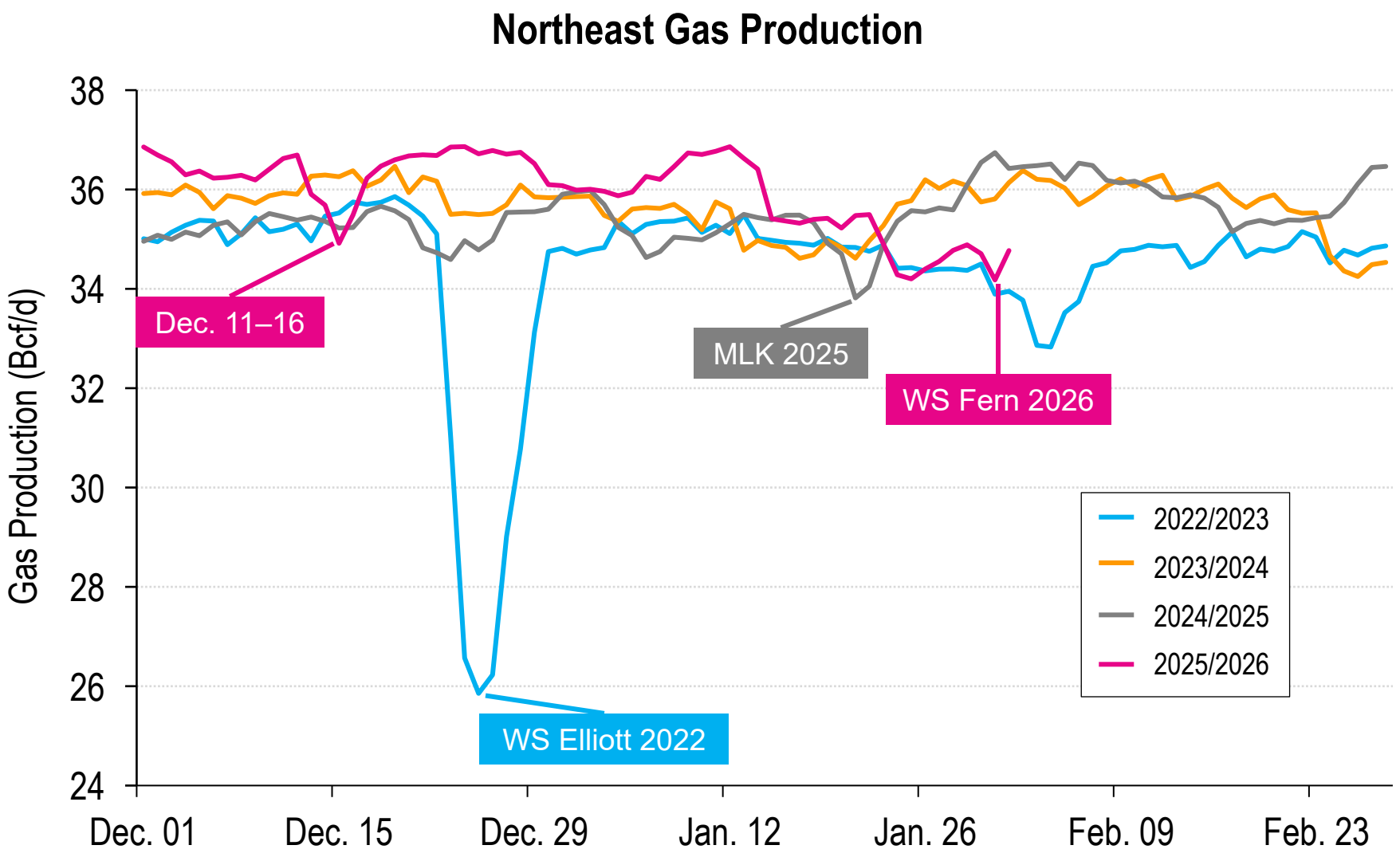
Closure information is not readily available by 1 p.m.:

- PJM does not receive data in a common location or format
- Impacts are difficult to translate directly into MW adjustments
- Closure decisions are based on subjective, location-specific factors
- Increasing remote work has made closures more common

Key Takeaways on Gas Delivery Performance

Interstate Pipelines	Local Gas Distribution Companies	Natural Gas Production	Gas Availability/ Liquidity	Natural Gas Prices
• All interstate pipelines strictly enforcing tariff provisions. • Operational Flow Orders and uniform hourly take requirements in effect leading to reduced intraday flexibility. • Only one Force Majeure event declared due to a loss of a compressor station but that had no impact on PJM generation.	• LDCs can interrupt non-firm customers, including generators when conditions warrant. • During this event, a total of 1,500 MW of gas-only generation was interrupted.	• Production rates remained robust during this period despite the level and duration of the cold over the production fields. • ~ 2 bcf/day decline in daily production in Appalachian region. 10 bcf/day decline nationally with most in Texas. • PJM conducted daily outreach with large producers in the Appalachia production region to assess operating conditions.	• Going into this event, natural gas availability and trading liquidity was at a very high risk level given the forecast of coincident record daily demands on both the electric and gas systems, the long duration of the cold temperatures, gas pipeline capacity restrictions and interruptions, gas production and processing risks and secondary fuel delivery availability.	• Spot gas prices through this event reached historic levels throughout the eastern U.S. with many hubs trading well over $100/mmbtu with prices in NY and New England approaching $300/mmbtu

Regional Gas Production - Northeast

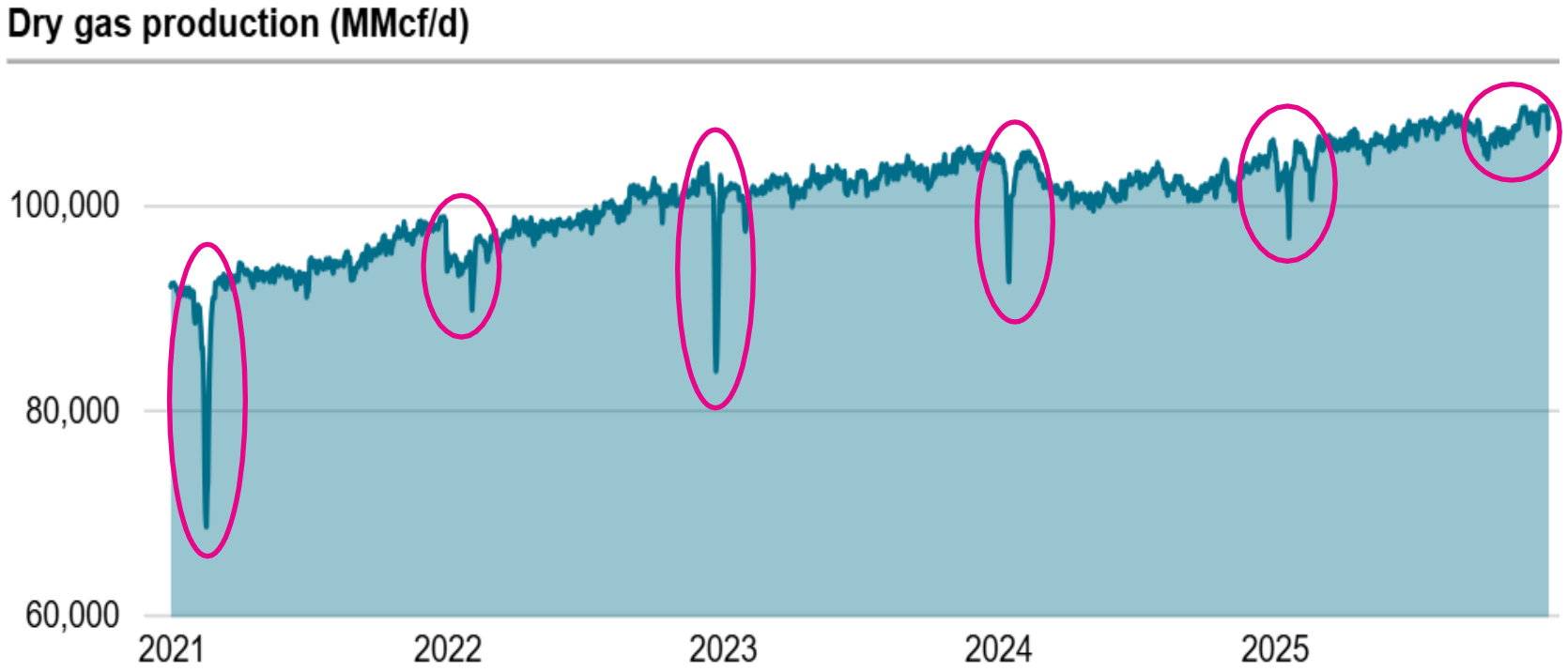


Gas production in the Appalachian basin remained strong during this event with a brief decline of about 2 bcf/day or 5% decline

For comparison, Northeast gas production dropped ~11 bcf/d or 30% during Winter Storm Elliott

Recent trends point towards the upstream gas sector (producers, gatherers, and processors) having ramped up their winter preparedness and equipment winterization efforts since Winter Storm Elliott, mitigating large production losses.

Total U.S. Gas Production

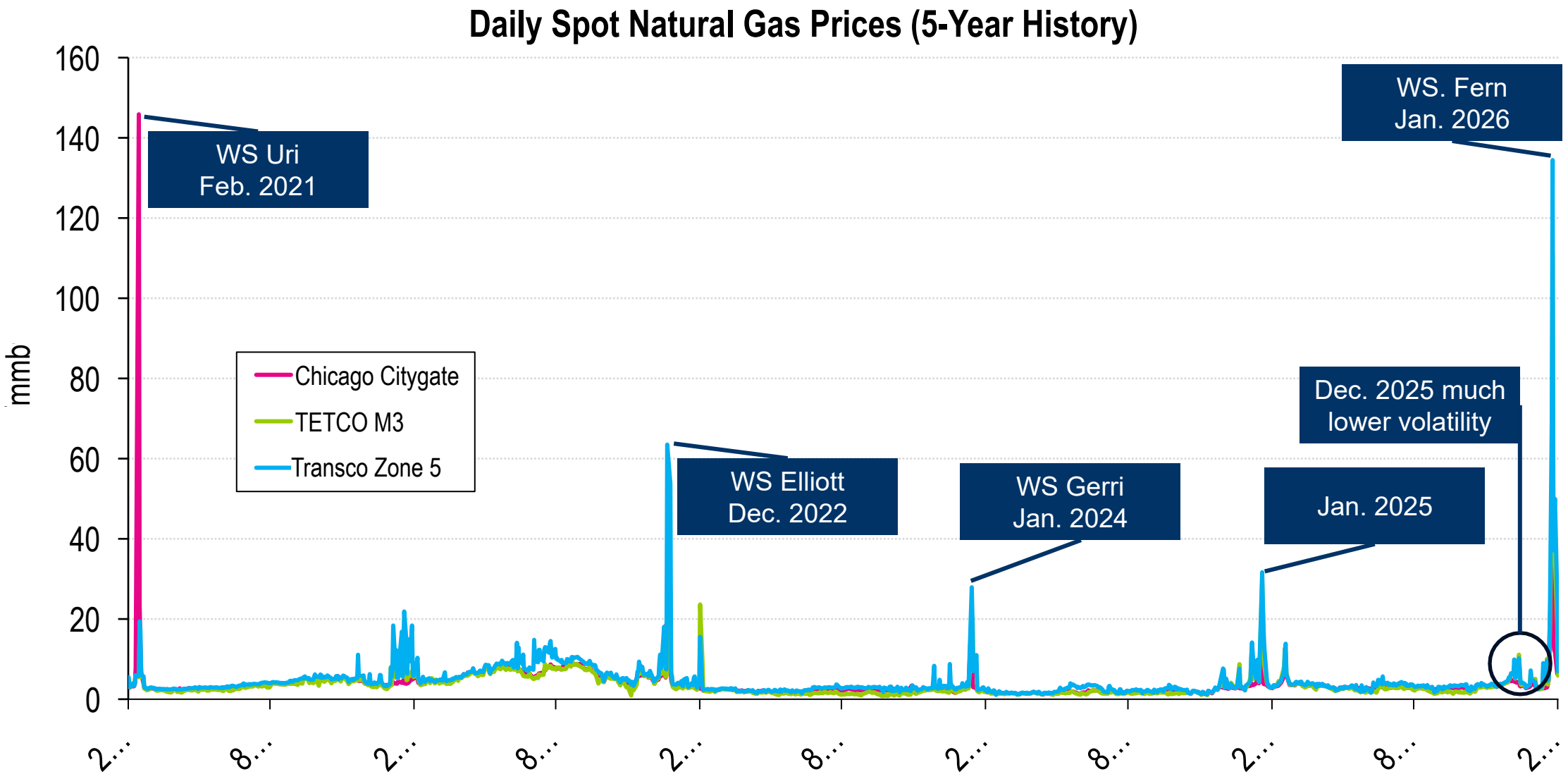


Winter gas production losses trending down favorably since Elliott and Uri

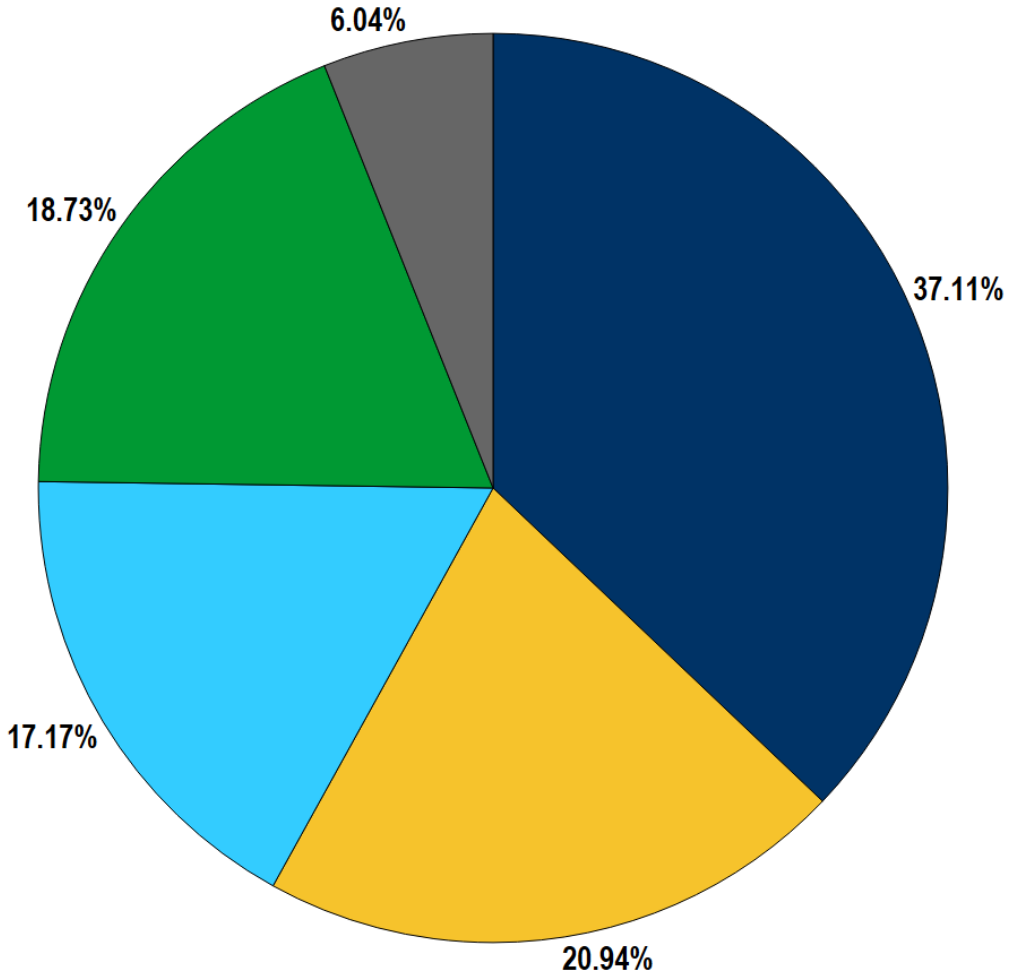
Total U.S. production decline peaked at about 10 bcf/day or 9%

Total U.S. production declined less than 2% during December 2025 cold peak

Average Daily Spot Natural Gas Prices at Select PJM Gas Hubs



Winter Storm Fern: Fuels-Related Outages



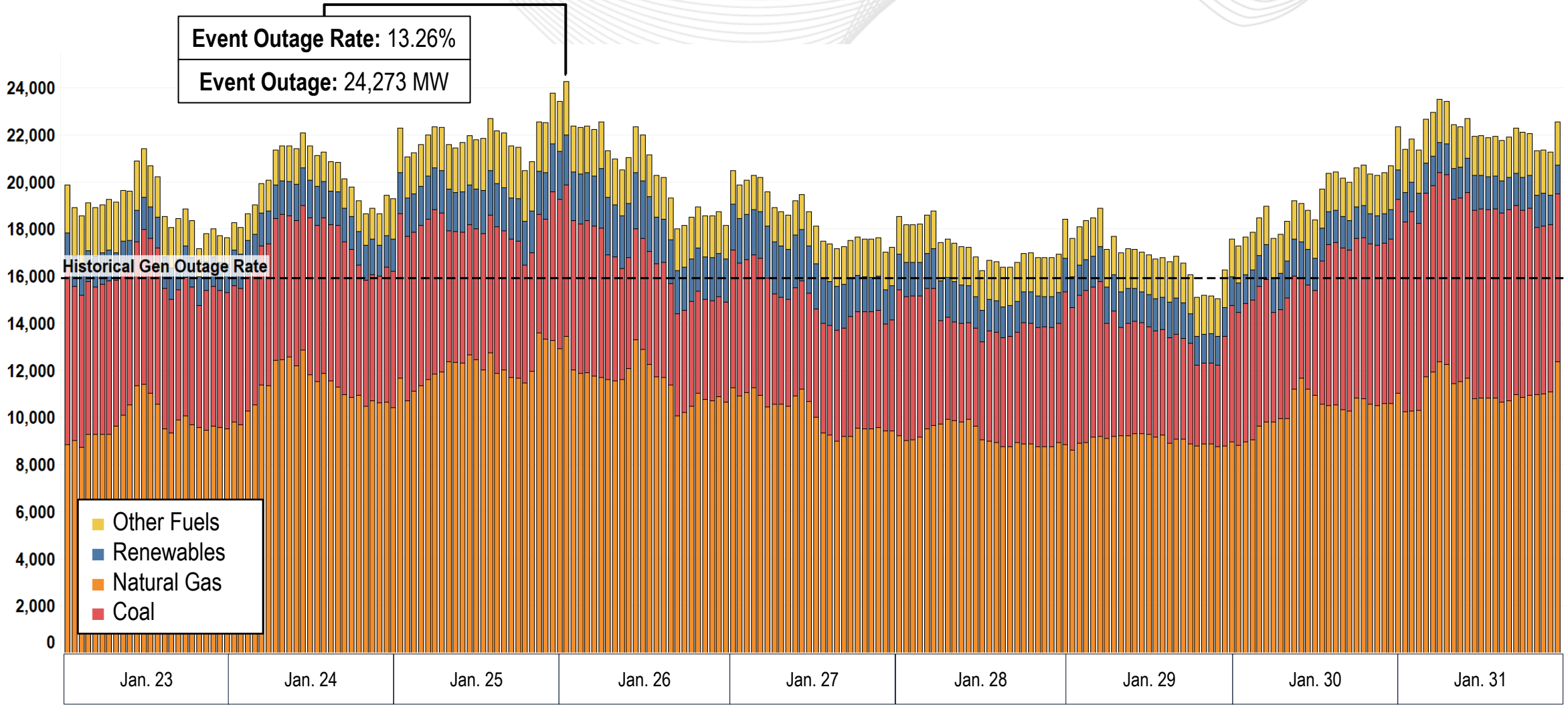
Percentages of total fuel-related outages for the period Jan. 16, 2026 through Jan. 31, 2026 and are considered preliminary

- Gas – Supply Procurement Unavailable
- Other Fuel-Related Outages
- Gas – Contractually Interrupted (Supply/Transportation)
- Gas – Pipeline/LDC Operations
- Fuel – Non-Gas – Fuel Quality

New Informational Features Employed for Winter 25/26

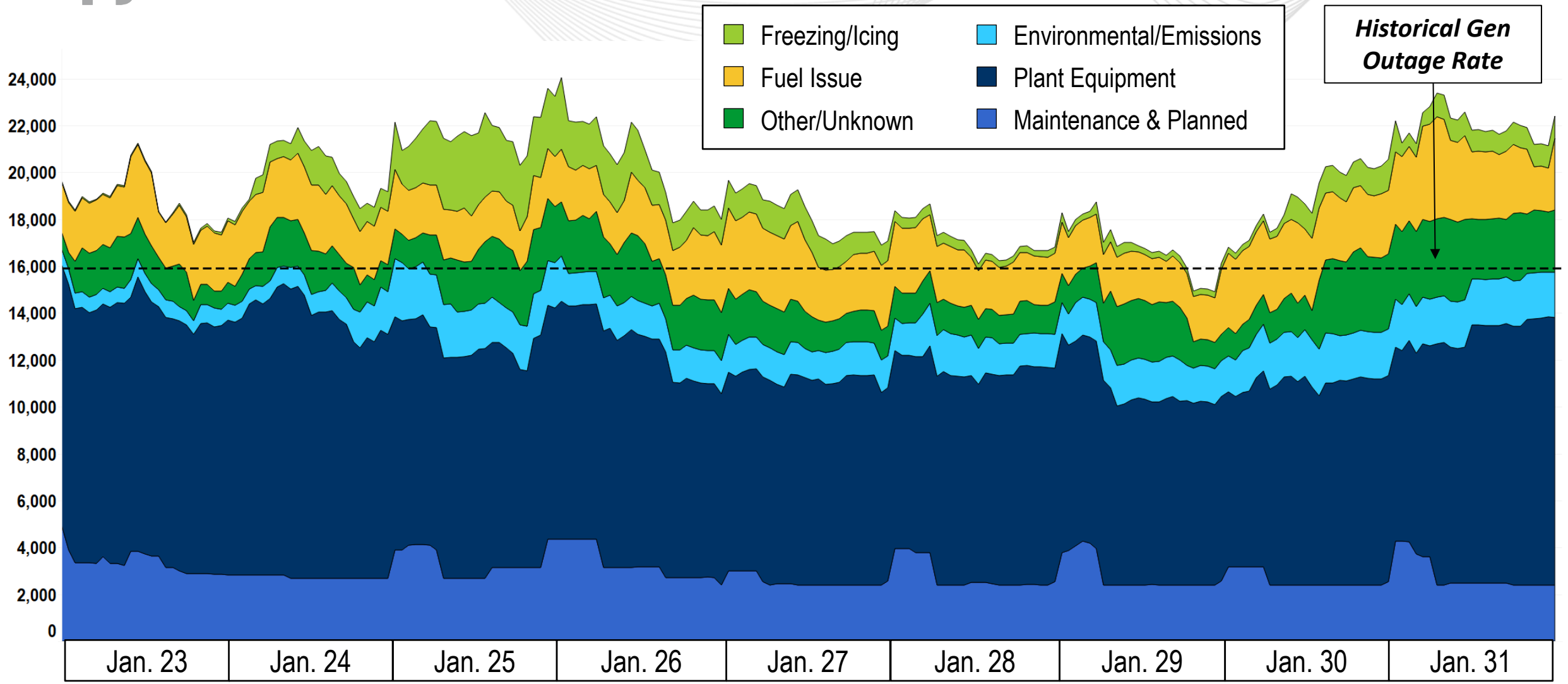
Markets Gateway Gas Procurement Tab	***Effective 10/1/25*** • In compliance with NERC TOP-002-5 • New field in Unit Limitations for gas generators to provide indication of gas supply concerns during Cold Weather Advisories and Alerts • This data has proven useful to gain awareness of active and pending gas supply concerns and unit gas limitations • PJM will be performing post-event analysis on the effectiveness of the design of use of this data field
eDART Cause Codes	***Effective 12/1/25*** • Four new cause codes to better identify root causes of gas-related outages

Generation Performance (Jan. 23–31, 2026)



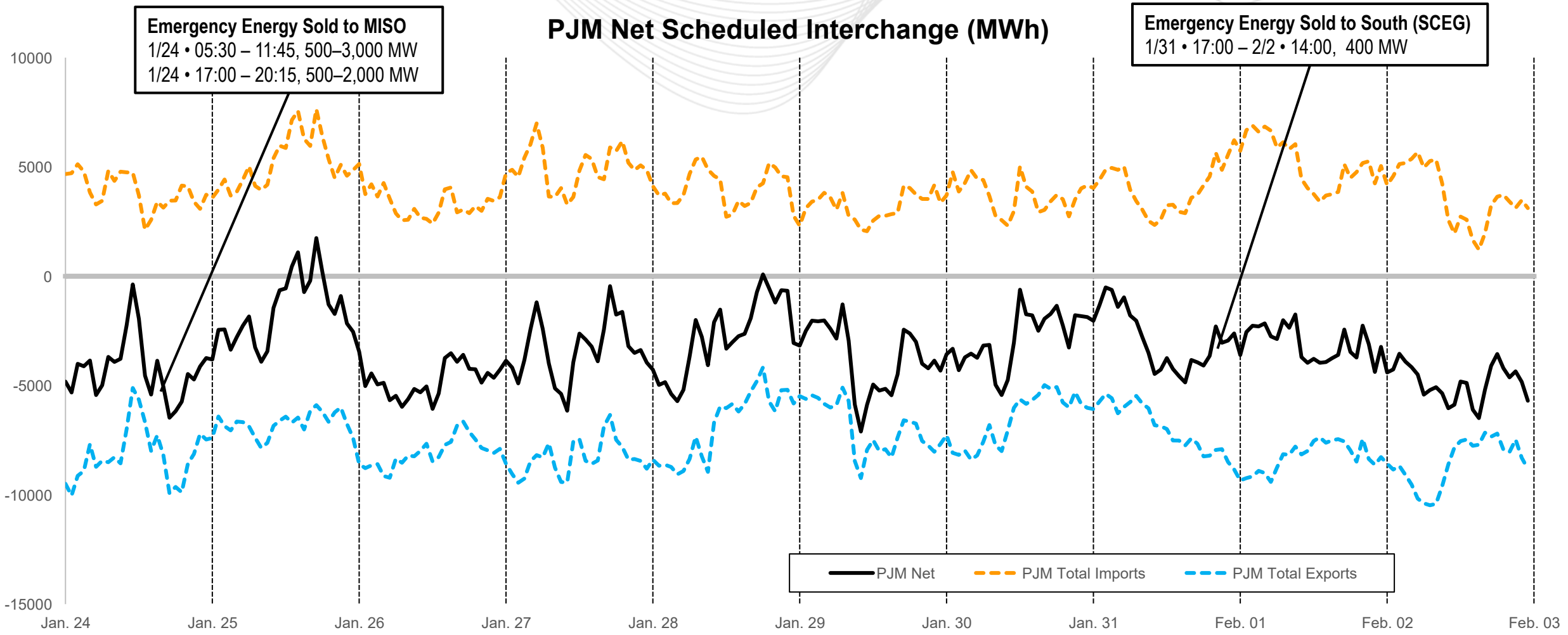
Note: Outage data shown is collected from eDART and considered preliminary.

Generation Performance (Jan. 23-31, 2026)



Note: Outage data shown is collected from eDART and considered preliminary.

PJM Net Schedule Interchange



Outage Coordination

Transmission Outage Coordination

- PJM held SOS-G/T calls on to discuss projected conditions.
- PJM and Transmission Owners coordinated to reschedule transmission outages causing significant congestion.
- Transmission Owners proactively rescheduled outages of lesser impact to minimize risk.
- Recalled outages to maximize generation deliverability.

Transmission Performance

Transmission Performance

Generation Deliverability

- Transmission system performance was good
- Issued 21 PCLLRWs
  - Local thermal and voltage
  - List of January PCLLRWs found January 2026 Operations Summary
- Bedington 500/138 kV Transformer #2 for the loss of 500 kV Bedington – Doubs line (Thermal)
  - Due to nearby long duration, unrecallable transmission maintenance
- 345 kV Burnham – Munster for the loss of 765 kV Dumont – Wilton Center
  - Due to nearby long duration, unrecallable transmission outage related to an RTEP upgrade
  - Limited generation out of the area

Transmission Performance

Transmission Performance

Generation Deliverability

- High flows across the AEP/DOM Transfer Interface
  - High demand in BGE, PEPCO and Dominion Zones
  - Managing fuel inventory
- Exhausted non-cost options
- Issued TLR 3 on the IROL interface
- Utilized off-cost operation
- Pre-emergency Demand Response for the BGE, PEPCO, and Dominion Zones

Contact

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Paul.Dajewski@pjm.com

Member Hotline

(610) 666-8980

(866) 400-8980

custsvc@pjm.com

PROTECT THE POWER GRID

THINK BEFORE YOU CLICK!

pjm

BE ALERT TO MALICIOUS PHISHING EMAILS

Report suspicious email activity to PJM.

Call (610) 666-2244 or email it_ops_ctr_shift@pjm.com

Winter Storm Markets Review
January 23–28, 2026 - Update

Joe Ciabattoni
Sr. Manager, Day-Ahead Market Operations

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Market Implementation Committee
February 4, 2026

Markets Overview

These slides are meant to provide additional detail for how markets reflected system operations and conditions during the recent winter storm.

AREAS INCLUDE:

Day-Ahead Market clearing and scheduling	Real-Time LMP price verification	Ancillary service pricing	Preliminary Uplift totals

Key Takeaways for Day-Ahead Markets

Day-ahead demand was underbid 5.9% on average and as high as 10.1% as compared to the PJM original forecast (18:00 prior day).

Current market rules are under review with Stakeholders to reflect operational constraints such as:

- Fuel certainty
- Unit forced outage risk
- Forecast error

Day-ahead pricing peaked coincident with system conditions on Jan. 23-31, driven by demand, interchange and virtual bids.

Day-Ahead Reserves

In PJM's existing market constructs, the Day-Ahead Energy Market does not procure sufficient reserves to manage operational risk.

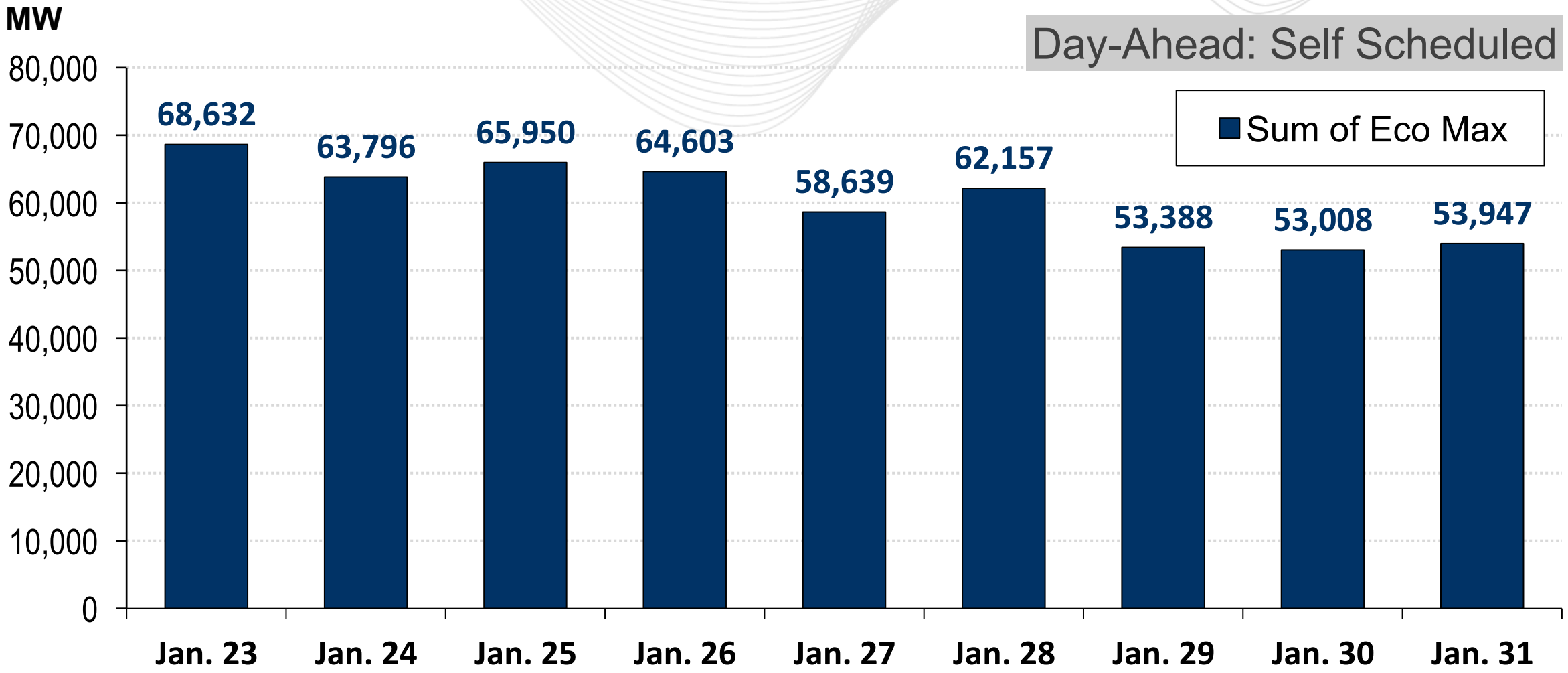
- The Day-Ahead Energy Market clears enough supply to meet bid-in demand, which may be lower than the PJM Load Forecast for the next day.
- PJM's operations 30-minute reserve requirement is routinely higher than the 30-minute reserve requirement reflected in PJM's markets.
- Any shortfall in supply procured through the markets is handled through out-of-market commitments.

PJM currently uses the Reliability Adequacy Commitment tool to bridge the gaps between Day-Ahead Energy Market procurement, forecasted load and the Day-Ahead Scheduling Reserve (DASR).

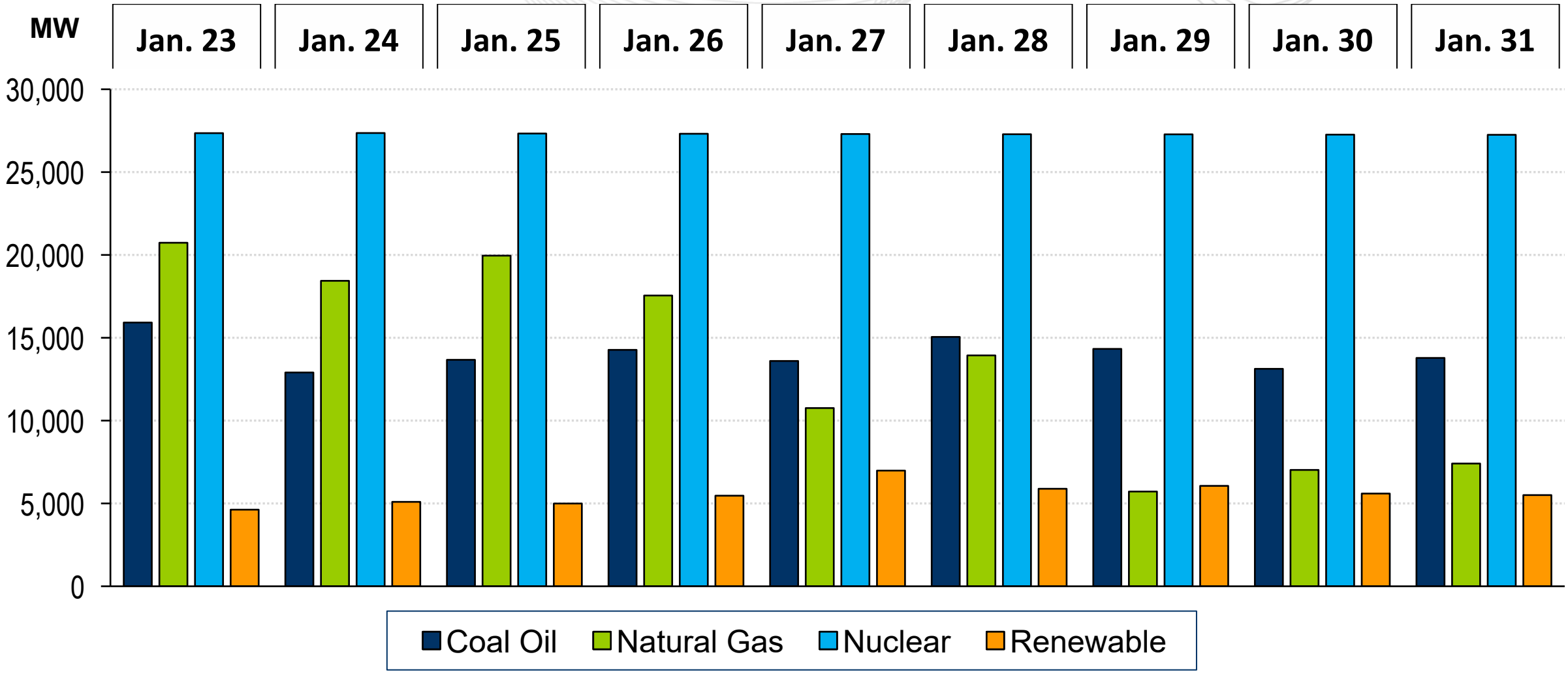
Day-Ahead Demand vs. Forecast at 18:00

Jan. 2026	Valley			Morning Peak			Evening Peak		
	DA Demand	Org Forecast	DA Over/ Under Bid	DA Demand	Org Forecast	DA Over/ Under Bid	DA Demand	Org Forecast	DA Over/ Under Bid
Fri. **23**	93,767	101,547	(7,780)	115,812	121,907	(6,095)	118,047	125,918	(7,871)
Sat. **24**	114,231	117,644	(3,413)	129,740	133,924	(4,184)	127,582	137,342	(9,760)
Sun. **25**	110,777	115,099	(4,322)	122,075	126,103	(4,028)	124,111	131,032	(6,921)
Mon. **26**	105,876	111,567	(5,691)	128,039	130,953	(2,914)	130,348	137,764	(7,416)
Tues. **27**	118,320	125,648	(7,328)	137,183	147,242	(10,059)	130,021	139,350	(9,329)
Wed. **28**	110,487	122,952	(12,465)	133,187	144,440	(11,253)	129,058	140,046	(10,988)
Thu. **29**	115,655	122,673	(7,018)	135,913	141,425	(5,512)	129,016	137,370	(8,354)
Fri. **30**	114,951	122,811	(7,860)	132,636	141,706	(9,070)	127,003	137,883	(10,880)
Sat. **31**	110,290	121,897	(11,607)	125,453	132,202	(6,749)	120,496	131,656	(11,160)

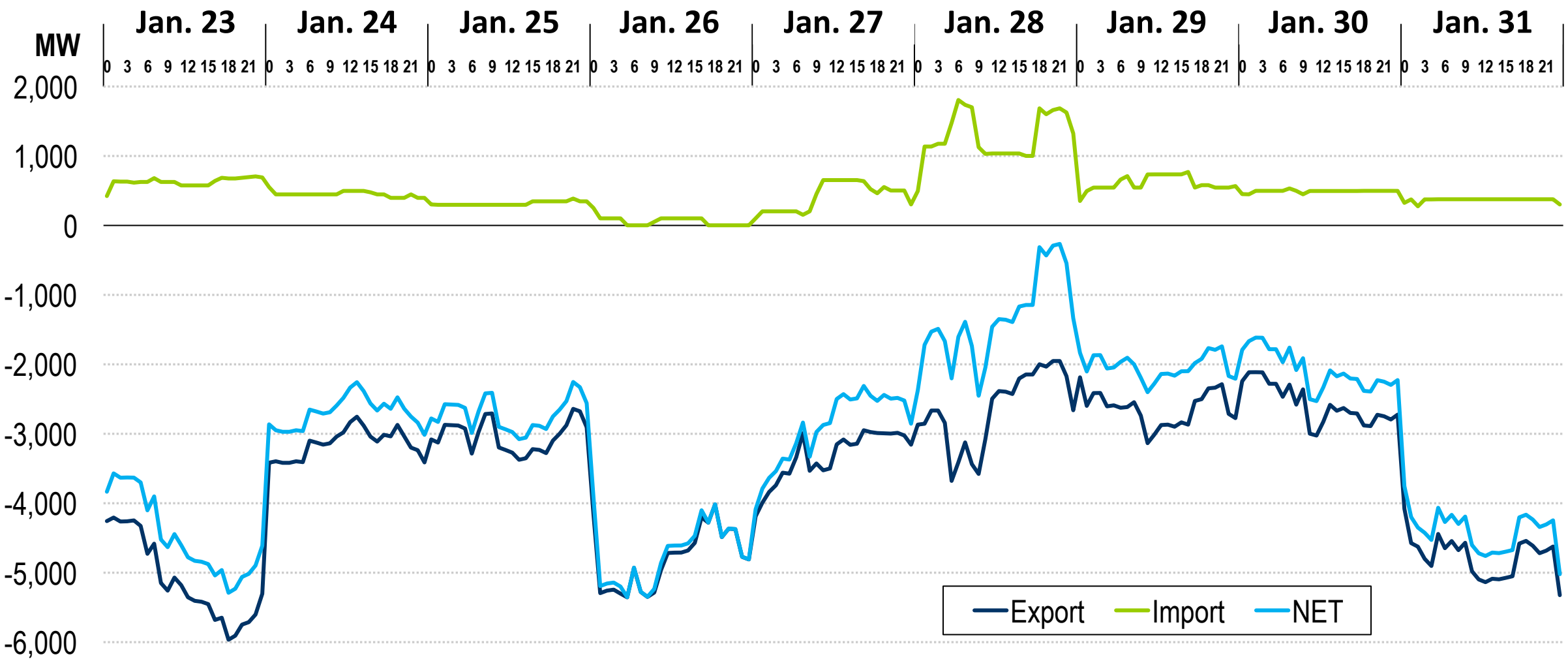
Unit Scheduling



Day-Ahead Self Scheduling Jan. 23–31, 2026

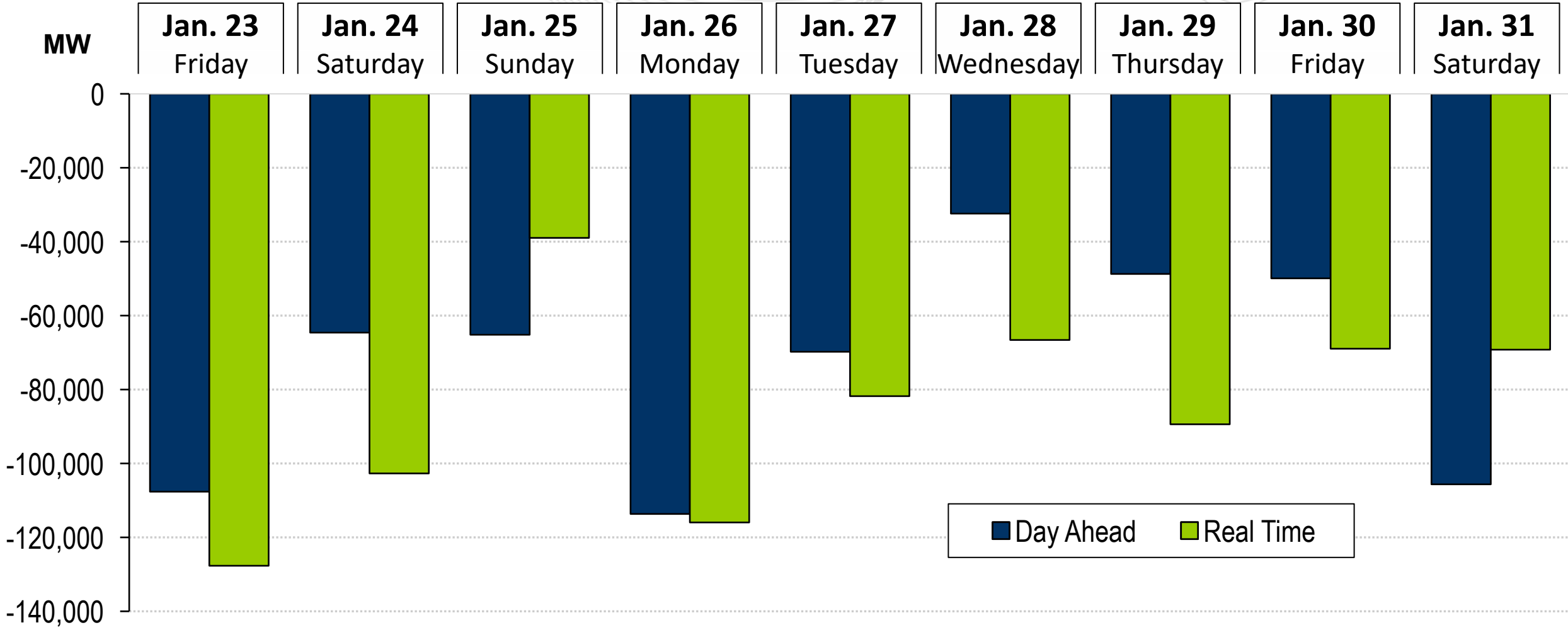


2026 Day-Ahead Interchange

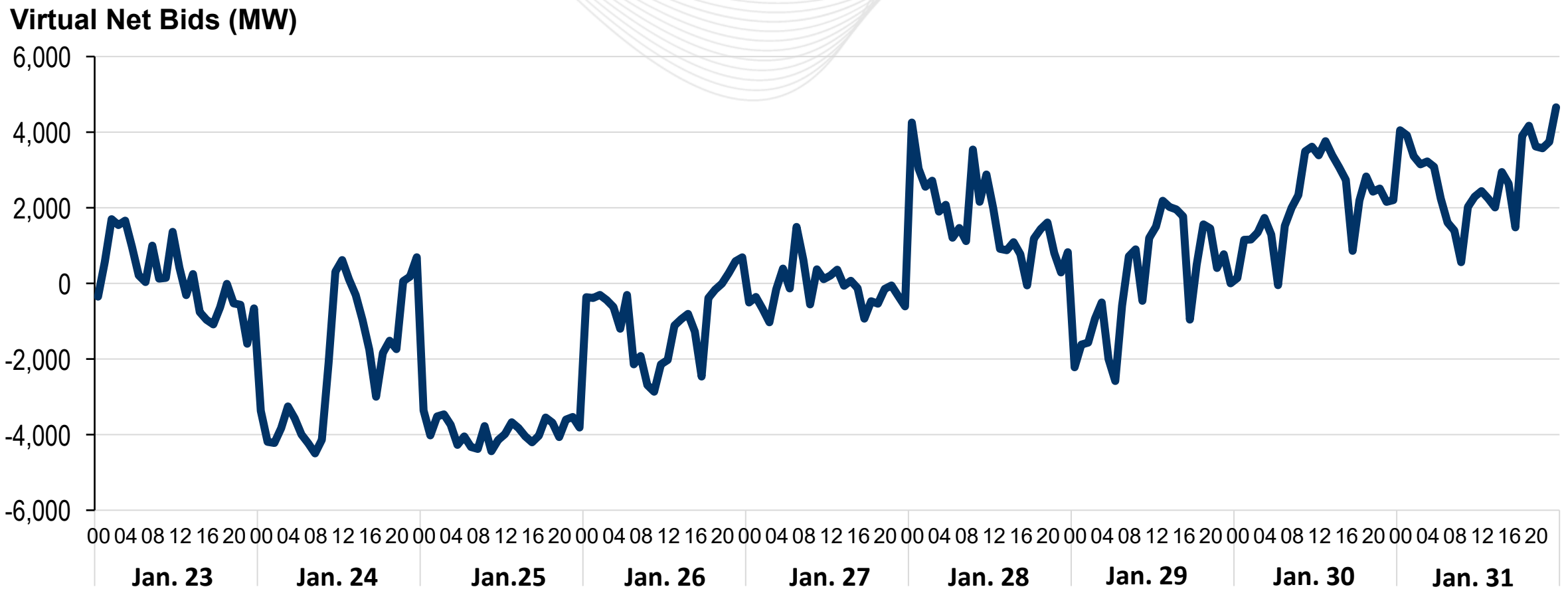


Interchange Day-Ahead vs. Real-Time, 24 Hour Integrated

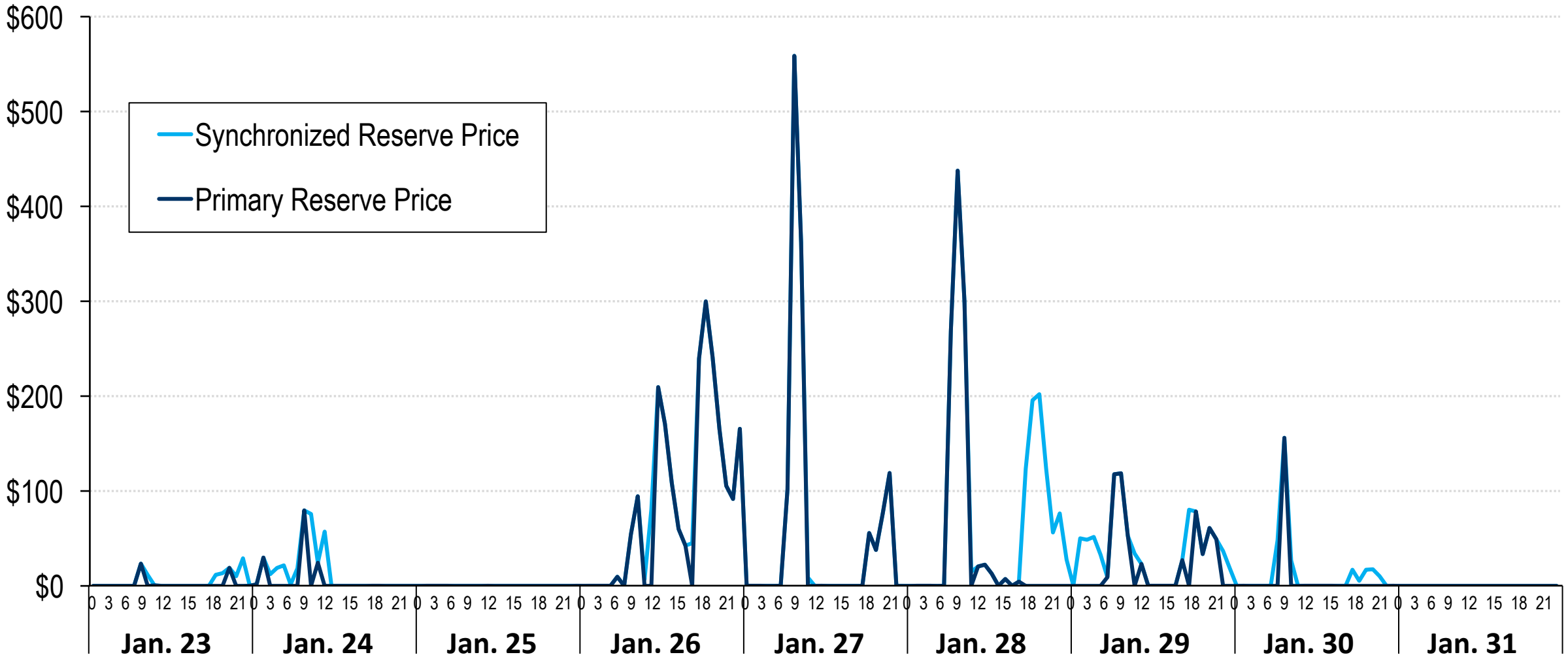
Jan. 23–31, 2026



Day-Ahead Hourly Net of Virtual Bids
Jan. 23–31, 2026

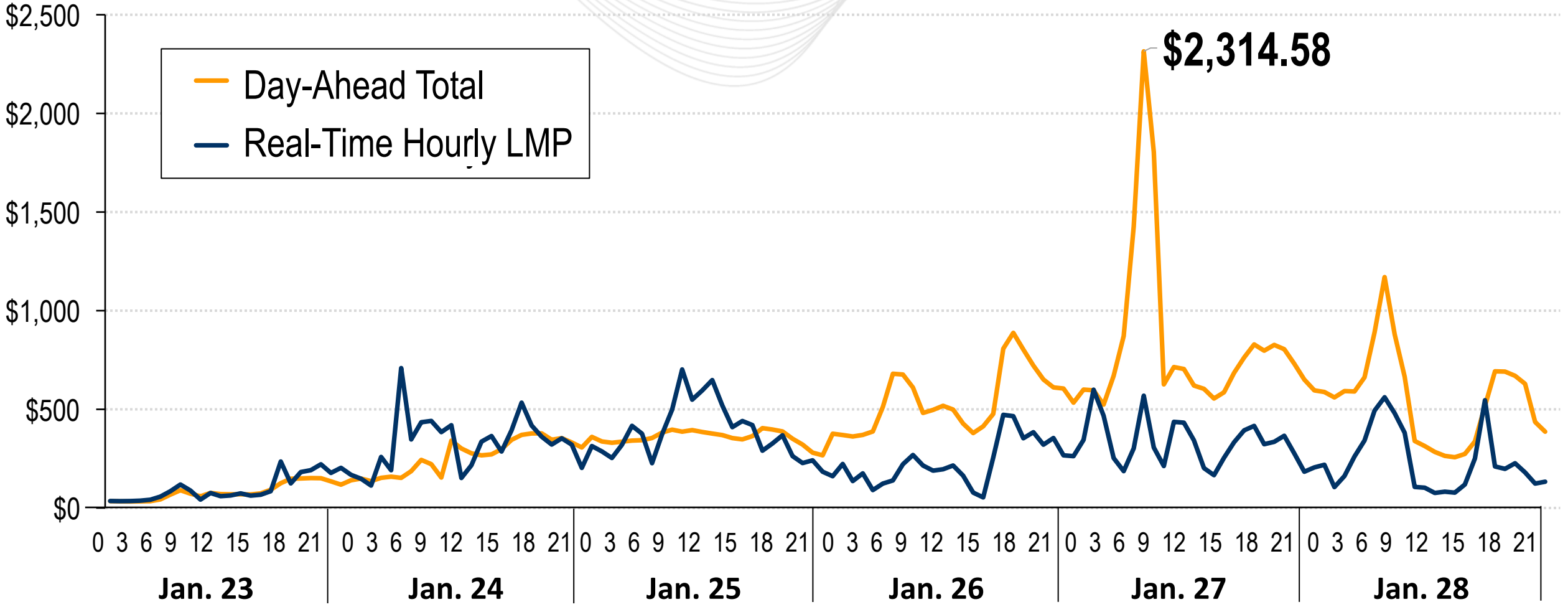


Day-Ahead Reserve Pricing
Jan. 23–31, 2026



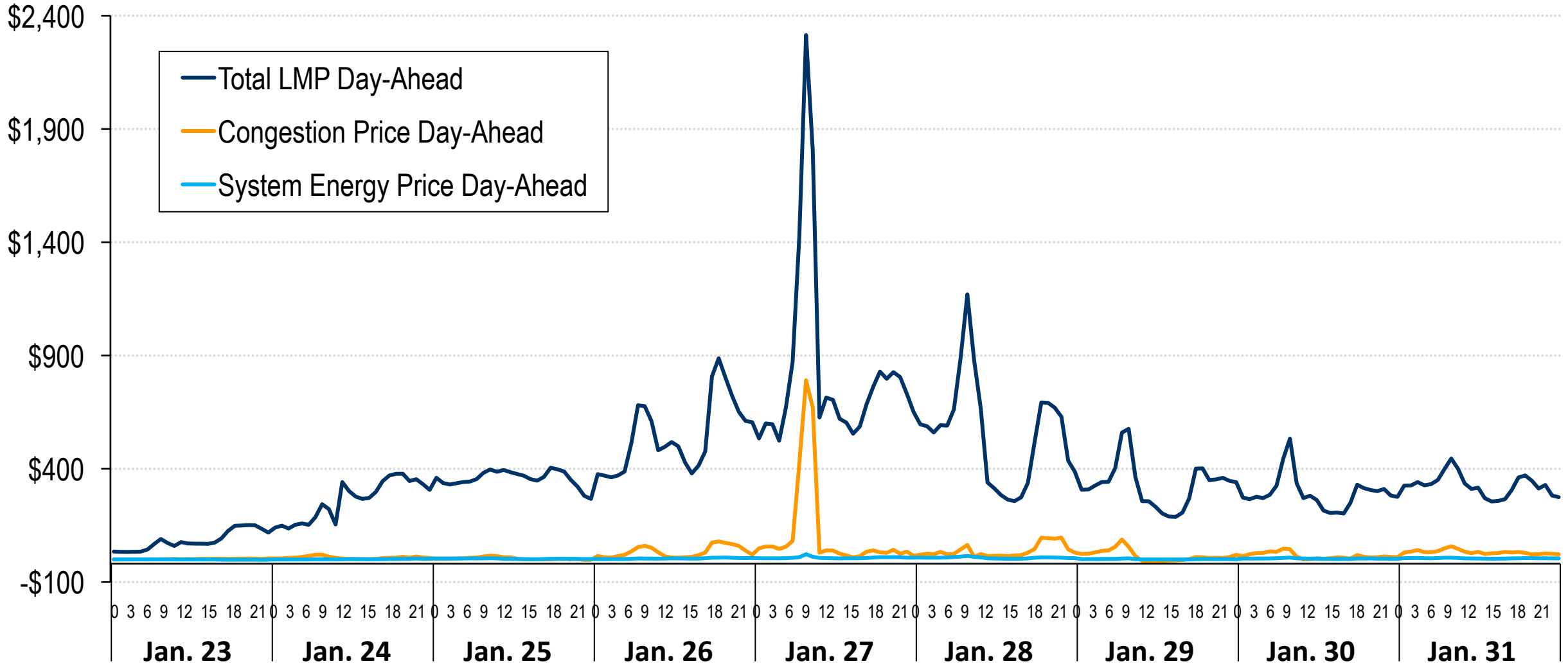
Day-Ahead vs. Real Time RTO Hourly LMP

Jan. 23–Jan. 28, 2026



Day-Ahead RTO LMP

Jan. 23–31, 2026



Key Takeaways for RT Markets

Real-time pricing peaked coincident with system conditions on Jan. 23–28, driven by load, interchange and localized congestion.

Localized congestion peaked hour 12, Jan. 25:

- 14 out of 18 active constraints in RT SCED bound at the $2,000/MWh penalty factor.

Demand Response Called Jan. 25 BGE, DOM, PEPCO

- Pre-emergency Long 120 min called at 12:30, short 60 min, quick 30 min at 14:30

Ancillary services:

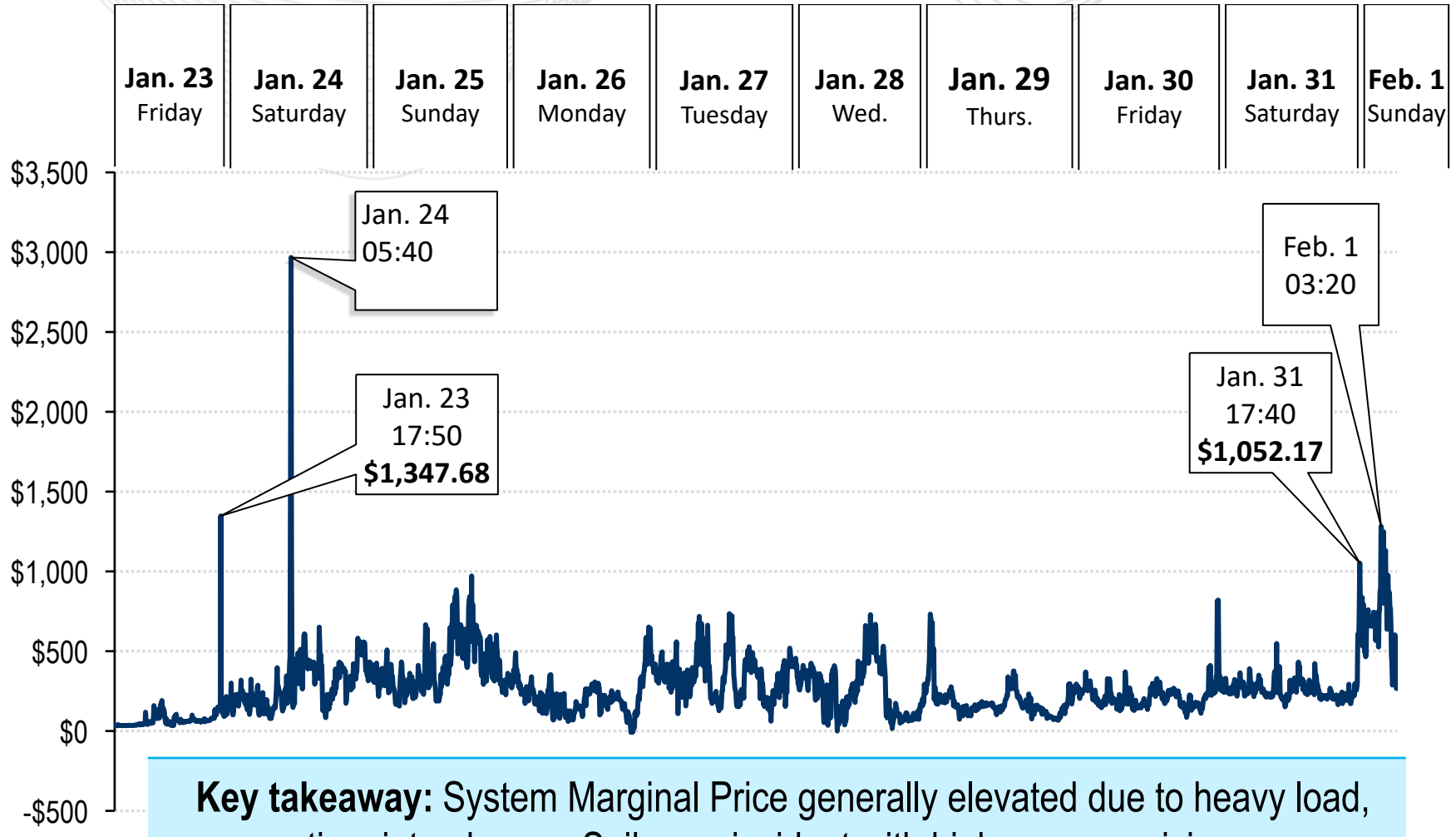
- Multiple reserve shortage cases approved
- 2 Synchronized Reserve events (less than 10 min)
- Regulation pricing spikes coincident with reserve shortages

Five-Minute Verified Real-Time System Marginal Price

System Marginal Price (SMP)

Incremental price of energy for the system, given the current dispatch, at the load weighted reference bus

- Same price for every bus in PJM (no locational aspect)
- Calculated both in day ahead and real time



Key takeaway: System Marginal Price generally elevated due to heavy load, congestion, interchange. Spikes coincident with high reserve pricing.

Congestion Component of LMP (CLMP)

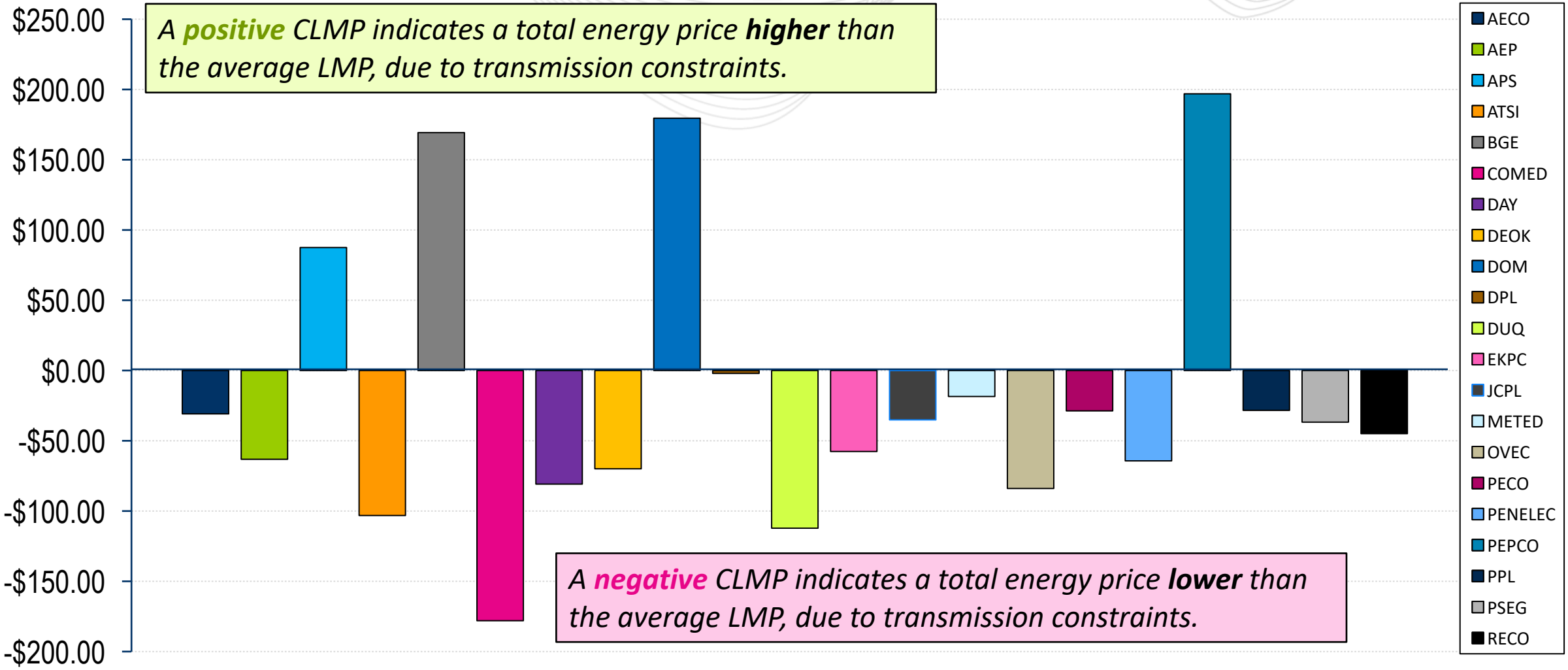
- **Represents price of congestion for binding constraints**
  Calculated using the Shadow Price
- **Will be zero if no constraints (unconstrained system)**
  Will vary by location if system is constrained
- **Used to price congestion**
  - Load pays Congestion Price.
  - Generation is paid Congestion Price.
- **Calculated both in day ahead and real time**

Locational aspect of load to constraints ultimately impacts pricing.

Transmission Constraint Penalty Factors
These are parameters used by the Security Constrained Economic Dispatch (SCED) applications to determine the maximum cost of the re-dispatch incurred to control a transmission constraint. Default is $2,000/MWh.

Average Zonal Congestion Impacts

Represents Jan. 23-31 Average 5-minute CLMP



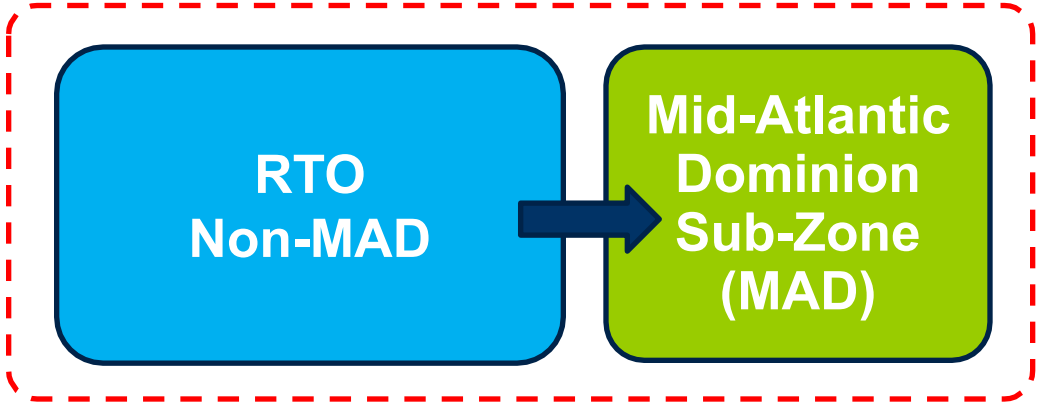
Reserve Zone Structure

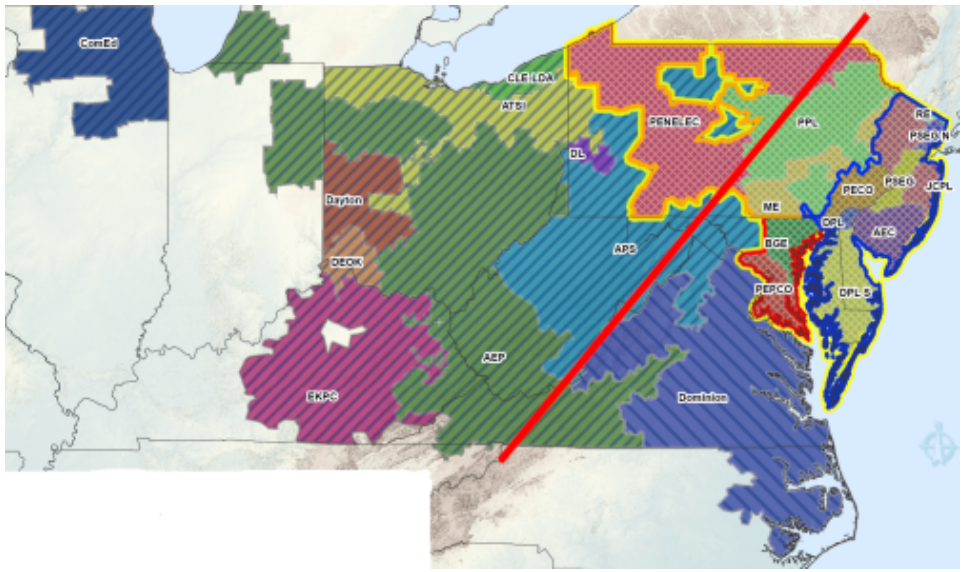
Single reserve zone with a sub-zone: Mid-Atlantic Dominion (MAD)

Exists due to potential reserve deliverability issues

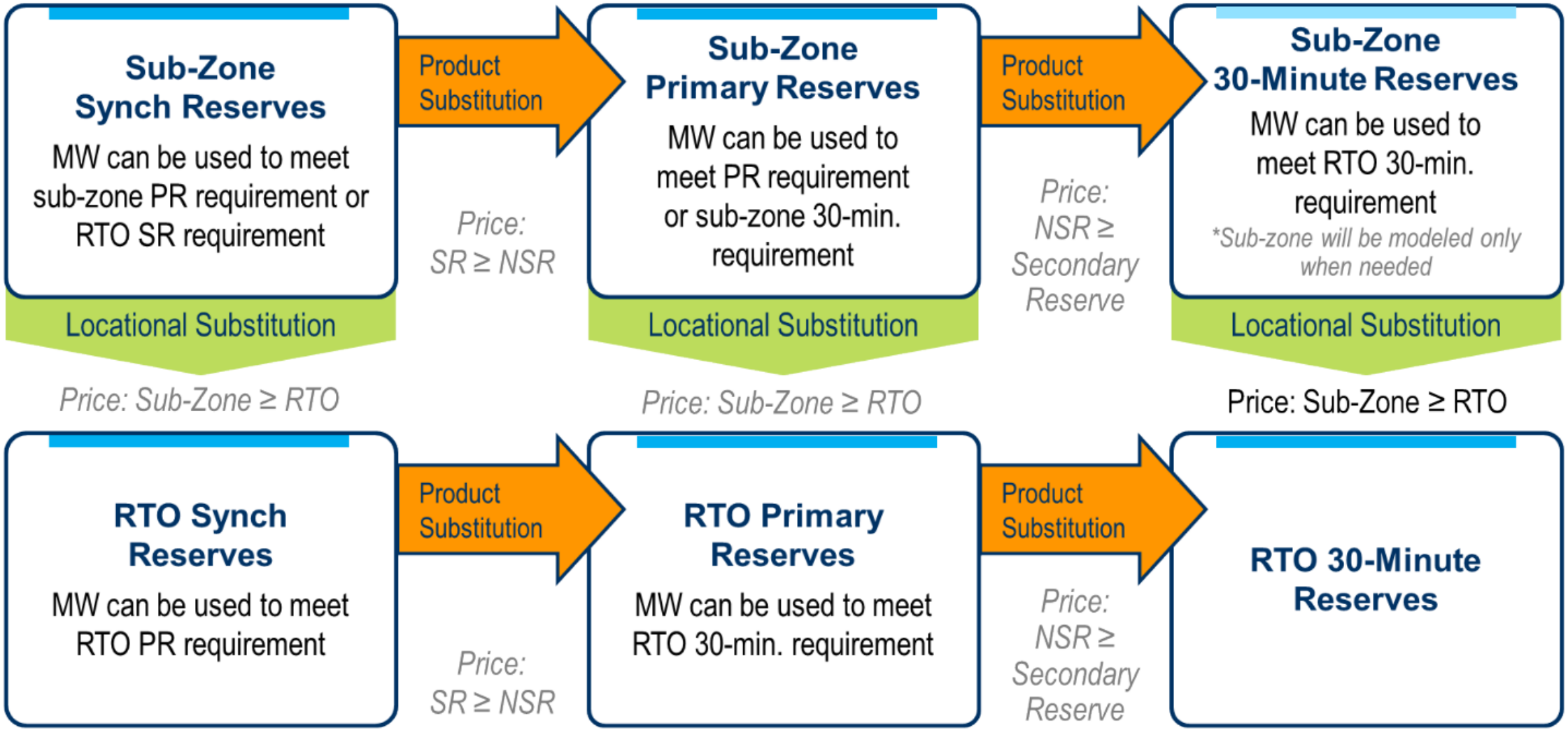
- The sub-zone is defined based on the most-limiting transfer interface.
- Resources with ***3% or greater raise-help distribution factor*** on the interface are included in the MAD sub-zone.
- Sub-zone can be dynamically changed based on system conditions.

RTO Reserve Zone





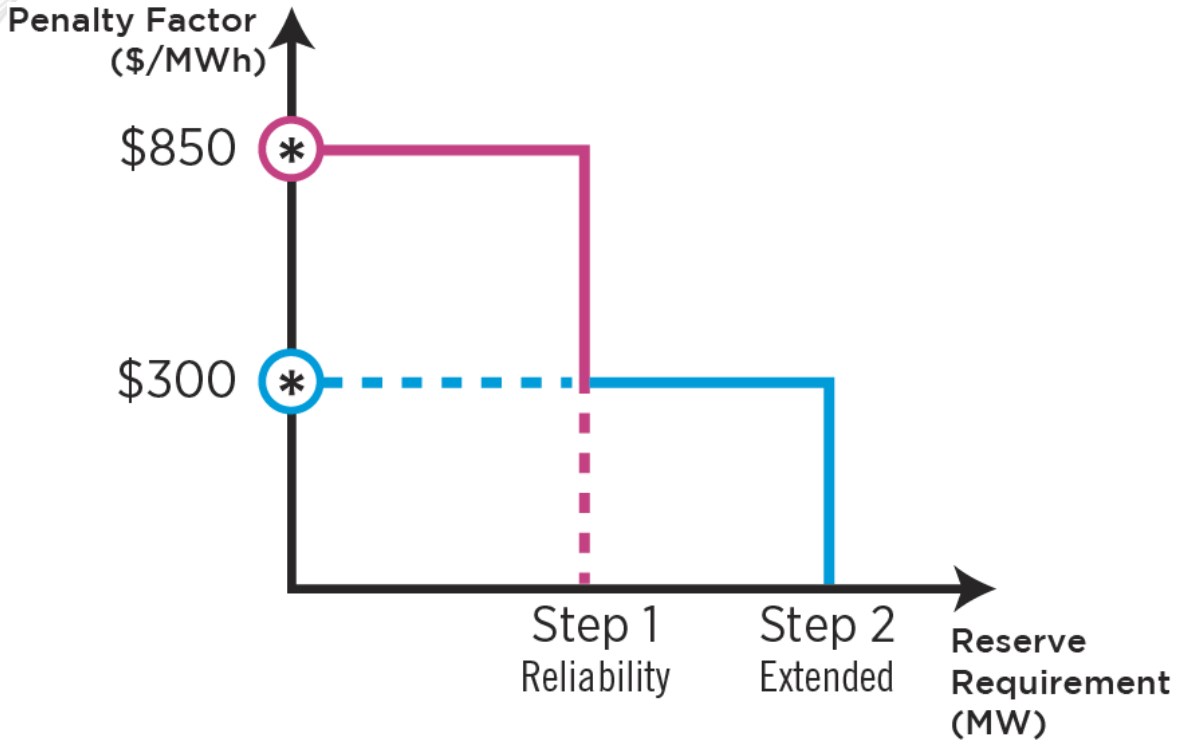
Reserve Product & Locational Substitution



Reserves Requirements and ORDC

	Reserve Service		
	Synchronized Reserve (SR)	Primary Reserve (PR)	30-Minute Reserve (30-Min)
Reliability Requirement	Largest Single Contingency	150% of Synchronized Reserve Reliability Requirement	Greater of (Primary Reserve Reliability Requirement, 3000 MW, or largest active gas contingency)
Reserve Requirement	SR Reliability Requirement + Extended Reserve Requirement	PR Reliability Requirement + Extended Reserve Requirement	30-Min Reliability Requirement + Extended Reserve Requirement

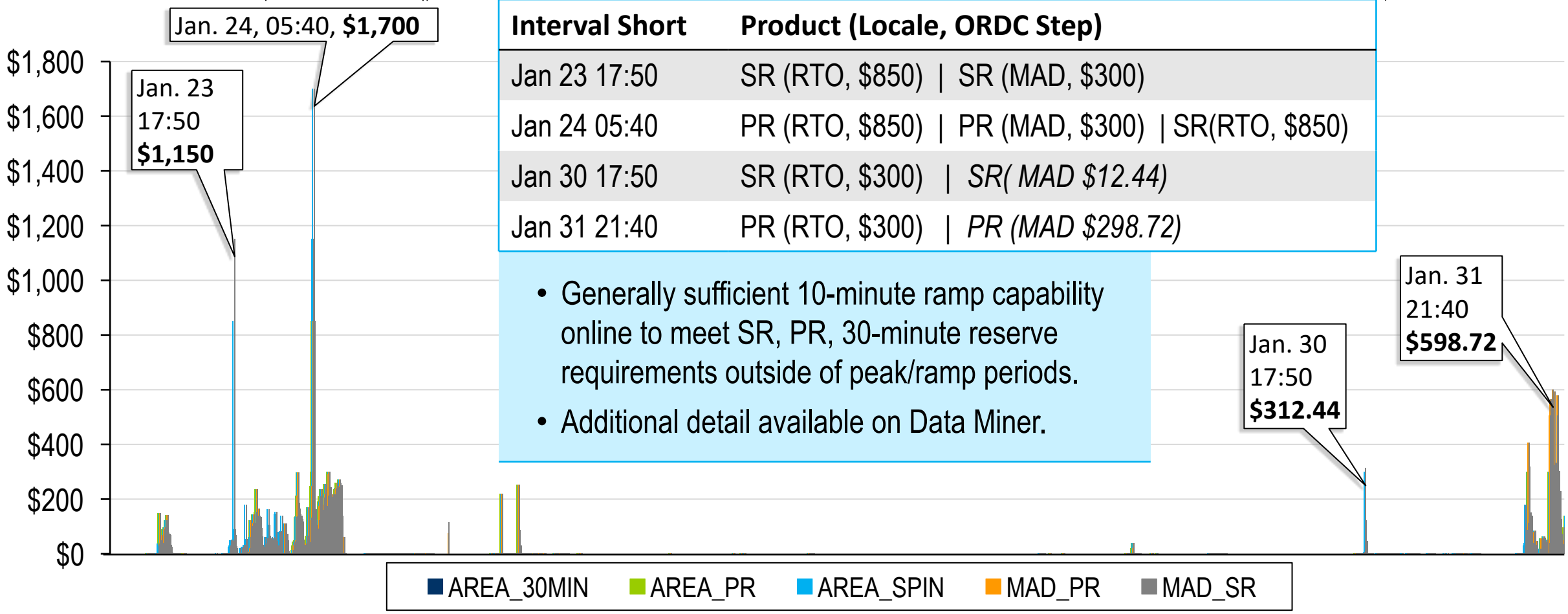
**20% adder to Reliability Requirement (RTO Only) still in effect.*



**Step 2 remained at +190 MW for duration of event.*

2026 Reserve Market Clearing Prices

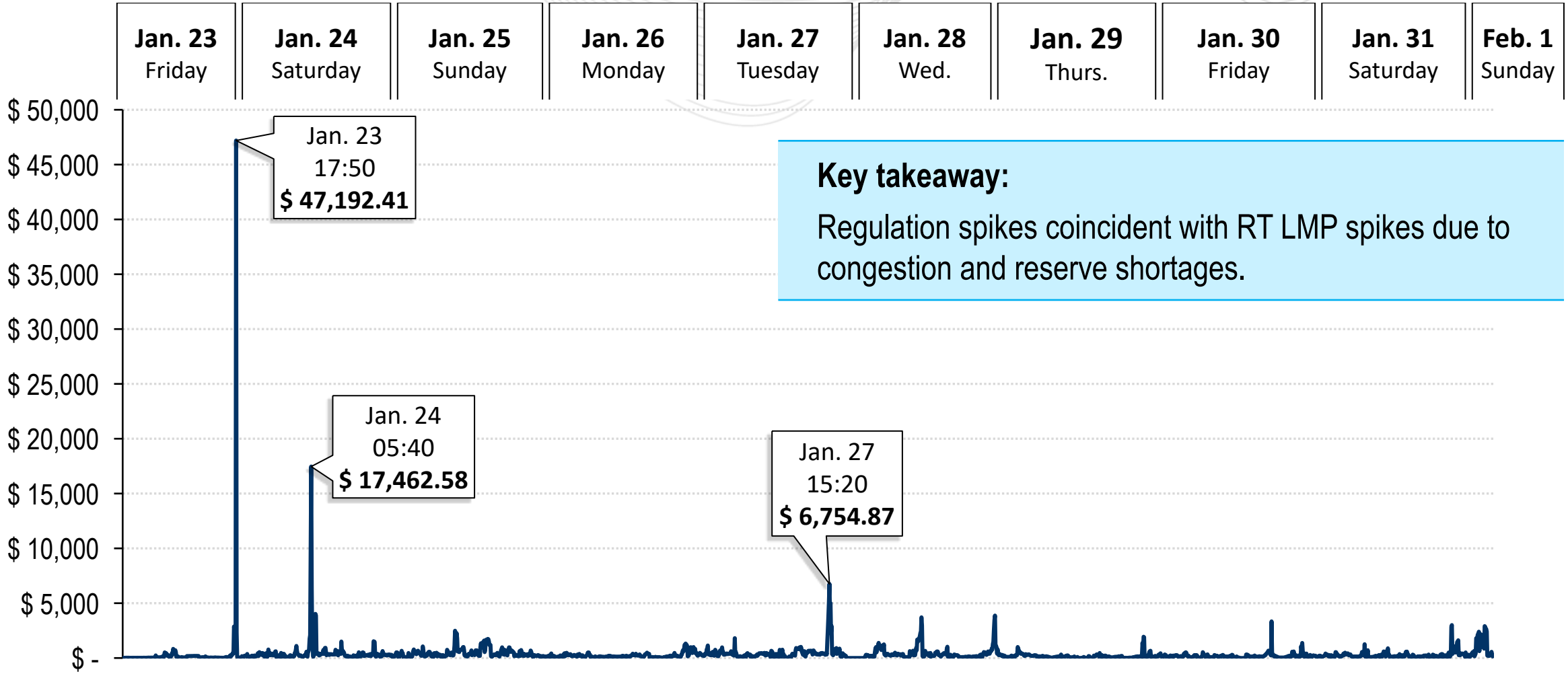
Jan. 23 Friday	Jan. 24 Saturday	Jan. 25 Sunday	Jan. 26 Monday	Jan. 27 Tuesday	Jan. 28 Wed.	Jan. 29 Thurs.	Jan. 30 Friday	Jan. 31 Saturday



Interval Short	Product (Locale, ORDC Step)
Jan 23 17:50	SR (RTO, $850) | SR (MAD, $300)
Jan 24 05:40	PR (RTO, $850) | PR (MAD, $300) | SR(RTO, $850)
Jan 30 17:50	SR (RTO, $300) | *SR(MAD $12.44)*
Jan 31 21:40	PR (RTO, $300) | *PR (MAD $298.72)*

- Generally sufficient 10-minute ramp capability online to meet SR, PR, 30-minute reserve requirements outside of peak/ramp periods.
- Additional detail available on Data Miner.

2026 Regulation Market Clearing Prices



Key takeaway:

Regulation spikes coincident with RT LMP spikes due to congestion and reserve shortages.

Uplift

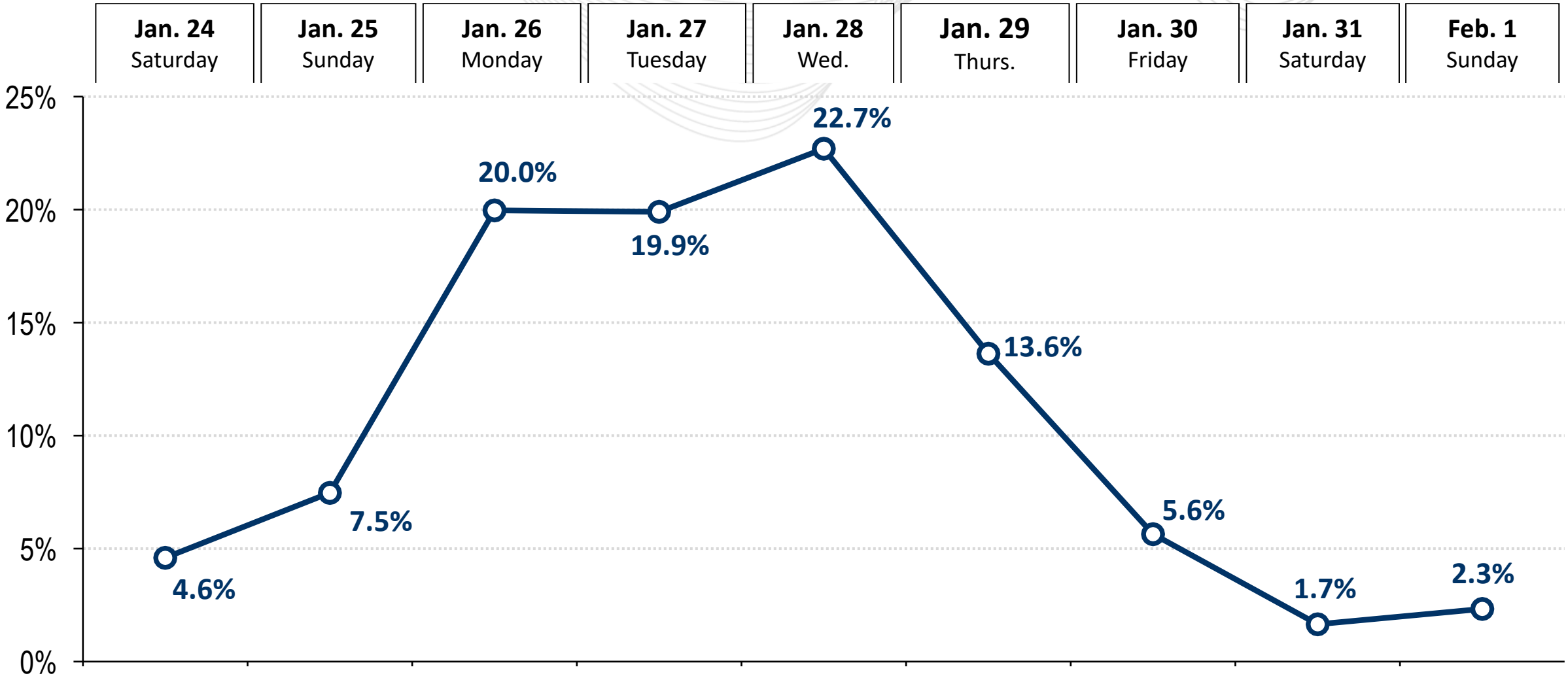
January 2026	Operating Reserve Credit				
	Day Ahead ($ Millions)	Balancing ($ Millions)			Total Uplift ($ Millions)
		Make-Whole	LOC	Total	
Saturday: Jan. 24	16.9	21.5	7.8	29.3	46.2
Sunday: Jan. 25	24.1	26.9	34.5	61.4	85.5
Monday: Jan. 26	9.7	120.8	6.7	127.5	137.2
Tuesday: Jan. 27	10.8	178.8	13.5	192.3	203.1
24 Jan – 27 Jan Subtotal	61.5	348	62.5	410.5	**472**

Note: Numbers subject to change. Updated 2/5/2026.

January 2026	Operating Reserve Credit				
	Day Ahead ($ Millions)	Balancing ($ Millions)			Total Uplift ($ Millions)
		Make-Whole	LOC	Total	
Wednesday: Jan. 28	14.7	134.6	16.2	150.8	165.5
Thursday: Jan. 29	11.9	61.4	3.3	64.7	76.6
Friday: Jan. 30	12.9	25.1	1.8	26.9	39.8
Saturday: Jan. 31	8.7	4.2	6.5	10.7	19.4
Sunday: Feb. 1	11.8	4.6	7.9	12.5	24.3
28 Jan – 1 Feb Subtotal	60.0	229.9	35.7	265.6	**325.6**
24 Jan – 1 Feb Total	121.5	577.9	98.2	676.1	**797.6**

Note: Numbers subject to change. Updated 2/6/2026.

Uplift as a Percent of Energy Costs

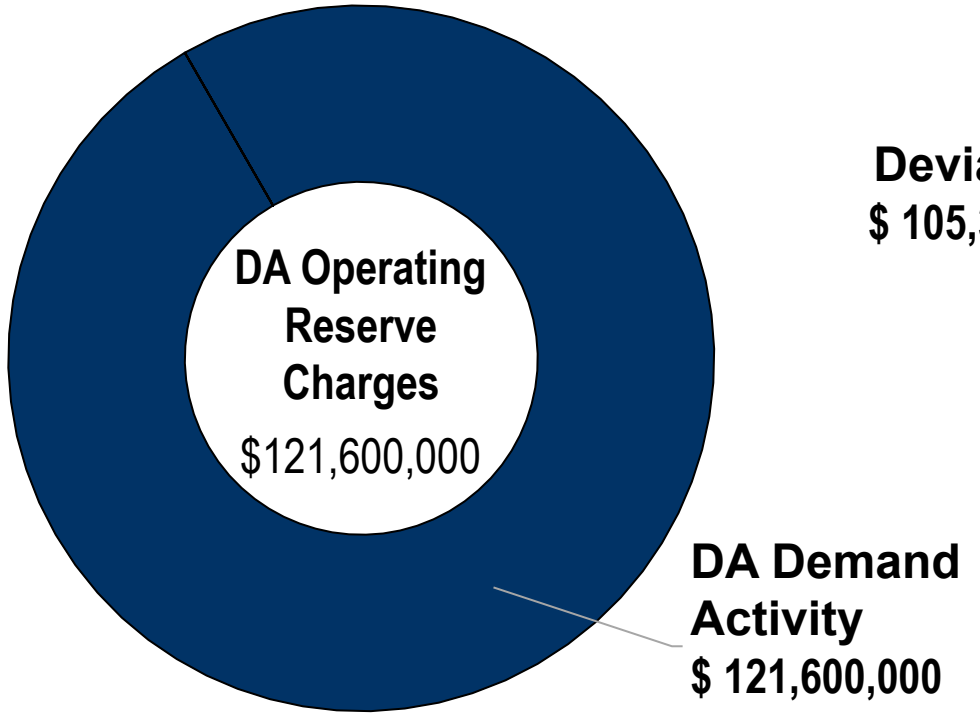


Operating Reserve Charge Allocations

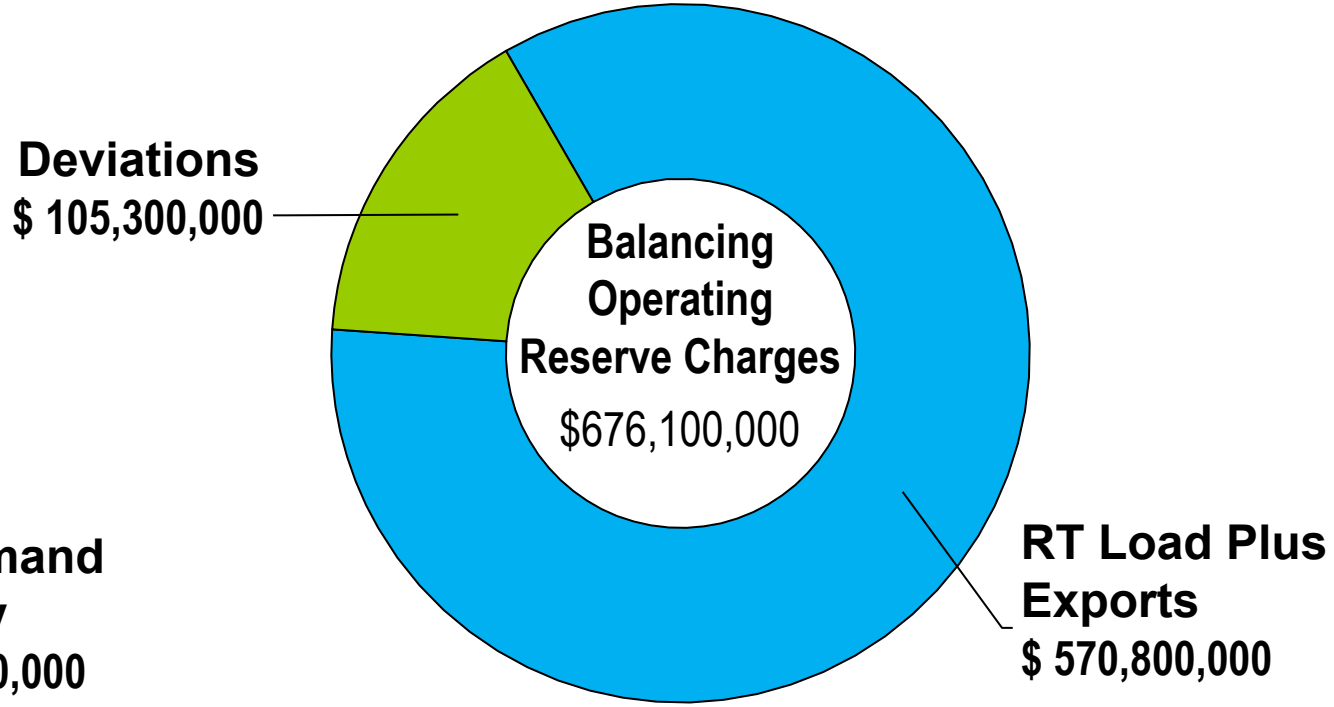
Saturday, Jan. 24, to Sunday, Feb. 1

Day-Ahead Operating Reserves are charged to DA Demand Activity

(DA Demand + Dec bids + UTCs + Exports)



Balancing Operating Reserves are charged to either RT Load plus Exports or Deviations based on the Balancing Operating Reserve Cost Analysis



Contact

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pjm

BE ALERT TO MALICIOUS PHISHING EMAILS

Report suspicious email activity to PJM.

Call (610) 666-2244 or email it_ops_ctr_shift@pjm.com

Comparison to Historical Cold Weather Events

		2014		2015	2019	2022		2025			2026										
		1/7	1/8	2/20	1/31	12/23	12/24	1/20	1/21	1/22	1/16	1/17	1/18	1/19	1/20	1/21	1/26	1/27	1/28	1/29	1/30
Chicago, IL (ORD)	*Temp.*	-11	-6	-6	-21	-8	-1	-2	-8	0	23	12	6	-1	3	21	0	7	1	1	6
	Eff. Temp.	-23	-6	-10	-29	-26	-16	-8	-19	-12	17	4	-2	-16	-3	18	-9	-3	-5	-3	2
Columbus, OH (CMH)	*Temp.*	-7	11	-7	-4	-7	-1	3	-1	-3	18	22	16	7	7	16	2	-1	-7	3	-3
	Eff. Temp.	-24	7	-11	-8	-24	-13	-5	-8	-7	14	16	10	0	1	13	-4	-8	-9	-1	-4
Pittsburgh, PA (PIT)	*Temp.*	-9	2	-9	-5	-5	-3	5	-1	-7	11	28	15	6	3	7	10	2	1	4	-5
	Eff. Temp.	-20	-2	-12	-11	-24	-16	1	-4	-7	8	26	13	0	-1	5	3	-5	-2	0	-9
Philadelphia, PA (PHL)	*Temp.*	4	10	2	6	9	8	14	10	11	23	30	29	21	18	16	20	16	15	14	12
	Eff. Temp.	-10	4	-8	-2	-8	-5	9	5	2	15	30	24	18	12	15	13	10	10	7	4
Washington, DC (DCA)	*Temp.*	7	14	6	10	14	9	17	16	15	23	35	28	23	20	19	18	14	16	15	13
	Eff. Temp.	-2	10	0	5	7	4	11	10	8	16	33	24	20	14	19	14	11	9	10	7
Richmond, VA (RIC)	*Temp.*	10	13	5	13	15	8	18	13	16	22	33	30	22	23	16	21	14	16	11	13
	Eff. Temp.	1	10	0	12	6	-3	15	10	11	19	30	28	20	22	15	15	9	14	10	13
RTO Load Wtd. Avg.	*Temp.*	-1	8	-2	0	5	4	10	7	5	21	27	24	18	11	16	12	10	8	9	8
	Eff. Temp.	-11	5	-7	-5	-7	-7	5	2	0	16	24	20	13	7	14	5	4	4	5	5
RTO Peak Load (GW)		143.0	134.6	143.4	138.1	128.6	133.6	133.1	139.3	143.9	125.3	107.9	115.9	124.3	131.5	134.3	134.0	136.4	136.6	139.0	138.5

This data is preliminary and should not be used as the basis for decision making. As of Feb. 1, 2026.

Comparison of Forecast as of Jan. 22 to Historical Data

		Historical Data									Forecast Data (as of Thursday, Jan. 22)					
		2014		2015	2019	2022		2025			2026					
		1/7	1/8	2/20	1/31	12/23	12/24	1/20	1/21	1/22	1/23	1/24	1/25	1/26	1/27	1/28
Chicago, IL (ORD)	*Temp.*	-11	-6	-6	-21	-8	-1	-2	-8	0	-11	-7	9	0	6	4
	Eff. Temp.	-23	-6	-10	-29	-26	-16	-8	-19	-12	-22	-15	2	-8	-2	-1
Columbus, OH (CMH)	*Temp.*	-7	11	-7	-4	-7	-1	3	-1	-3	3	1	12	-1	-2	8
	Eff. Temp.	-24	7	-11	-8	-24	-13	-5	-8	-7	-2	-3	7	-6	-7	5
Pittsburgh, PA (PIT)	*Temp.*	-9	2	-9	-5	-5	-3	5	-1	-7	2	-1	13	4	-3	9
	Eff. Temp.	-20	-2	-12	-11	-24	-16	1	-4	-7	-3	-4	7	-2	-10	6
Philadelphia, PA (PHL)	*Temp.*	4	10	2	6	9	8	14	10	11	18	11	15	16	6	10
	Eff. Temp.	-10	4	-8	-2	-8	-5	9	5	2	10	4	9	10	0	7
Washington, DC (DCA)	*Temp.*	7	14	6	10	14	9	17	16	15	21	12	18	16	5	11
	Eff. Temp.	-2	10	0	5	7	4	11	10	8	14	6	13	11	2	8
Richmond, VA (RIC)	*Temp.*	10	13	5	13	15	8	18	13	16	28	14	19	16	0	13
	Eff. Temp.	1	10	0	12	6	-3	15	10	11	24	8	15	12	-3	12
RTO Load Wtd. Avg.	*Temp.*	-1	8	-2	0	5	4	10	7	5	11	5	14	10	3	10
	Eff. Temp.	-11	5	-7	-5	-7	-7	5	2	0	5	0	10	4	-2	7
RTO Peak Load (GW)		143.0	134.6	143.4	138.1	128.6	133.6	133.1	139.3	143.9	125.9	138.3	131.5	138.3	147.3	140.2

All-time winter peak

Forecast 2 °F colder than 1/22/25, plus load growth, suggest new peak

Uplift

January 2026	Operating Reserve Credit		
	Day Ahead ($ Millions)	Balancing ($ Millions)	Total Uplift ($ Millions)
Saturday: Jan. 24	14.7	29.3	44.0
Sunday: Jan. 25	24.1	61.3	85.4
Monday: Jan. 26	9.7	127.6	137.3
Tuesday: Jan. 27	1.2	191.4	192.7
Total	49.7	409.7	**459.4**

Includes Make-Whole Credits and Lost Opportunity Cost Credits
Preliminary – numbers subject to change.