

Hot Weather Operations

June 22–26, 2025

Kevin Hatch
Sr. Manager, Dispatch
Operating Committee
July 10, 2025

Operations Update

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| <ul style="list-style-type: none">• Key Takeaways• Top 10 Summer Peaks• Coordination Timeline• Emergency Procedures• Generation Commitment and Reserves (DA Markets vs. DA Operations)• Pre-Emergency Demand Response | <ul style="list-style-type: none">• Weather, Temperature and Load Forecast Accuracy• Scheduled Interchange• Generation Performance• Transmission Performance• External Systems Performance |
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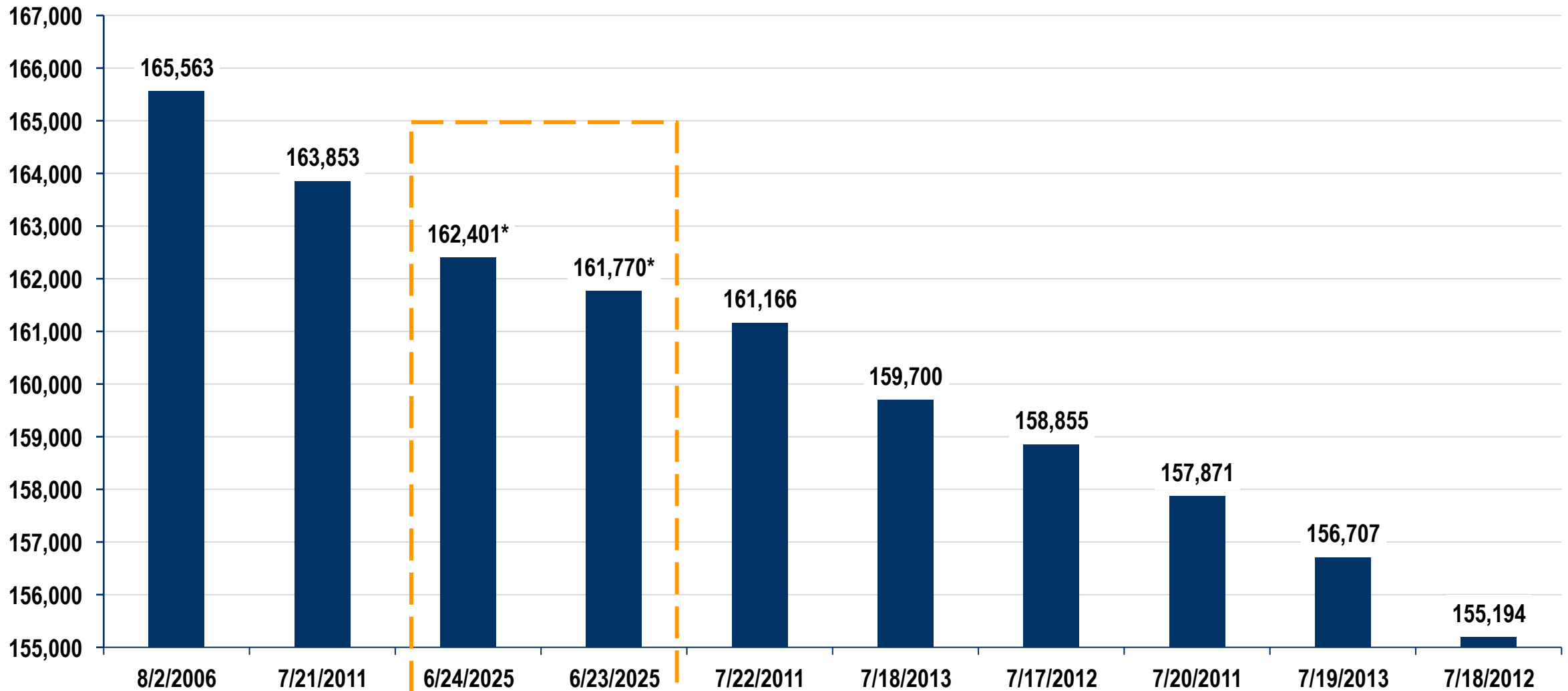
Preliminary Integrated Hourly Peak Load 162,401 MW – June 24 @ 18:00

Successes

- Early proactive awareness and planning for oncoming all-time peak loads
- Sufficient reserve margins to serve third and fourth-highest summer peak load (preliminary)
- Effective PJM Emergency Procedures limited to Advisories, Alerts and issuance of select Pre-Emergency load management
- Strong transmission performance
- Good load forecasting

Challenges

- Future resource adequacy concerns considering increasing loads and renewable generation penetration.
- higher net load ramps
- Increasing environmental limitations and need for waivers / special operating procedures.
- Generation outages higher than 3-year OATF average



*Preliminary as of Jul. 1, 2025.

SOS T/G held with transmission and generation owners to discuss generator maintenance outage recall, anticipated system conditions and the potential for Max Gen Alert to be issued on Sunday

June 18

June 19

SOS/OC/MRC Pardot message sent summarizing next week's anticipated hot weather and generator owner expectations, including a request that generation owners survey their stations for consumables and any environmental restrictions

PJM States Conference Call and RF/SERC status update

June 20

June 20, 22–26

SOS-T System Conditions Conference Call held jointly with TO communicators to discuss system conditions, anticipated load management deployment and Maximum Generation Alert

Generator Maintenance Outage Recall

June 21, 2025, 06:00 through June 26, 2025, 10:45 (issued June 18, 2025)

Hot Weather Alert – PJM RTO

June 22, 2025, 00:01 through June. 26, 2025, 10:45 (issued June 19, 2025)

Maximum Generation Alert & Load Management Alert

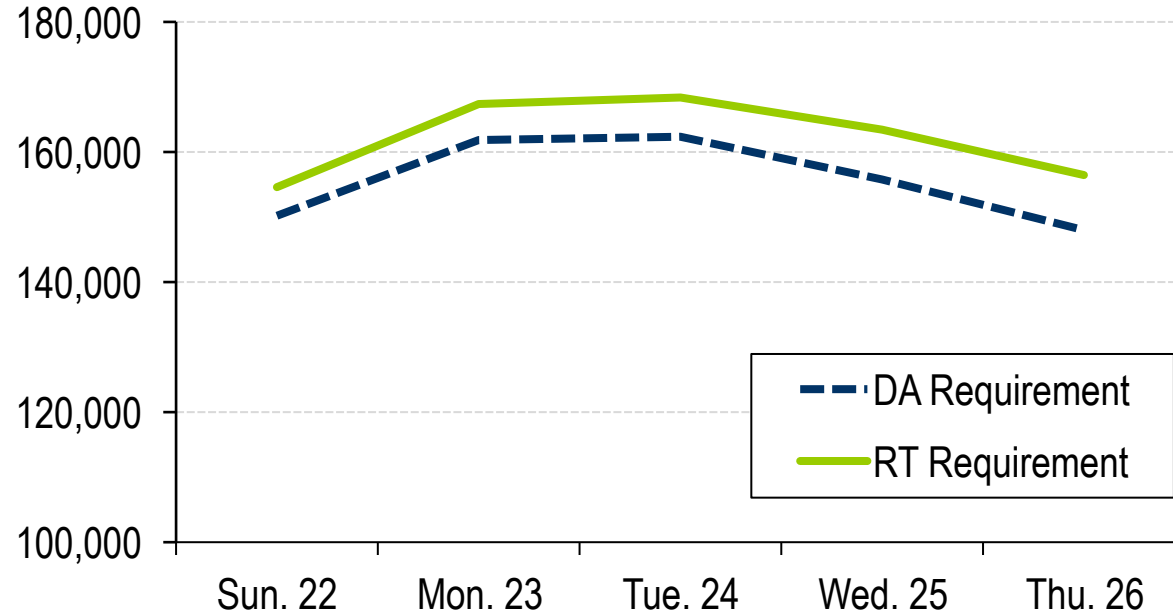
June 23, 2025, 07:00 through June 25, 2025, 23:59 (issued June 22, 2025)

Pre Emergency Load Management

- **June 23** Long-lead (2hr) and short-lead (1hr) pre-emergency products in select zones
- **June 24** All available long-lead (2hr) and short-lead (1hr) pre-emergency products across the RTO
- **June 25** Long-lead (2hr) and short-lead (1hr) pre-emergency products in select zones

Generation Requirements

DA vs. RT Generation Requirement

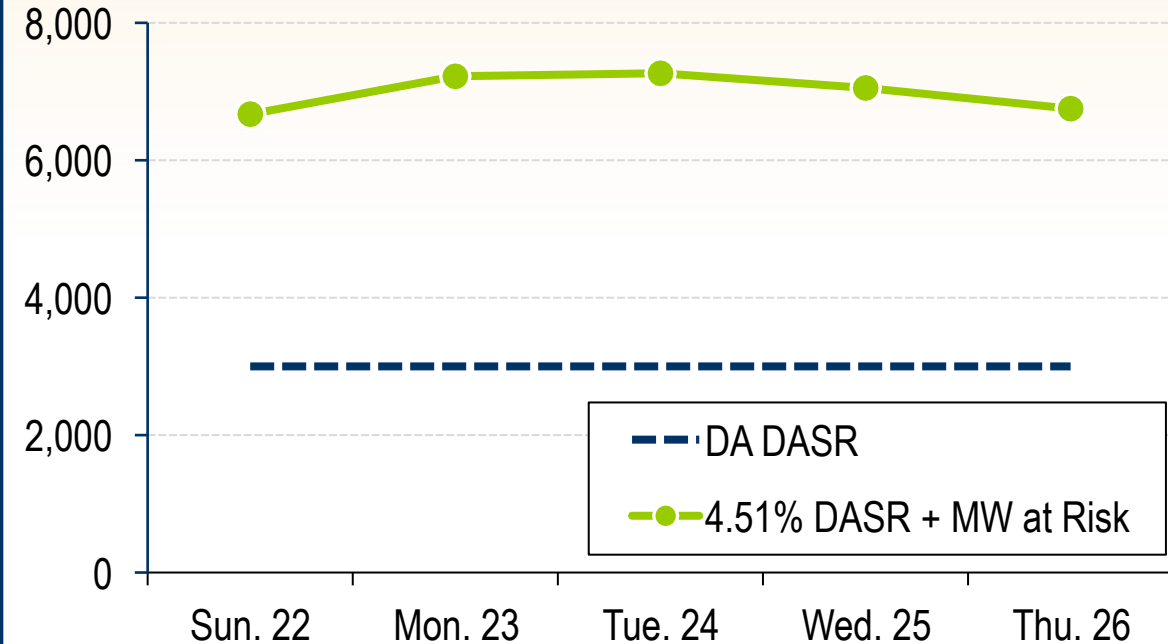


DA = DA Load + DA Exports + 3,000 MW DASR

RT = RT Forecast + DA Exports + 4.51% DASR + MW at Risk
(operating temperature)

Scheduling Reserve

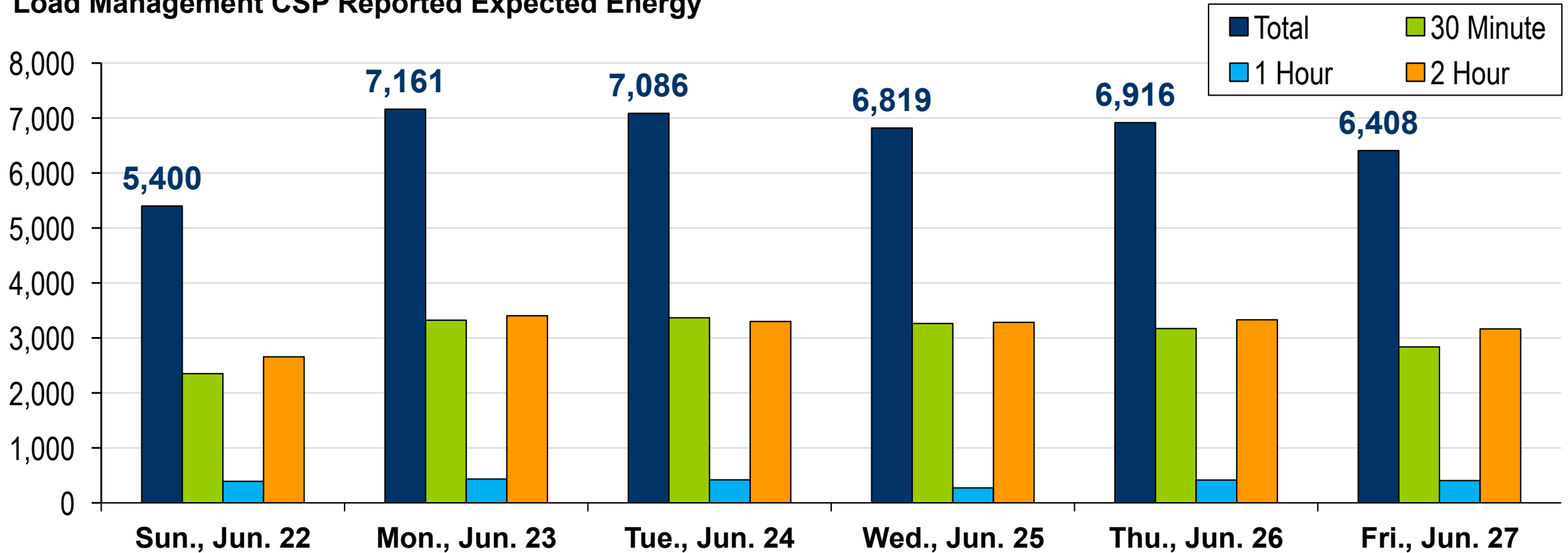
DA vs. RT Scheduling Reserve



DA Markets = 3,000 MW DASR

DA Operations = 4.51% DASR + MW at Risk
(operating temperature)

Load Management CSP Reported Expected Energy




June 23 issued long-lead and short-lead pre-emergency products in Mid-Atlantic and Dominion Zones (approx. 1,500 MW)

June 24 issued all available long-lead and short-lead pre-emergency products RTO-wide (approx. 3,800 MW)

June 25 issued long-lead and short-lead pre-emergency products in Mid-Atlantic, Dominion and APS zones (approx. 1,600 MW)

Weather – June 22–26, 2025, Heat Wave

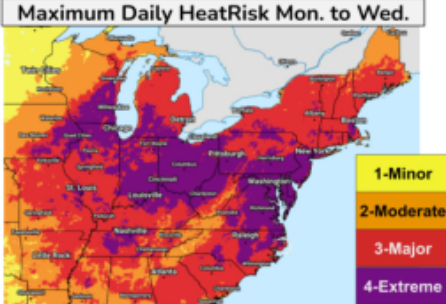


Key Messages for Mid to Late June Heat Wave

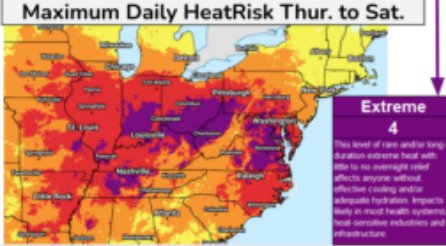
Issued: Monday, June 23, 2025
1:20 PM EDT

Extremely Dangerous Heat Persists From the Midwest to the East Coast into Late This Week


- Widespread Significant Heat Continues**
 Extreme Heat Warnings or Heat Advisories currently span from the Lower Mississippi Valley and Midwest to the East Coast, in effect for nearly 160 million people. Extreme heat is expected to last through much of this week, with the longest duration of well above average temperatures centered over the eastern Ohio Valley into Friday.
- Extremely Dangerous Levels of Heat**
 Scores of daily record highs and warm low temperatures are expected from the Midwest through much of the East Coast through Wednesday. Widespread high temperatures are forecast to reach the upper 90s, with triple digits possible along the East Coast. Meanwhile, overnight lows are forecast to only drop into the 70s, with urban centers along the East Coast struggling to drop below 80°F at night.
- A Prolonged and Intense Heat Wave**
 The most significant cumulative heat impacts are anticipated across the Mid-Atlantic through Thursday and eastern Ohio Valley into Friday, leading to several consecutive days of oppressive heat. This will exacerbate the heat health impacts, especially by midweek.
- Heat Related Safety Tips**
 This level of heat can be dangerous to anyone without effective cooling and/or adequate hydration. Heat related illnesses increase significantly during extreme longer duration heat. Take action when you see symptoms of heat exhaustion and heat stroke.



Maximum Daily HeatRisk Mon. to Wed.



Maximum Daily HeatRisk Thur. to Sat.


 National Oceanic and Atmospheric Administration
 U.S. Department of Commerce

For more information go to:
www.wpc.ncep.noaa.gov and www.weather.gov

Weather Prediction Center
 College Park, Maryland

June 22–26, 2025, Heat Wave

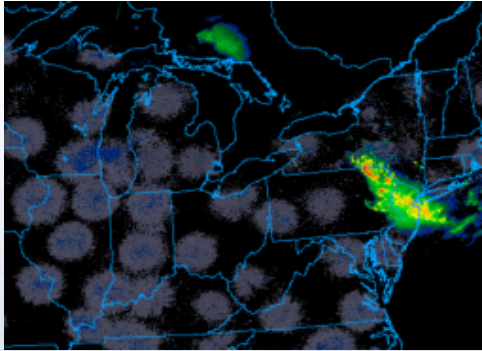
Cities	Hottest Air Temperature	Highest Heat Index	Warmest Low Temperature
Chicago	95°F	103°F	80°F
Columbus	95°F	103°F	75°F
Louisville	97°F	108°F	80°F
Philadelphia	101°F	110°F	80°F
Richmond	99°F	108°F	78°F

June 22: Temperatures rise into 90s across much of RTO.

From June 23–24: Peak of heat with maximum RTO temperatures in mid 90s; THI values in low-mid 80s.

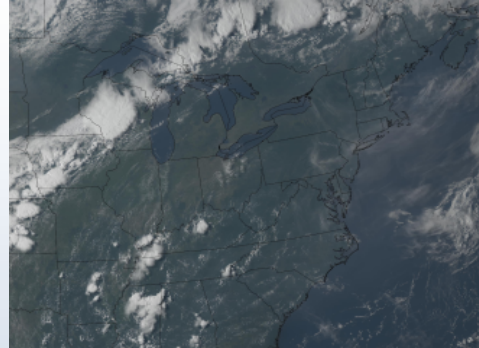
June 25–26: Heat eases some as showers and thunderstorms increase.

June 22



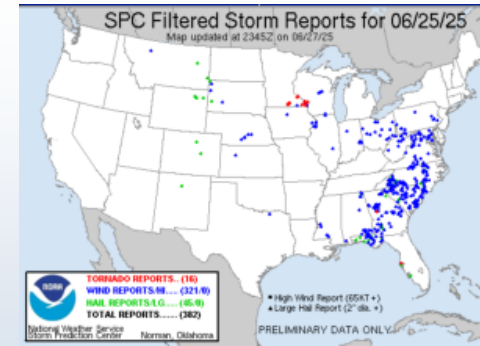
Rising temps in West; heat delayed by storms in East

June 23



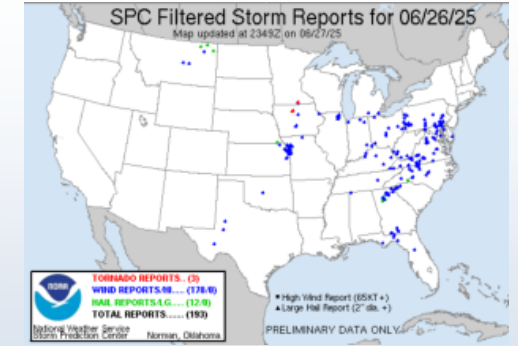
Mostly sunny in RTO, hottest day of week

June 25



Scattering of strong-severe thunderstorms producing damaging winds, leading to cooler temperatures

June 26



Temperature-Humidity Index (THI):

Combination of temperature and humidity to assess heat stress

76°

2014–2024

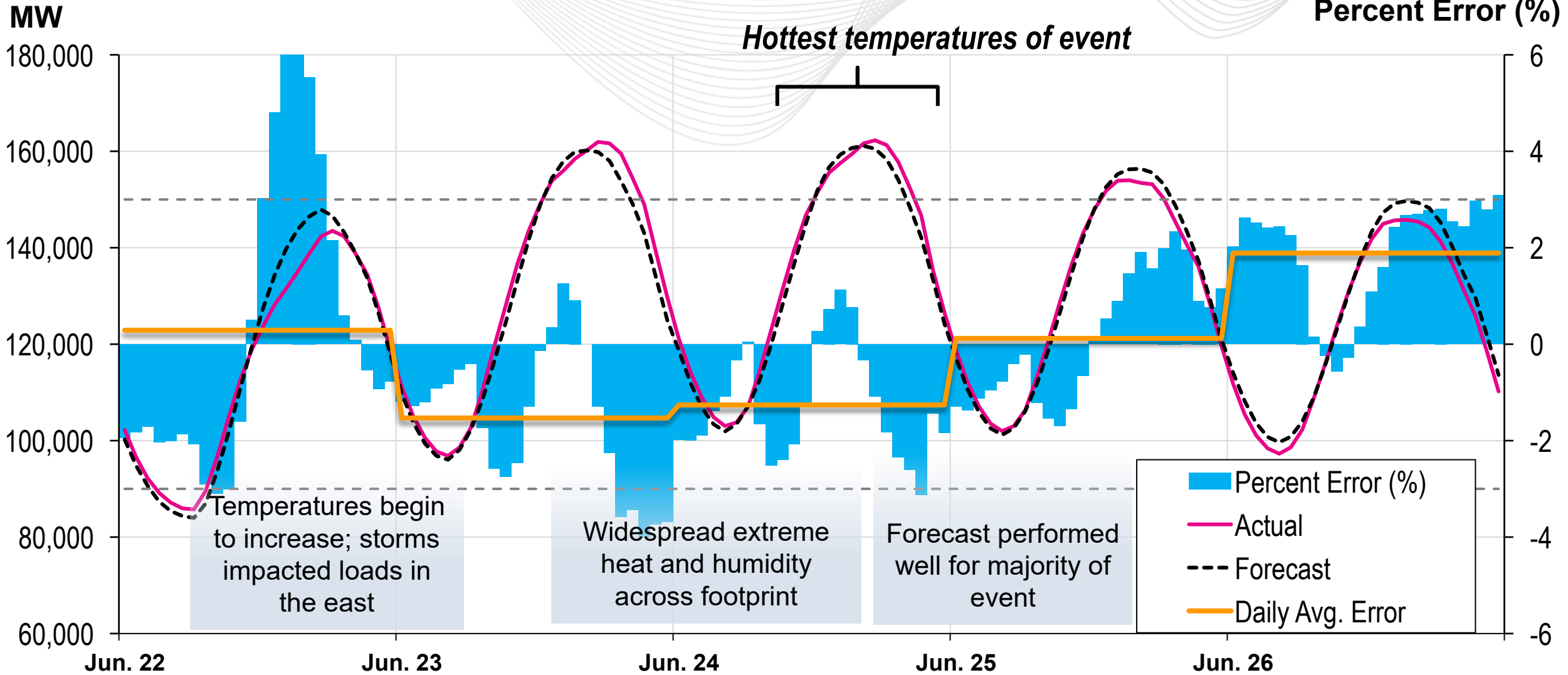
Average Summer
Max THI

84°

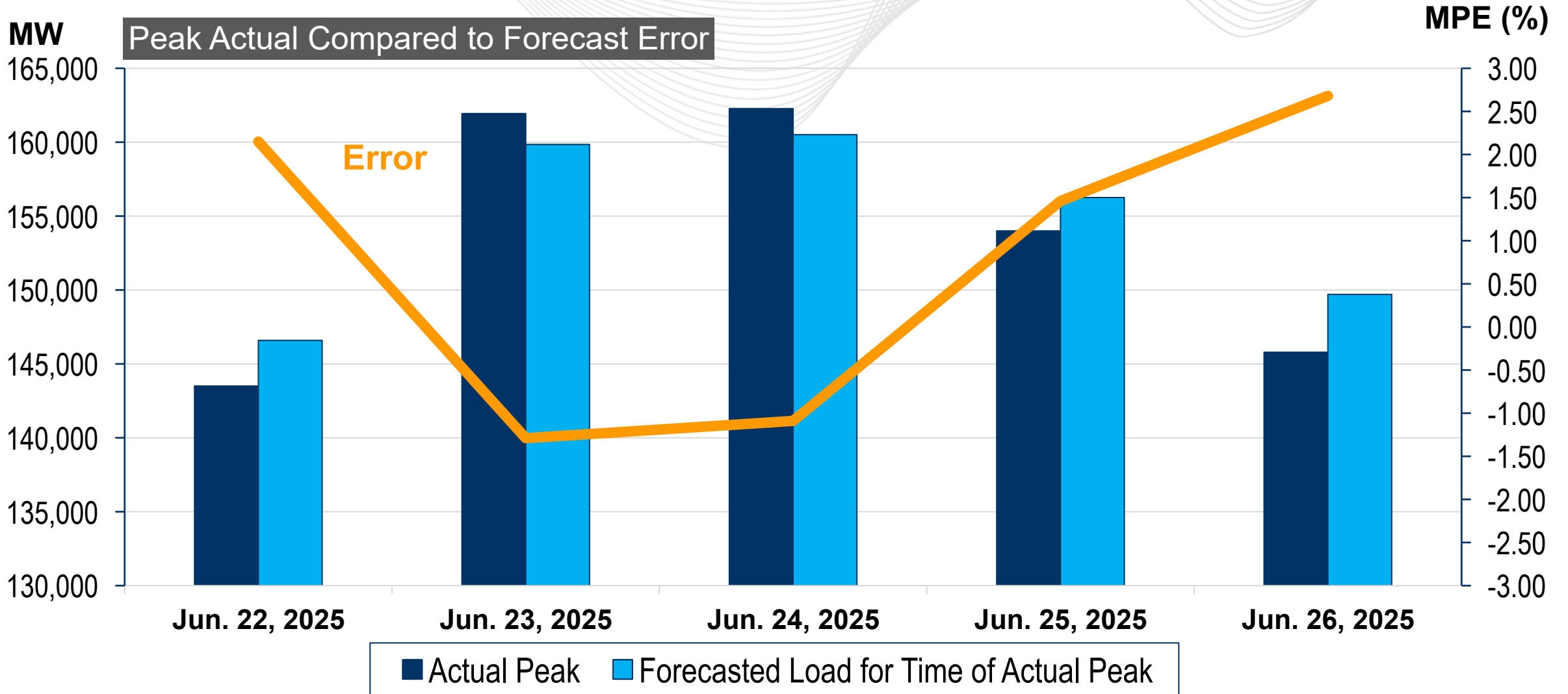
June 22–26, 2025

Max Daily
Load-Weighted THI

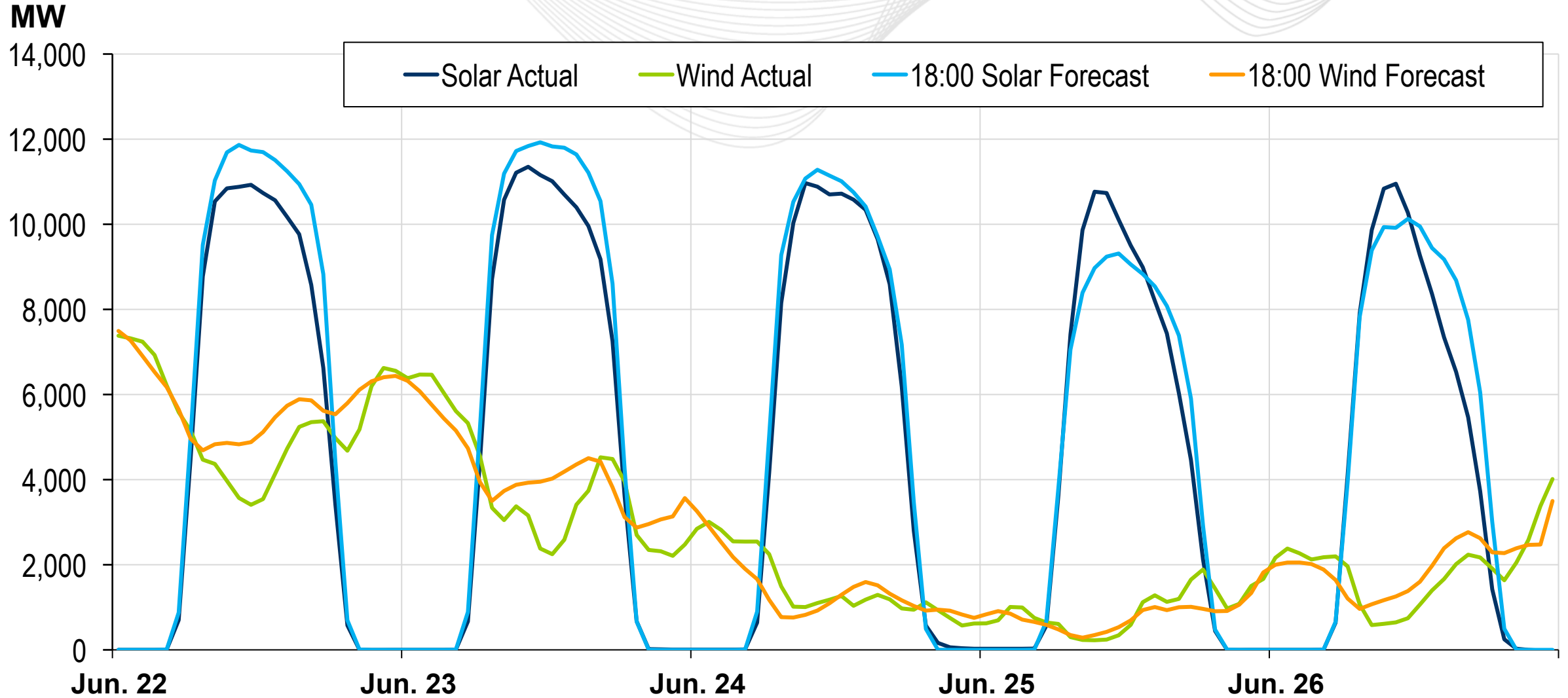
Forecast Performance During June Heat Wave

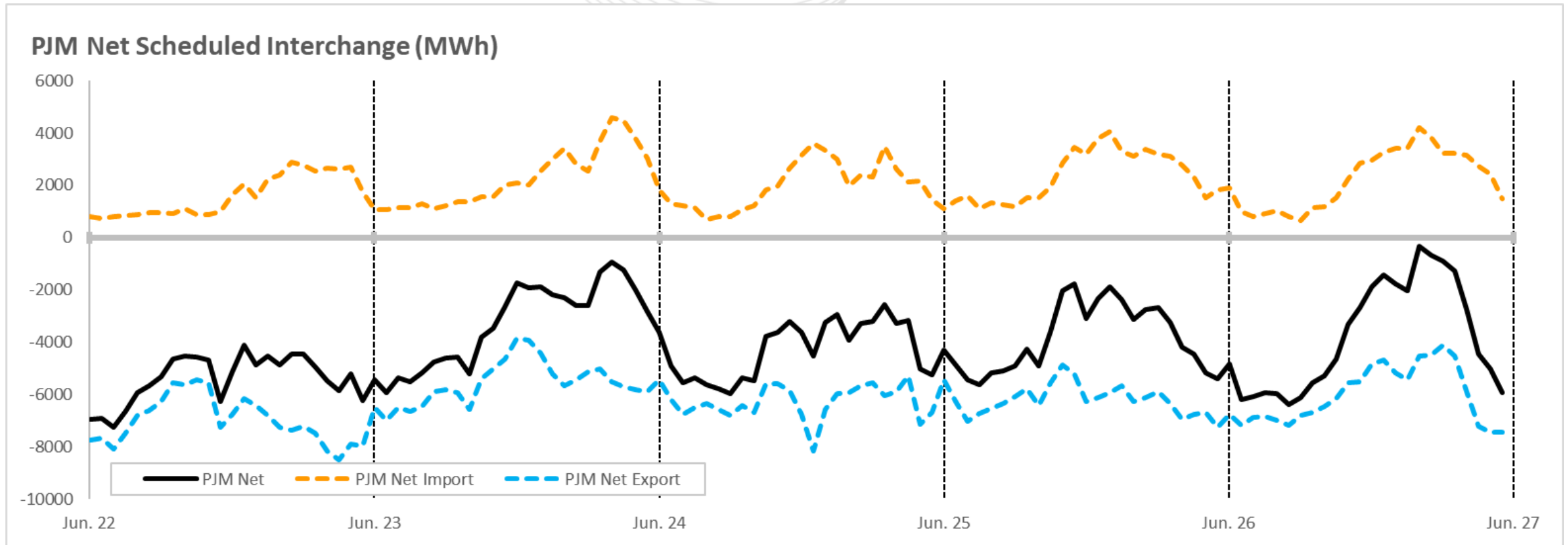


Forecast Error Trend for June 22–26, 2025

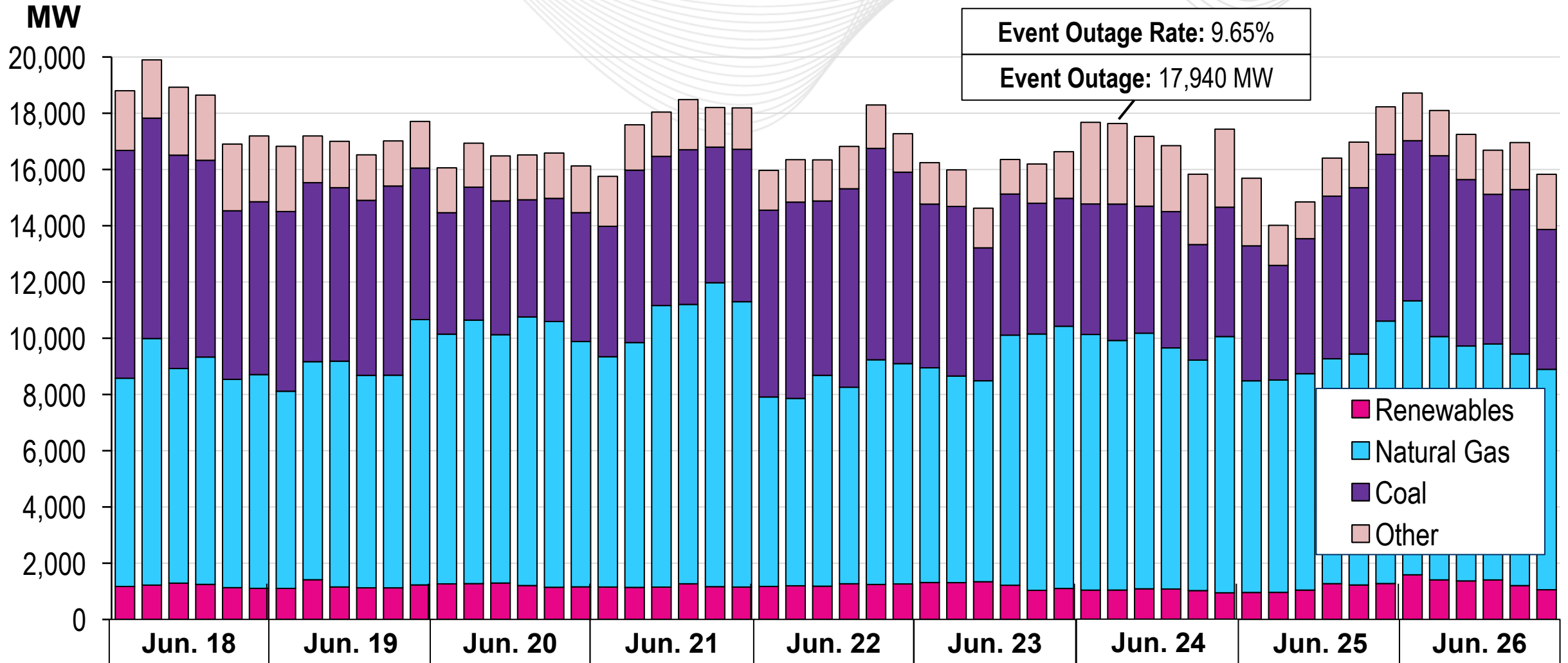


Day-Ahead Solar and Wind Forecast Performance





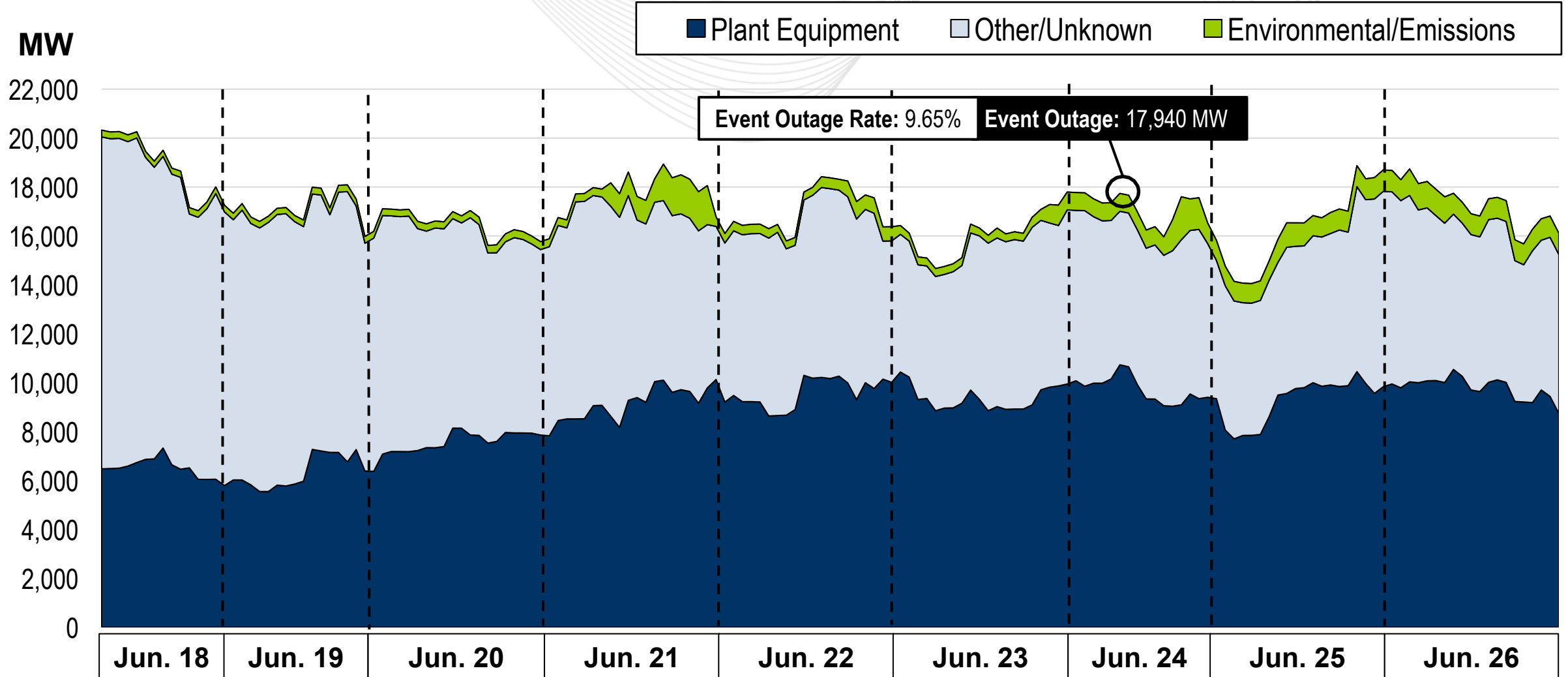
Note: PJM recalled non-firm exports on June 24 and June 25 as PJM deployed Pre-Emergency Demand Response



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

Generation Performance

All Outage Types



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

Transmission Outage Coordination and Overall Transmission Performance

- PJM and Transmission Owners coordinated to reschedule transmission outages.
- PJM recalled several transmission jobs to increase local and regional reliability.
- Discussed need for hands-off approach for the hot weather period on SOS-T call
 - Emergency work only
- No interregional transfer concerns
- Constrained on several 500/230 kV transformers in FE-S and DOM
 - High demand in Dominion
- Issued PCLLRW and developed a post-contingency operating plan
- No TLRs issued during the June hot weather

Daily Coordination Calls: Regular RC calls promoted transparency, increased situational awareness, and facilitated timely decision-making during critical periods.

Consistent Communication: Ongoing dialogue between neighboring entities ensures clarity during non-firm export curtailments.

Outcome: Enhanced grid reliability and minimized impact on customers through proactive efforts.

Presenter/SME:
Kevin Hatch

Kevin.Hatch@pjm.com



Member Hotline

(610) 666-8980

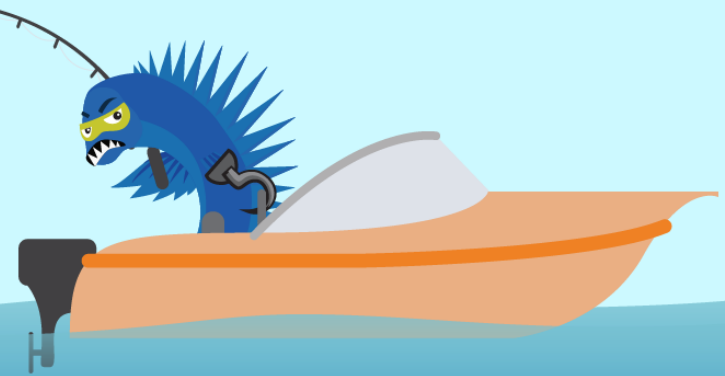
(866) 400-8980

custsvc@pjm.com

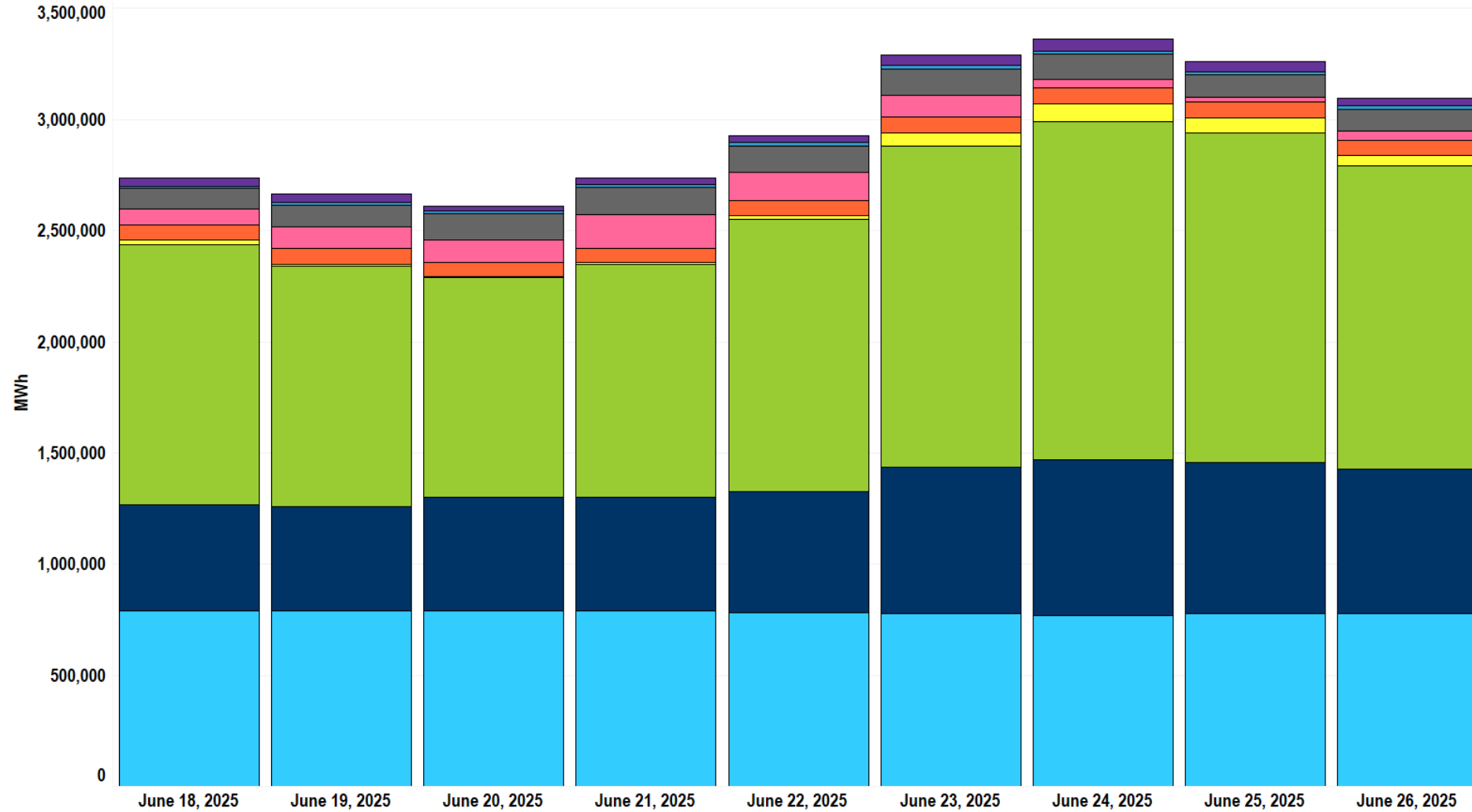
**PROTECT THE
POWER GRID**
**THINK BEFORE
YOU CLICK!**

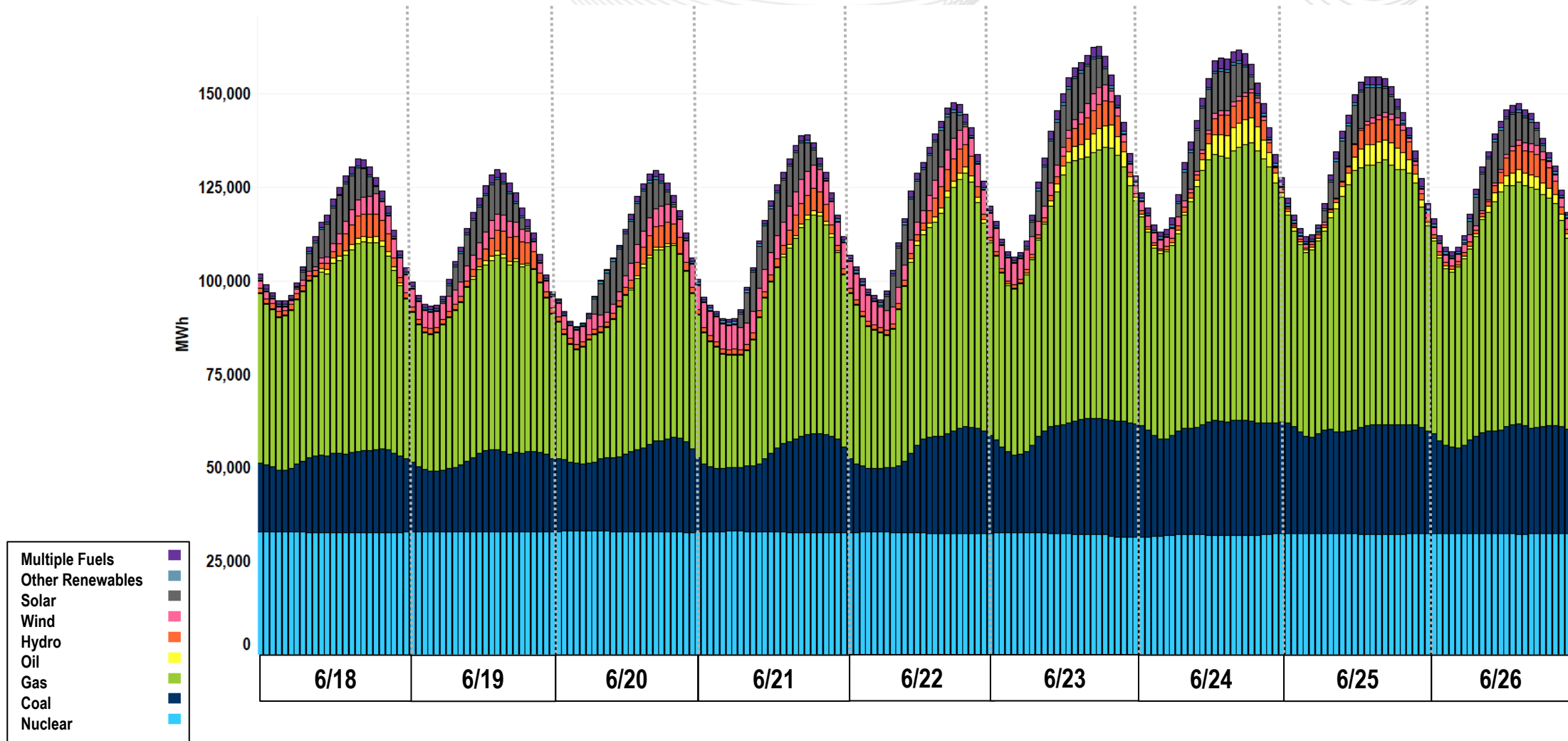


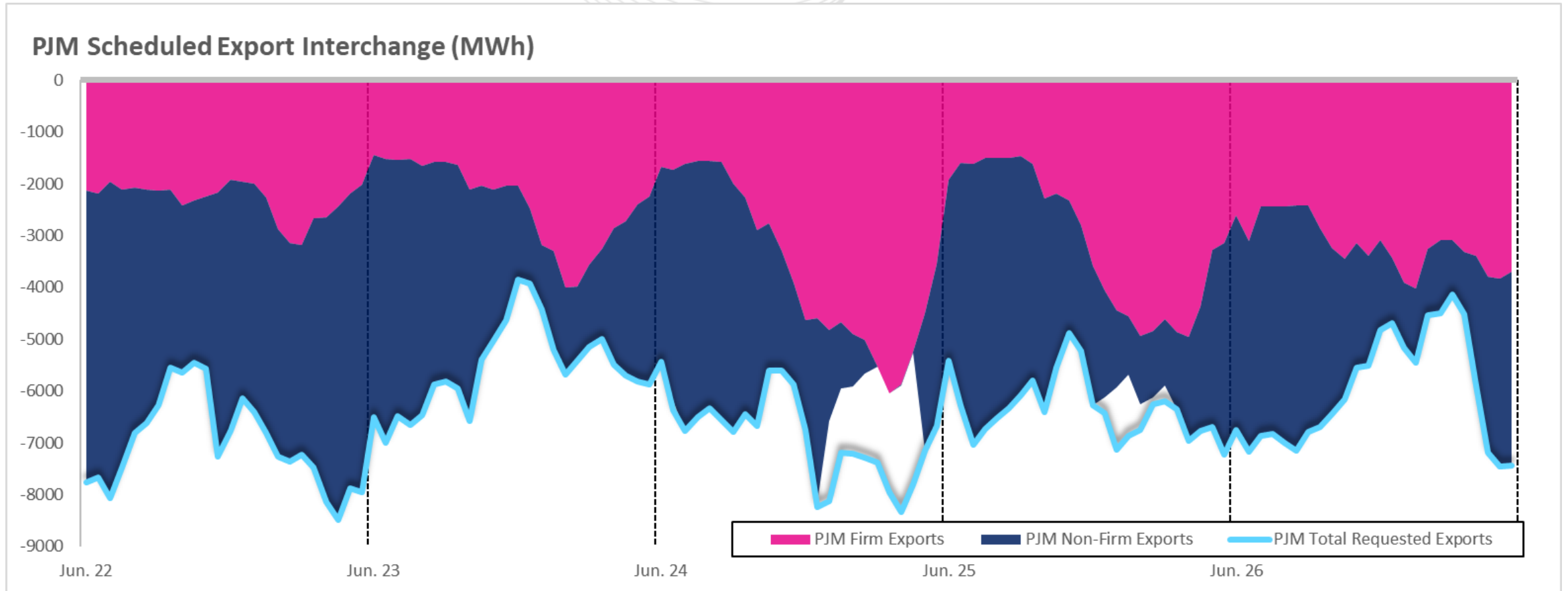
**BE ALERT TO
MALICIOUS PHISHING
EMAILS**

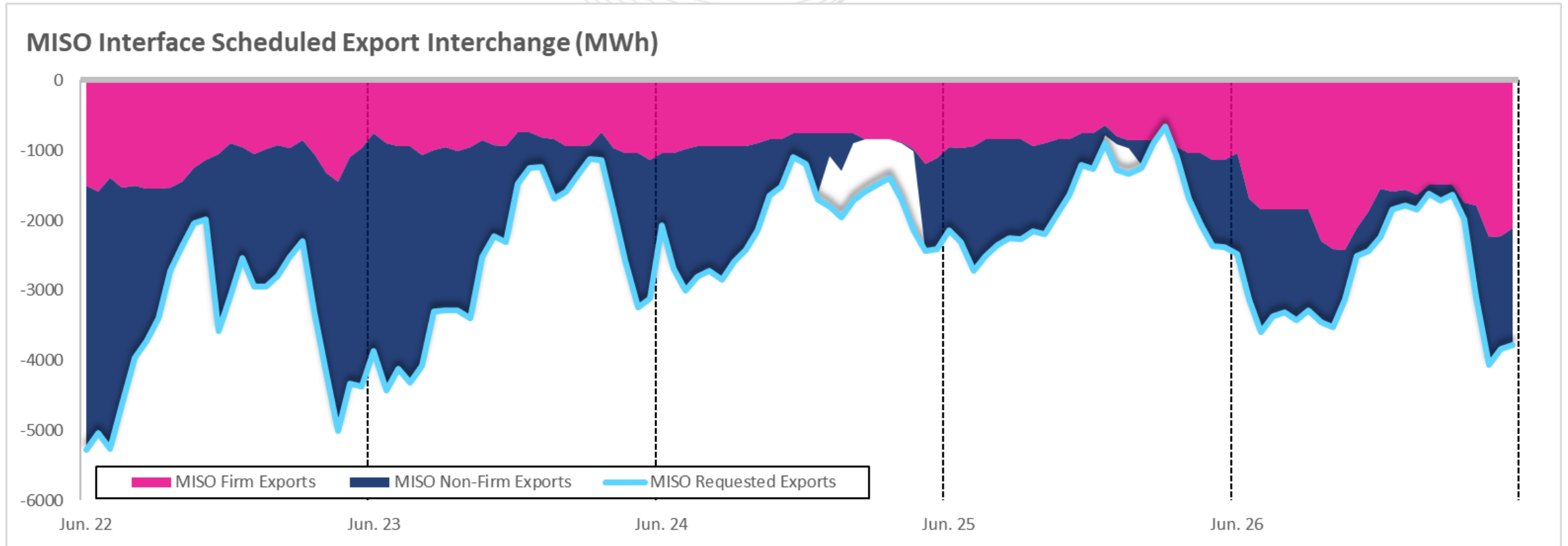


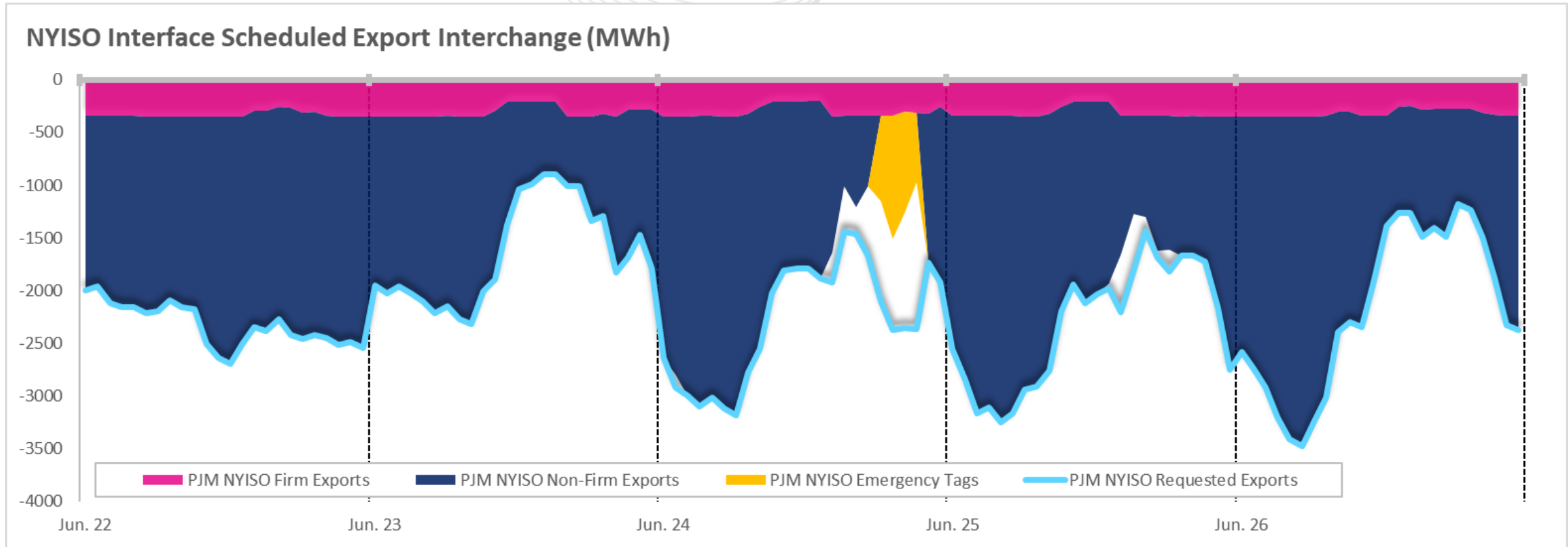
Report suspicious email activity to PJM.
Call (610) 666-2244 or email it_ops_ctr_shift@pjm.com

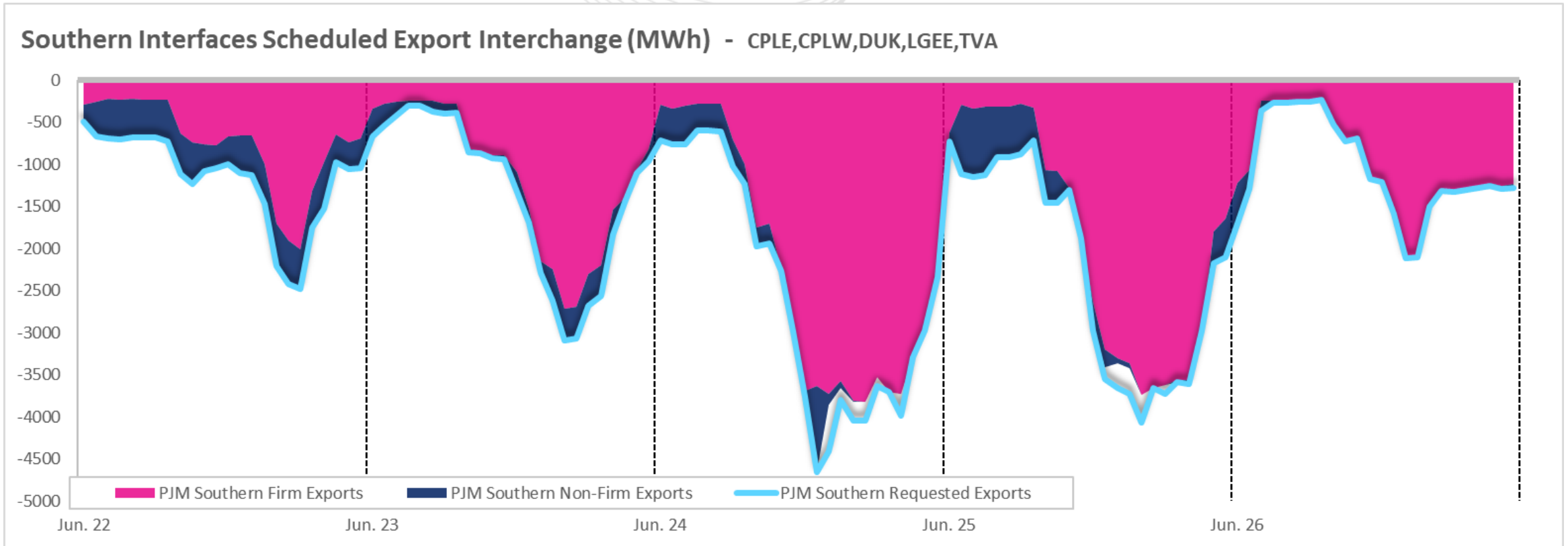












Load Management



Emergency DR



Pre-Emergency DR

- Capacity commitment and paid for load reduction when dispatched by PJM
- **Emergency DR** = behind-the-meter generator with permit that requires an EEA2 to be issued in order to operate
- **Pre-Emergency DR** = everything except Emergency DR

Economic DR

- Participates when economic for resource in energy and ancillary based on offer and availability
- One customer may participate as Load Management and Economic DR
 - Any overlap in dispatch is subject to Load Management rules

Load Management Deploy and Release Times (No PAI events)

June 23, 2025 – Mid-Atlantic/Dominion Zones

Notification Time	Deploy Time	Release Time	Resource Type	Lead Time	Zones
13:00	15:00	22:00	Pre-Emergency	Long_120	AECO, BGE, DOM, DPL, JCPL, METED, PECO, PENELEC, PEPCO, PPL, PSEG
14:00	15:00	22:00	Pre-Emergency	Short_60	AECO, BGE, DOM, DPL, JCPL, METED, PECO, PENELEC, PEPCO, PPL, PSEG

June 24, 2025 – RTO Wide

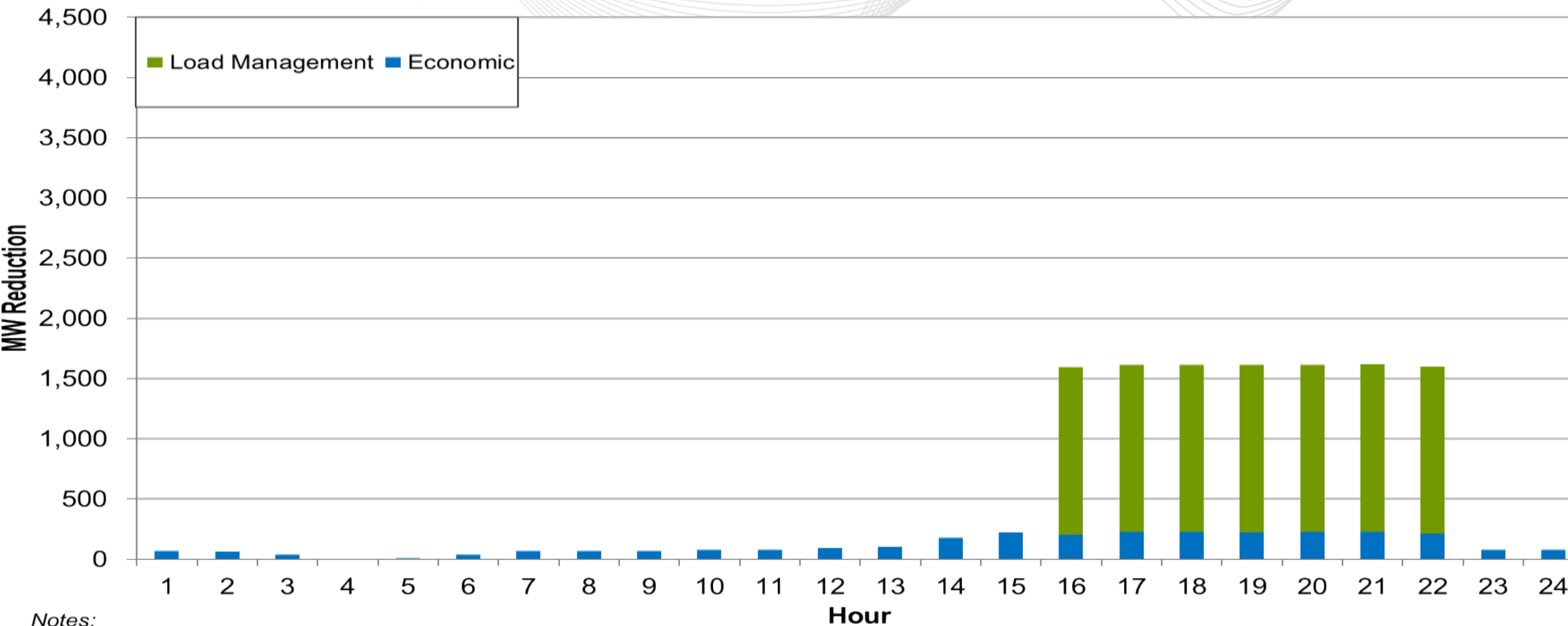
Notification Time	Deploy Time	Release Time	Resource Type	Lead Time	Zones
13:00	15:00	22:00	Pre-Emergency	Long_120	BGE, DOM, PECO, PEPCO
13:30	15:30	22:00	Pre-Emergency	Long_120	AECO, DPL, JCPL, METED, PENELEC, PPL, PSEG
14:00	16:00	22:00	Pre-Emergency	Long_120	AEP, APS, DAY, DUQ
14:30	16:30	22:00	Pre-Emergency	Long_120	ATSI, COMED, DEOK, EKPC
14:00	15:00	22:00	Pre-Emergency	Short_60	BGE, DOM, PECO, PEPCO
14:30	15:30	22:00	Pre-Emergency	Short_60	AECO, DPL, JCPL, METED, PENELEC, PPL, PSEG
15:00	16:00	22:00	Pre-Emergency	Short_60	AEP, APS, DAY, DUQ
15:30	16:30	22:00	Pre-Emergency	Short_60	ATSI, COMED, DEOK, EKPC

Load Management Deploy and Release Times (No PAI events)

June 24, 2025 – Mid-Atlantic/Dominion/APS Zones

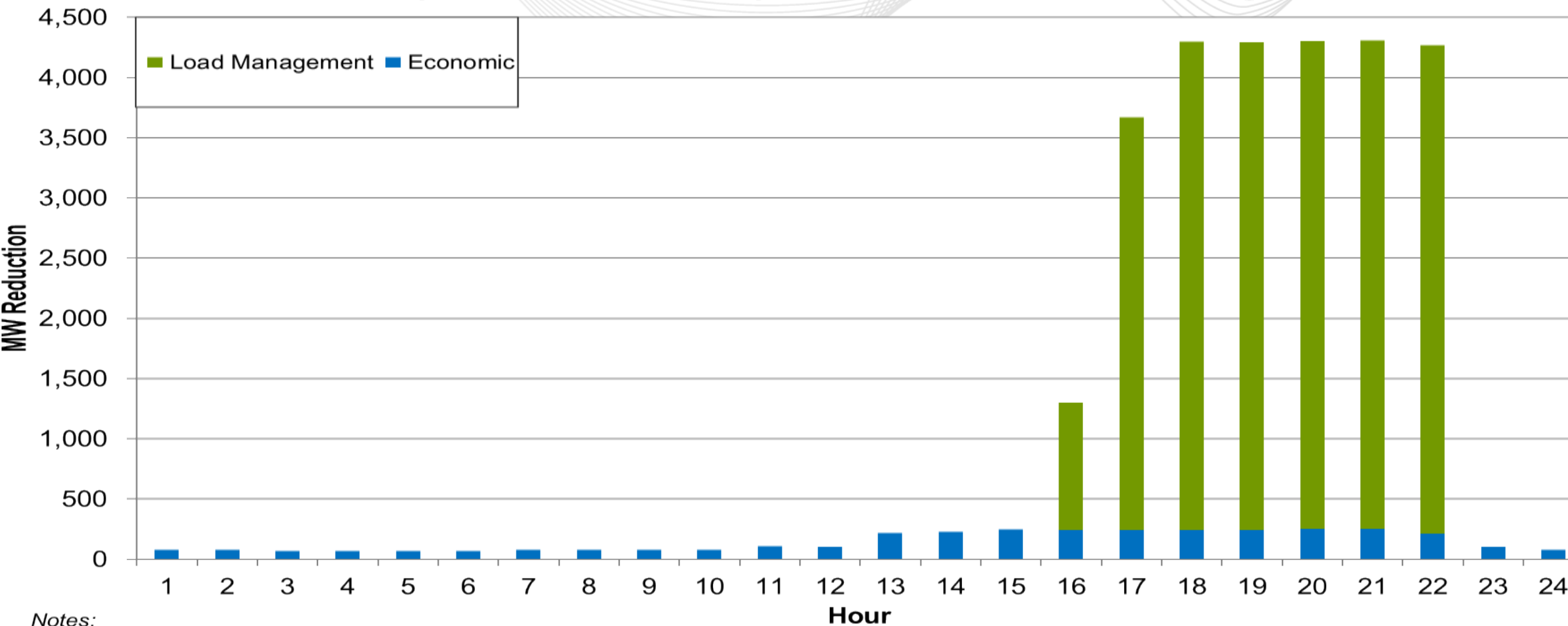
Notification Time	Deploy Time	Release Time	Resource Type	Lead Time	Zones
13:00	15:00	17:45	Pre-Emergency	Long_120	APS
13:00	15:00	18:10	Pre-Emergency	Long_120	AECO, BGE, DPL, JCPL, METED, PECO, PENELEC, PEPCO, PPL, PSEG
13:00	15:00	19:00	Pre-Emergency	Long_120	DOM
14:00	15:00	17:45	Pre-Emergency	Short_60	APS
14:00	15:00	18:10	Pre-Emergency	Short_60	AECO, BGE, DPL, JCPL, METED, PECO, PENELEC, PEPCO, PPL, PSEG
14:00	15:00	19:00	Pre-Emergency	Short_60	DOM

Dispatched Demand Response in PJM: June 23, 2025



Notes:
 Load Management values are based on nominated capacity commitment (ICAP). This may be different from actual real time hourly energy reductions.
 Actual load reductions are not finalized until up to 3 months after event.

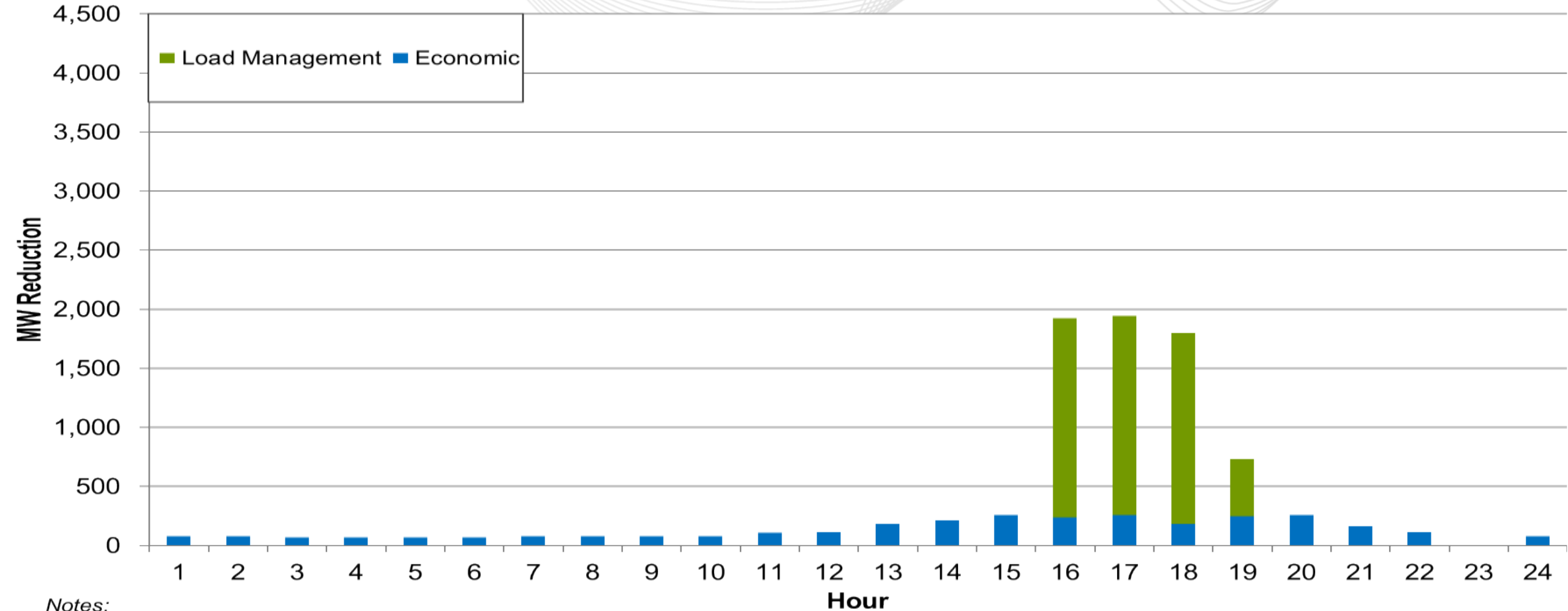
Dispatched Demand Response in PJM: June 24, 2025



Notes:
 Load Management values are based on nominated capacity commitment (ICAP). This may be different from actual real time hourly energy reductions.
 Actual load reductions are not finalized until up to 3 months after event.



Dispatched Demand Response in PJM: June 25, 2025



Notes:

Load Management values are based on nominated capacity commitment (ICAP). This may be different from actual real time hourly energy reductions. Actual load reductions are not finalized until up to 3 months after event.

