Hot Weather Operations
July 14–17, 2025
July 23 – 30, 2025

Kevin Hatch
Sr. Manager, Dispatch

Operating Committee

August 7, 2025

Overview

Operations Update

- Key Takeaways
- Coordination Timeline
- Emergency Procedures
- Weather, Temperature and Load Forecast Accuracy
- Renewable Performance
- Scheduled Interchange
- Generation Performance
- Transmission Performance
- External Systems Performance

Key Takeaways for Operations

Preliminary Integrated Hourly Peak Load 157,487 MW – July 29 @ 18:00

Successes

- Early proactive awareness and planning for oncoming all-time peak loads
- 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.
  - Issuance of a Max Gen Alert/Load Management Alert without extreme hot weather
- Higher net load ramps
- Generation outages higher than 3-year OATF average
- Renewable generation performance below seasonal ELCC value

Communications Timeline

July 14, 18 & 23

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

July 18

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

July 23

RF/SERC status update

July 24, 28–30

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

Emergency Procedures July 14 –17

Hot Weather Alert – Mid-Atlantic and Southern PJM

July 17, 2025, 00:01 through 23:59 (issued July 16, 2025)

Maximum Generation Alert & Load Management Alert

July 15, 2025, 00:00 through 23:59 (issued July 14, 2025)

July 16, 2025, 00:00 through 23:59 (issued July 15, 2025)

Issued on both days to notify external systems of the potential for off-system sales to be recalled

Emergency Procedures July 23 – 30

Generator Maintenance Outage Recall

Issued on July 18, 2025 @ 09:00 – Requesting all Maintenance Outages to be returned to service no later than 00:01 on Wednesday July 23, 2025

Hot Weather Alert – PJM West

July 23, 2025, 00:01 through 23:59 (issued July 22, 2025)

Hot Weather Alert – PJM RTO

July 24, 2025, 00:01 through July 30, 2025, 23:59 (issued July 23, 2025)

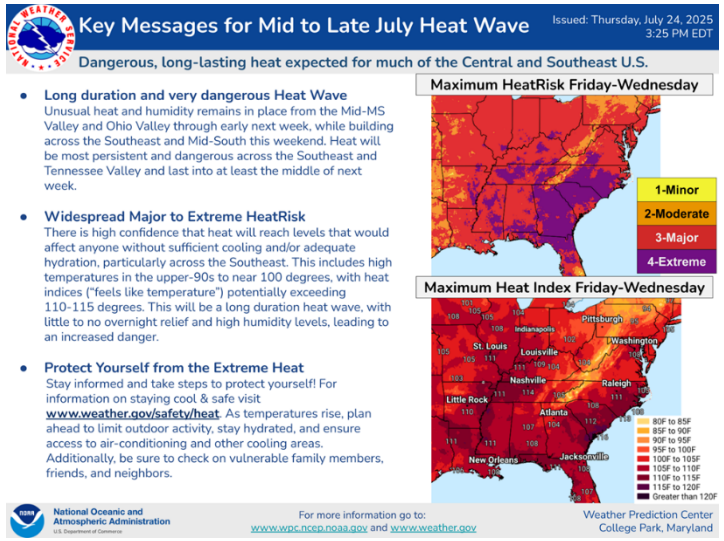
Maximum Generation Alert & Load Management Alert

July 24, 2025, 00:00 through July 25, 2025, 23:59 (issued June 23 and June 24, 2025) & July 28, 2025 through July 30, 2025 (issued day before)

Pre Emergency Load Management

- **July 28** Long-lead (2hr) and short-lead (1hr) pre-emergency products in BGE/PEPCO/DOM
- **July 29** All available long-lead (2hr) and short-lead (1hr) pre-emergency products across the RTO

Weather – July 14-17 & July 23-30, 2025 Hot Weather



From July 16-17: Maximum temperatures in upper 80s & low 90s during first hot period.

From July 23-24: Temperatures rise back up in Western Region with low 90s, THI's low-mid 80s.

July 25: Hot in East with temperatures in mid 90s; cooler in West.

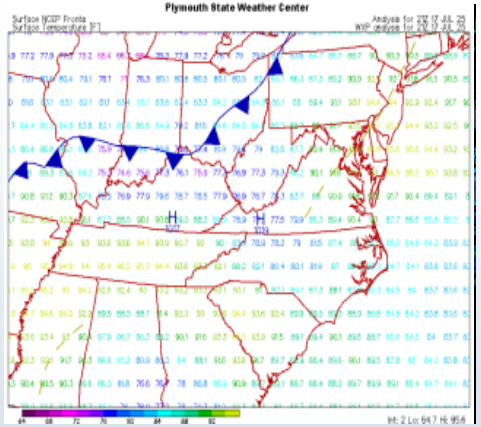
July 26-27: Cooler temperatures in RTO over weekend with scattered thunderstorms.

July 29: Peak of RTO heatwave with temperatures upper 80s to mid 90s; THI's in low 80s many hours.

	June 22-26, 2025 Heat Wave			July 14-17 & July 23-30, 2025 Hot Weather		
Cities	Hottest Air Temperature	Highest Heat Index	Warmest Low Temperature	Hottest Air Temperature	Highest Heat Index	Warmest Low Temperature
Chicago	95°F	103°F	80°F	94°F	105°F	75°F
Columbus	95°F	103°F	75°F	93°F	101°F	75°F
Louisville	97°F	108°F	80°F	94°F	106°F	80°F
Philadelphia	101°F	110°F	80°F	98°F	110°F	79°F
Richmond	99°F	108°F	78°F	98°F	110°F	78°F

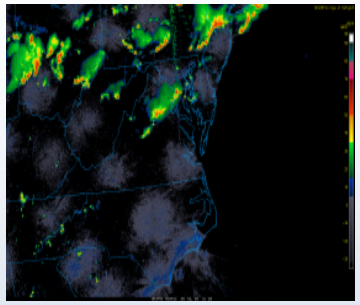
Weather – July 14-17 & July 23-30 Hot Weather

July 17



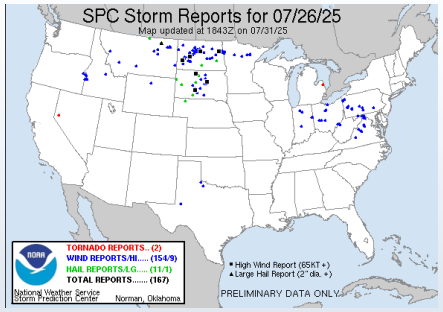
Heat, humidity peaked in East, cool down starts West

July 25

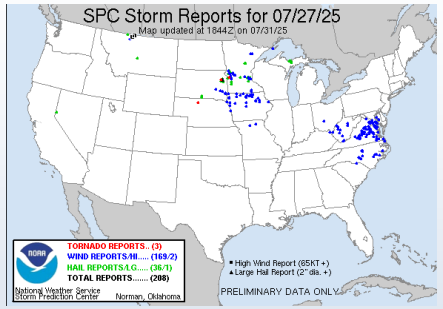


Thunderstorms brought an abrupt end to hot day in East

July 26

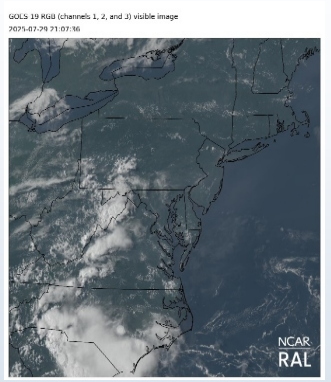


July 27



More scattered strong-severe thunderstorms brought damaging winds and cooler temperatures over the weekend

July 29

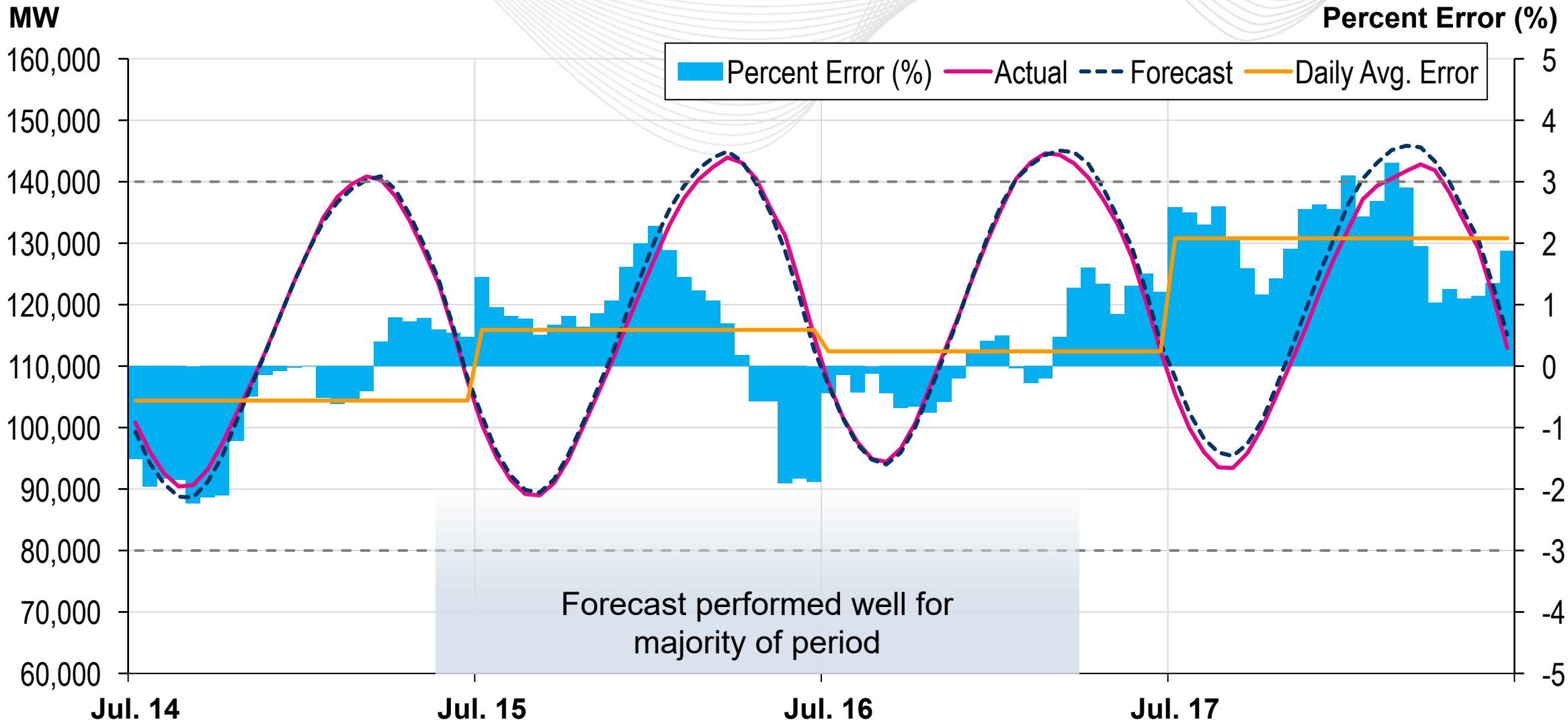


Hottest day in RTO featured mix of sun and some clouds

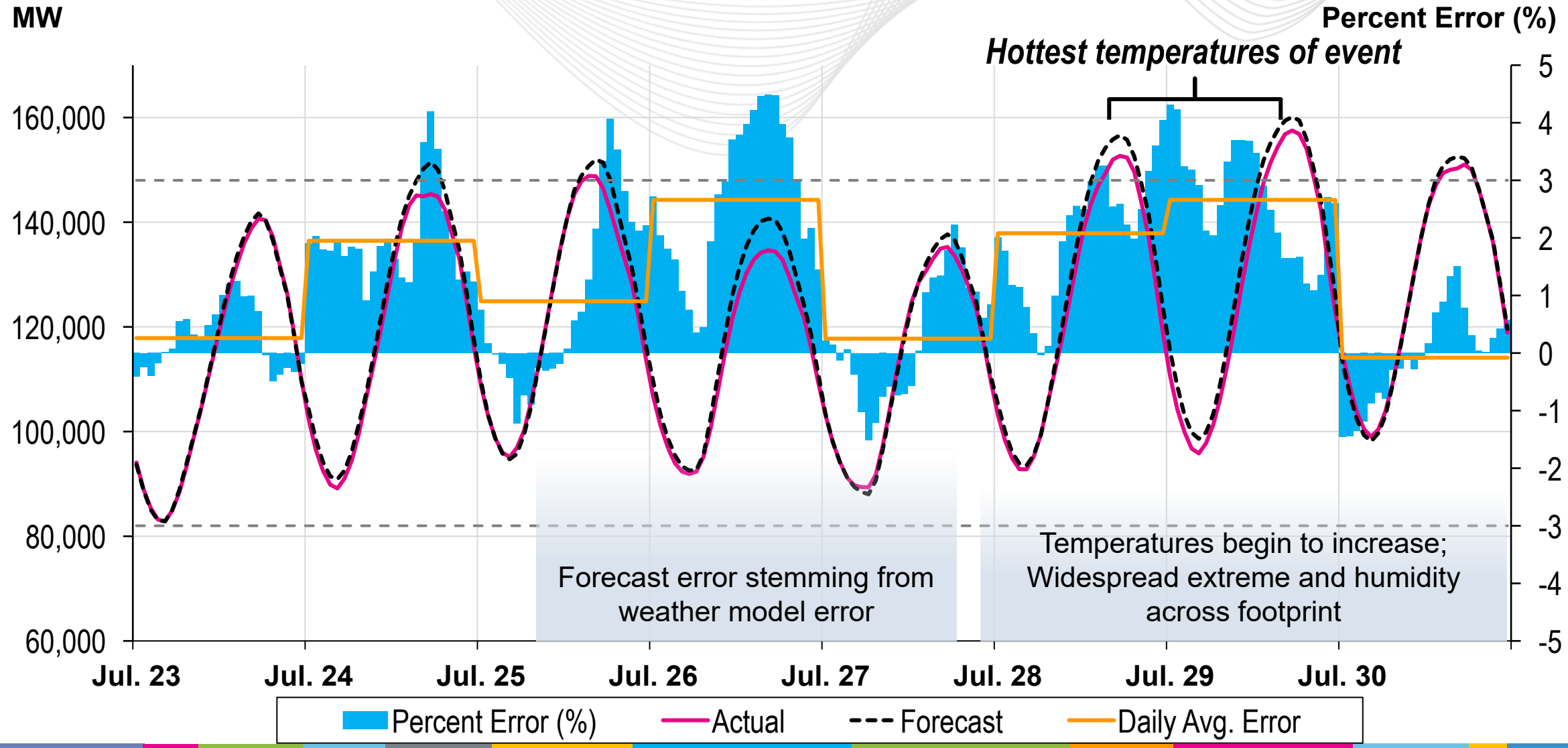
Temperature-Humidity Index (THI): *Combination of temperature and humidity to assess heat stress*

76°	81°	83°
2014–2024 Average Summer Max THI	**July 14-17, 2025** Max Daily Load-Weighted THI	**July 23-30, 2025** Max Daily Load-Weighted THI

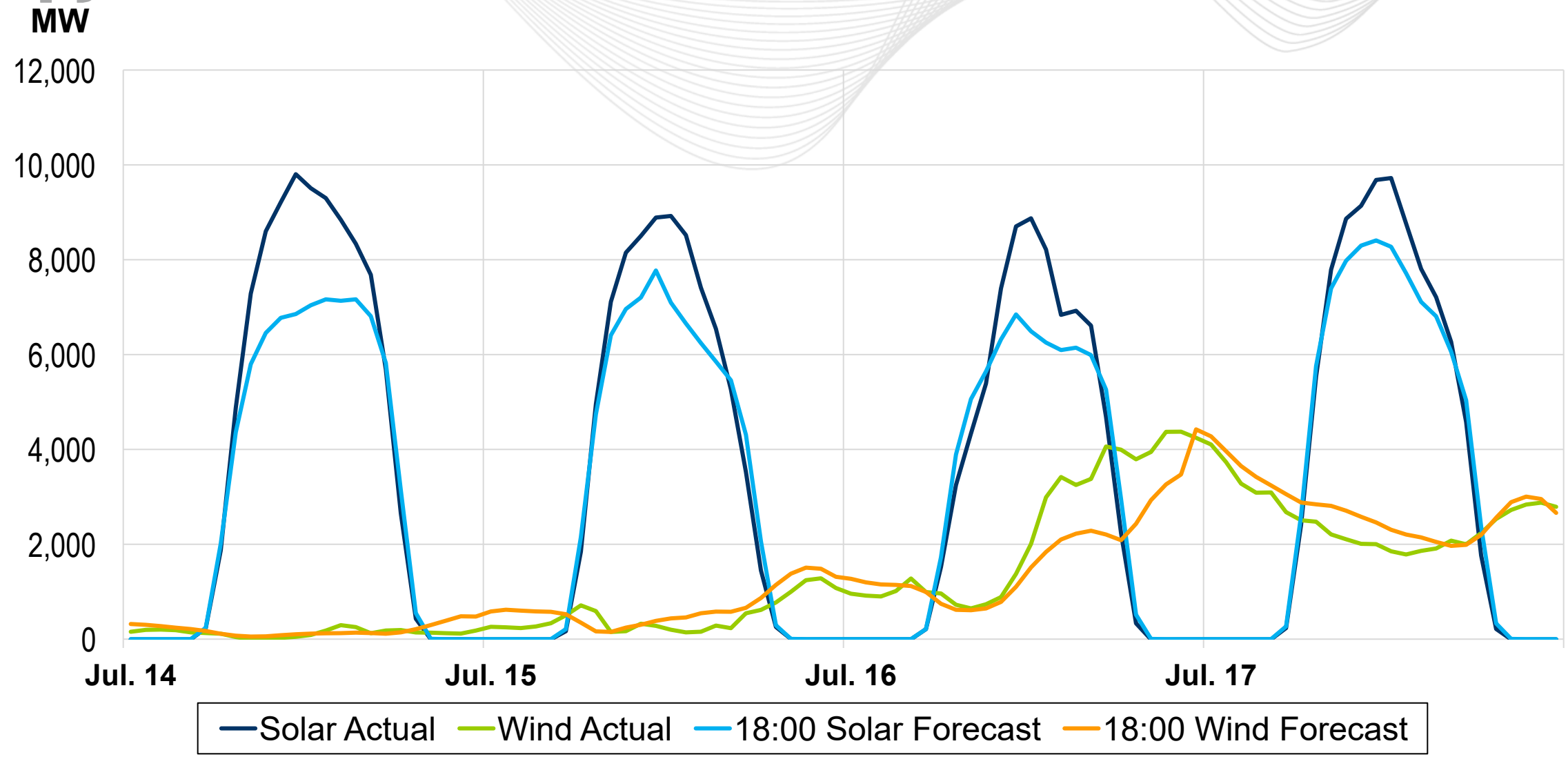
Forecast Performance During July Heat Waves



Forecast Performance During July Heat Waves



Day-Ahead Solar and Wind Forecast Performance



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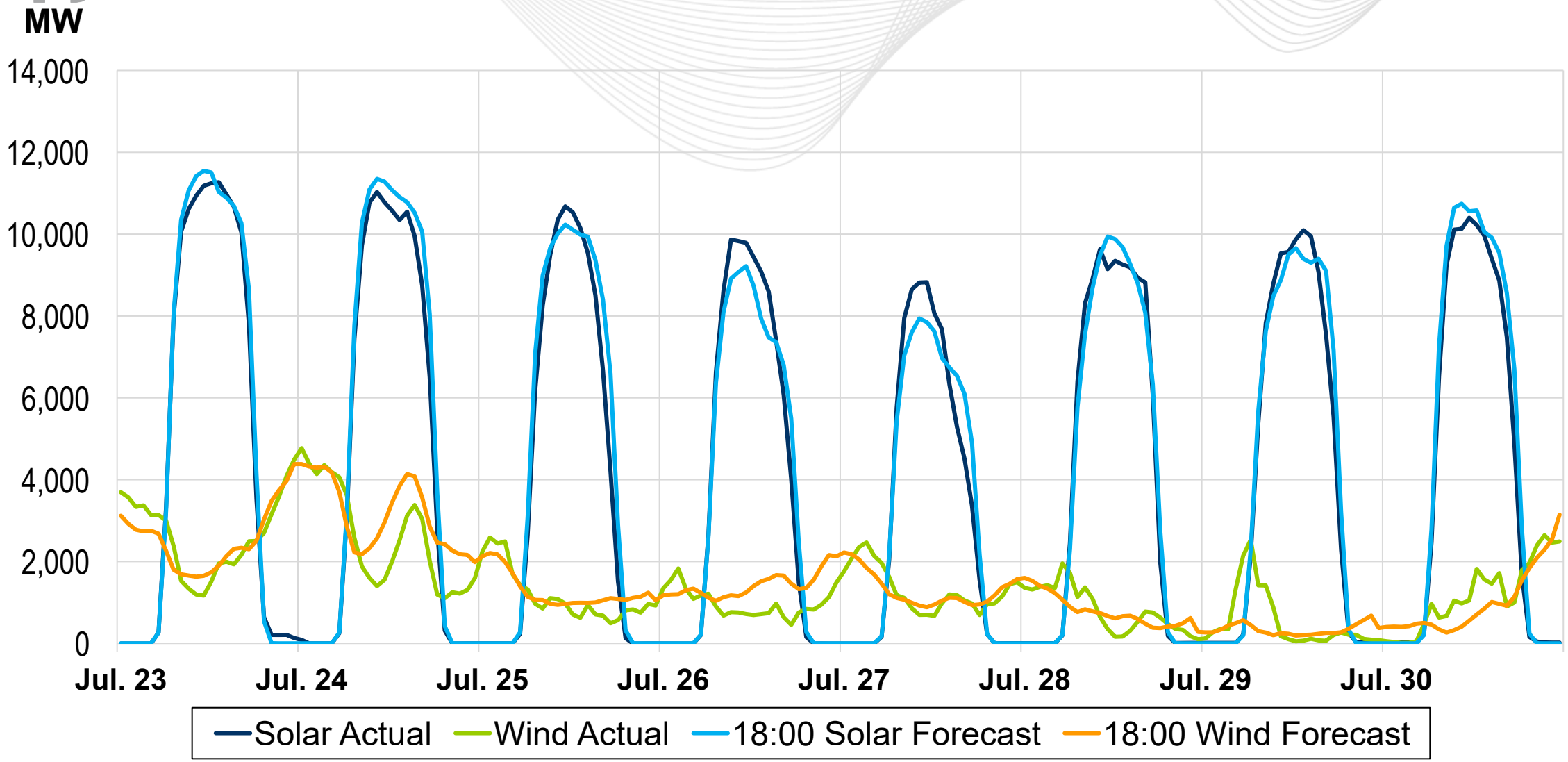
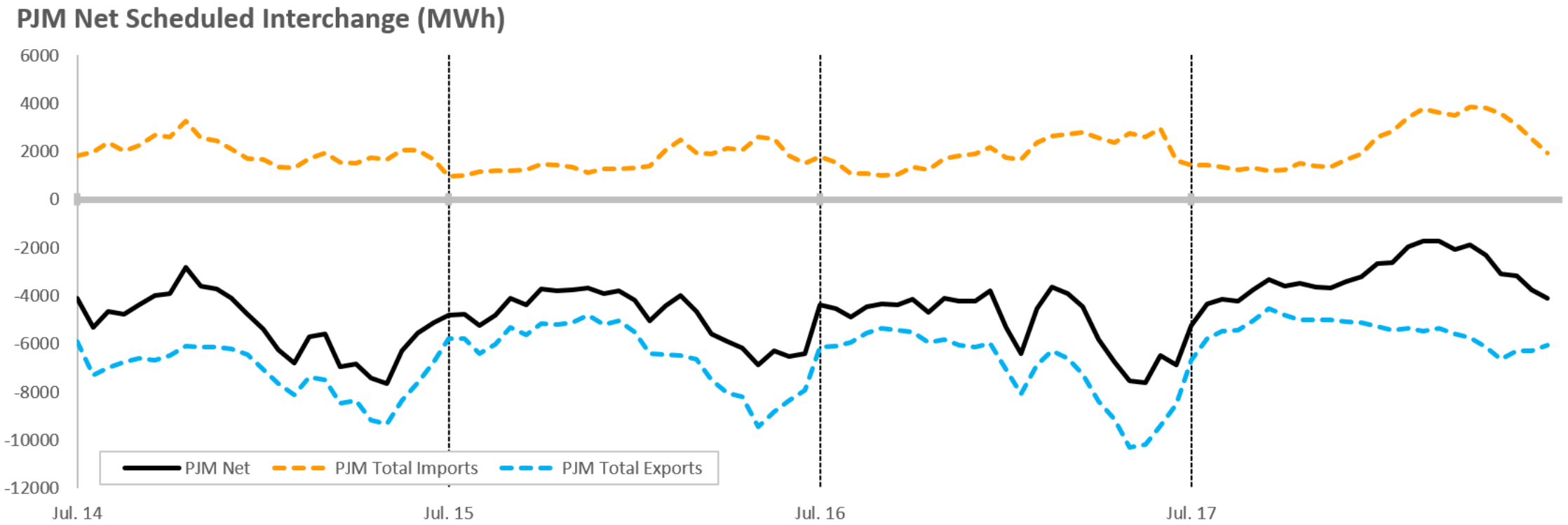


Scheduled Interchange



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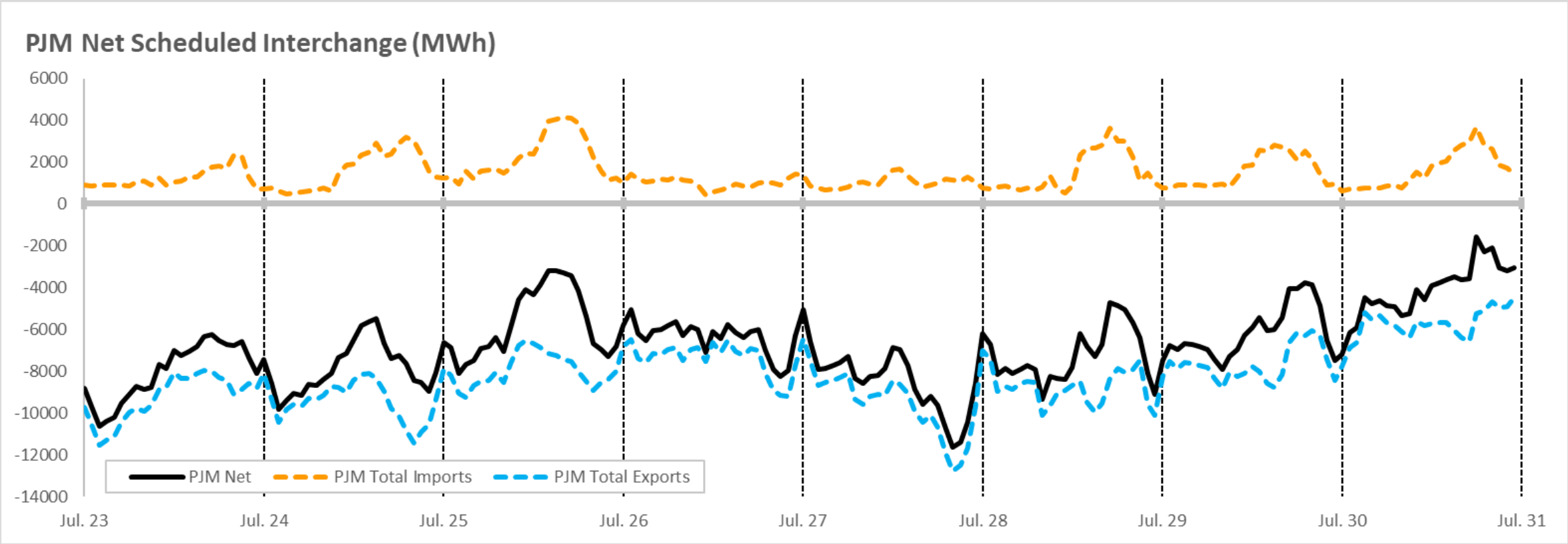
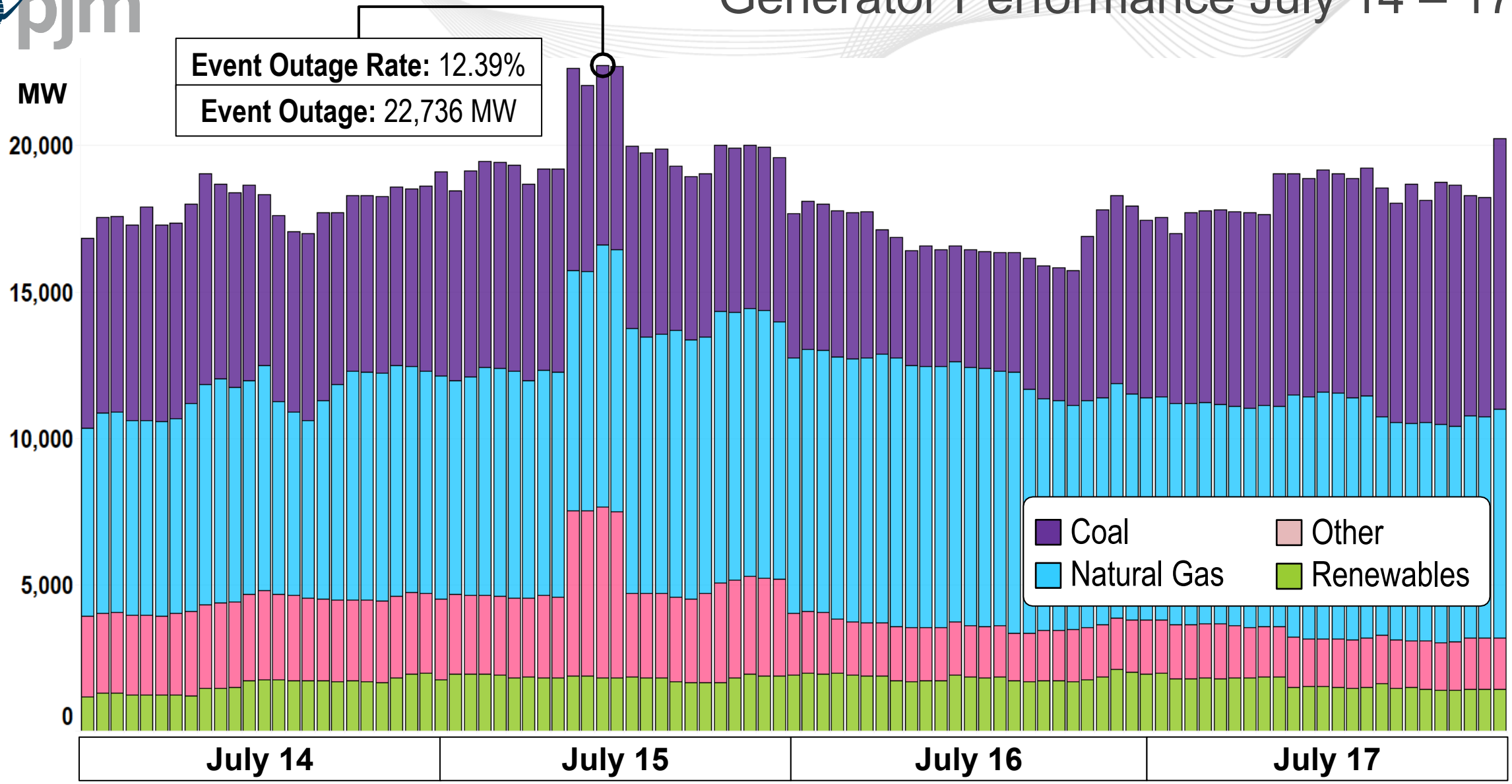


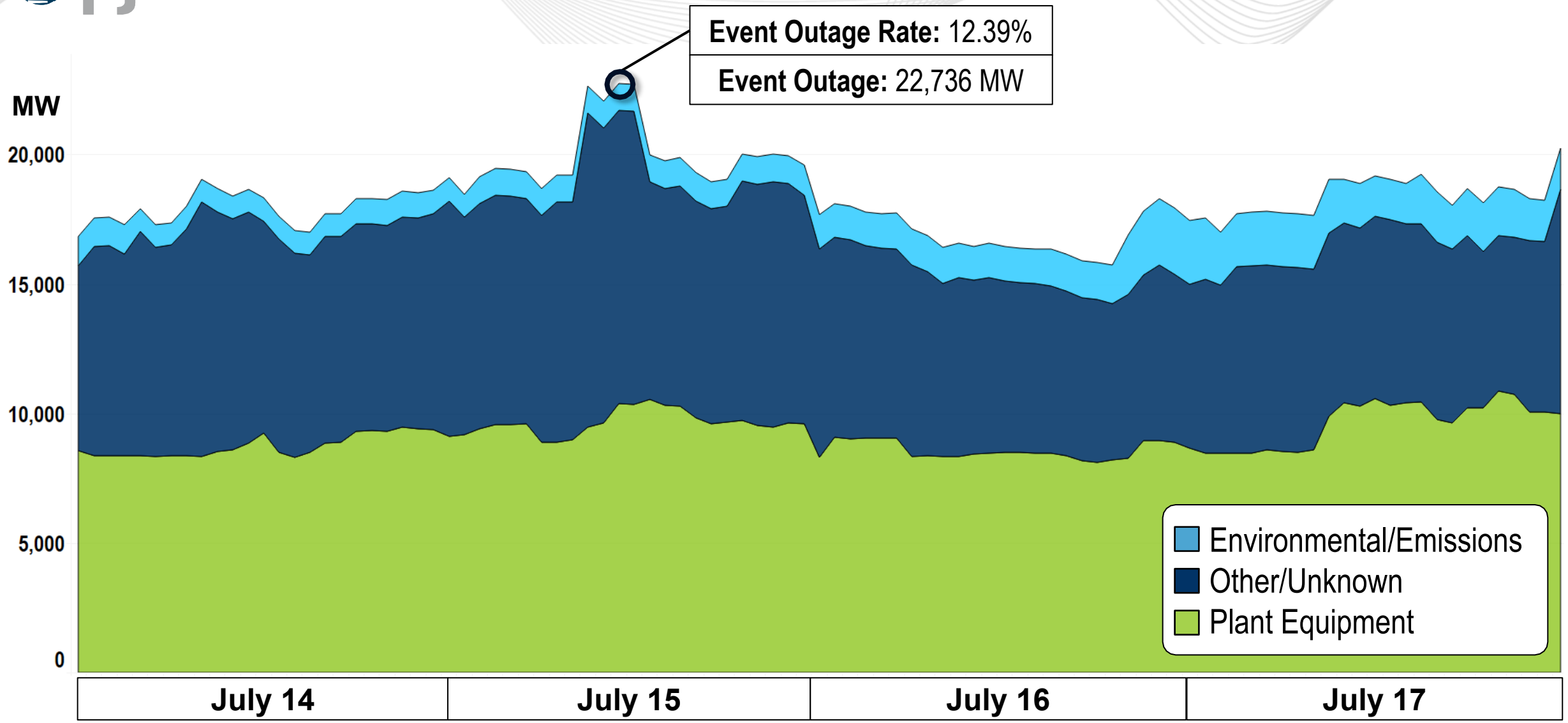
Note: PJM recalled non-firm exports on July 28 and firm and non-firm exports on July 29 as PJM deployed Pre-Emergency Demand Response

Generator Performance July 14 – 17



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

Generator Performance July 14 – 17



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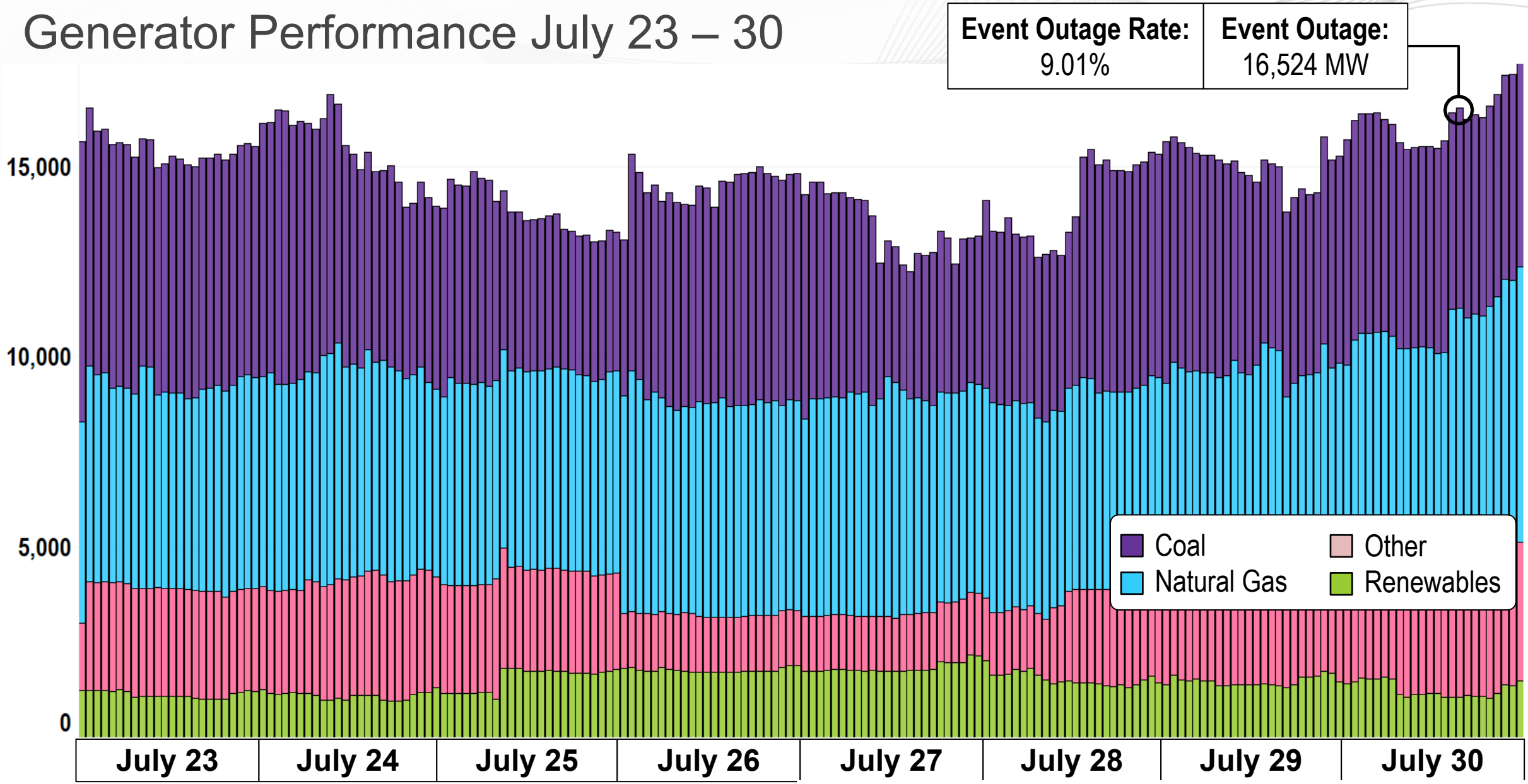
Generator Performance July 23 – 30



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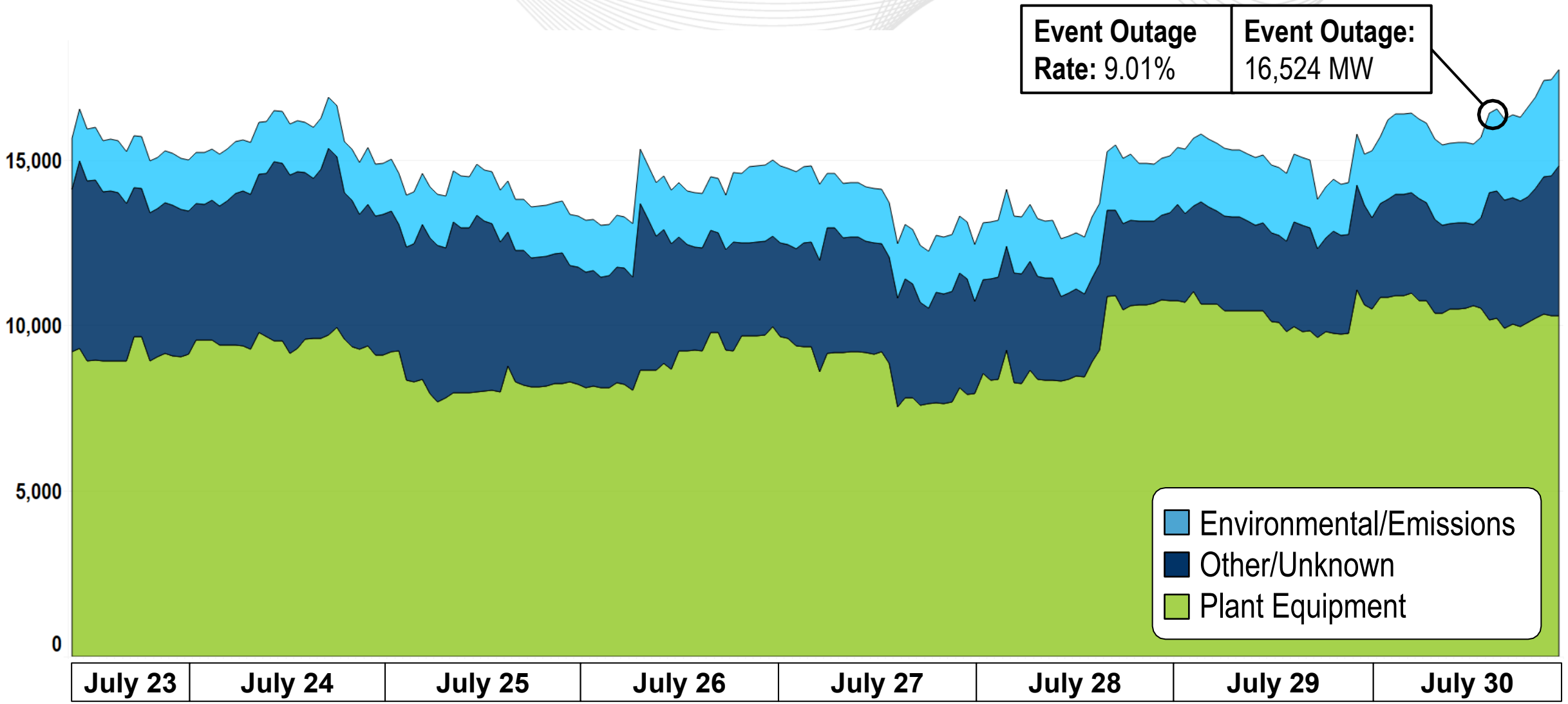
Generator Performance July 23 – 30



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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/G calls
  - Emergency work only
- No interregional transfer concerns
- Generally congestion limited to imports into the Dominion zone
- Issued PCLLRW and developed a post-contingency operating plan
- No TLRs issued during the July hot weather

Regional Coordination

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 export curtailments.

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

Contact

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Member Hotline

(610) 666-8980

(866) 400-8980

custsvc@pjm.com

PROTECT THE POWER GRID

THINK BEFORE YOU CLICK!

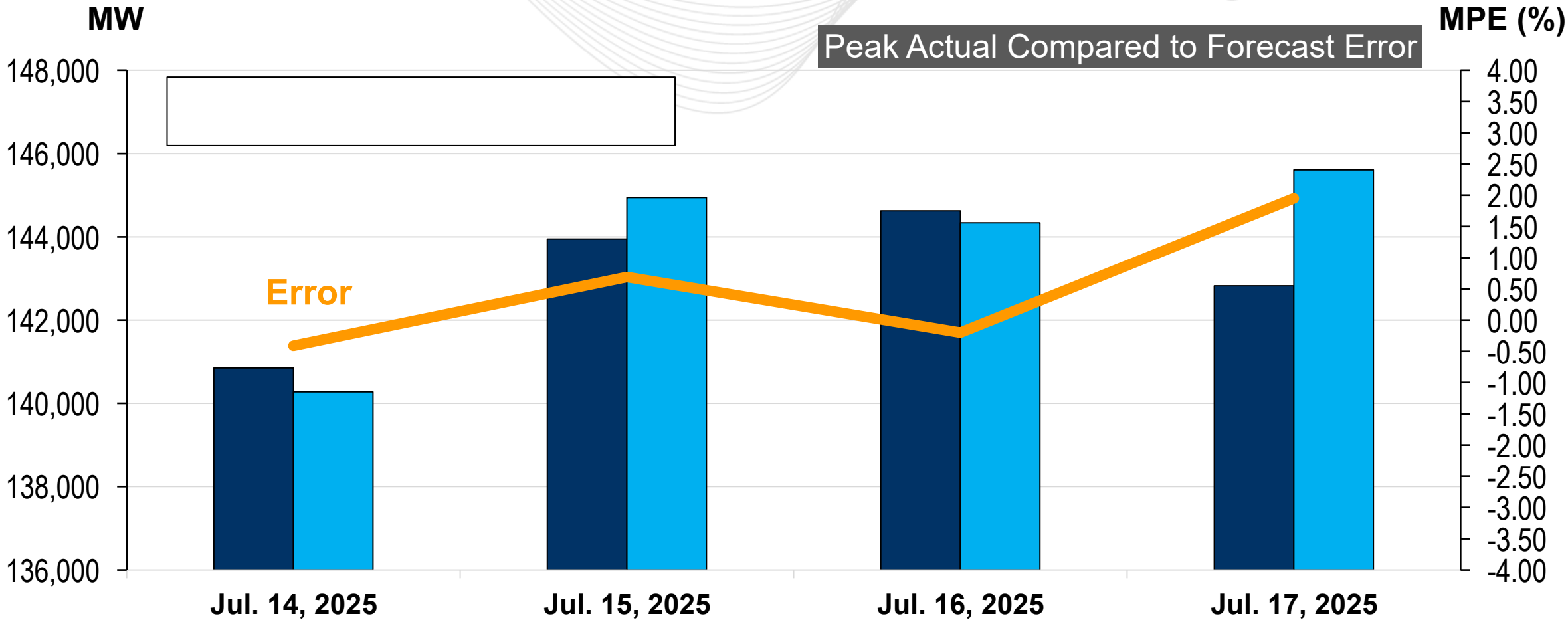
pjm

BE ALERT TO MALICIOUS PHISHING EMAILS

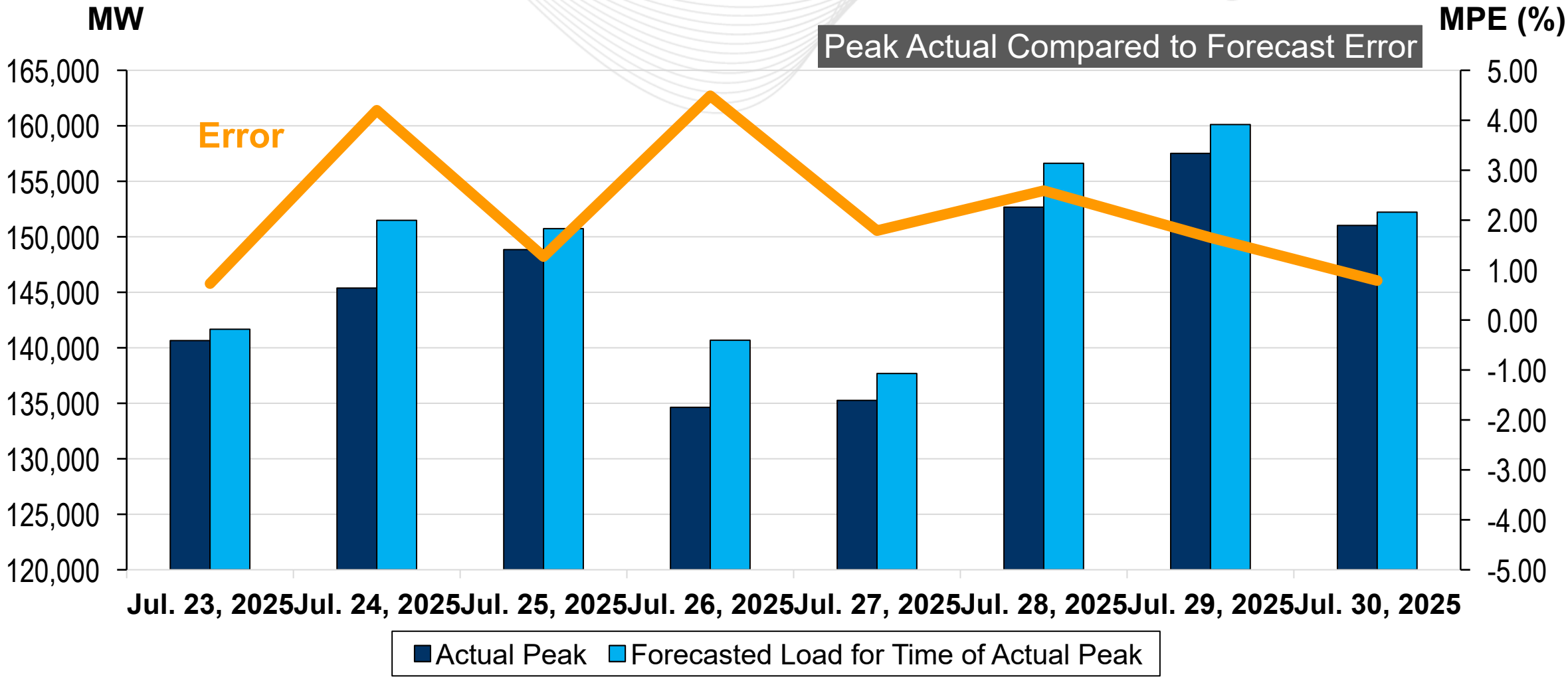
Report suspicious email activity to PJM.

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

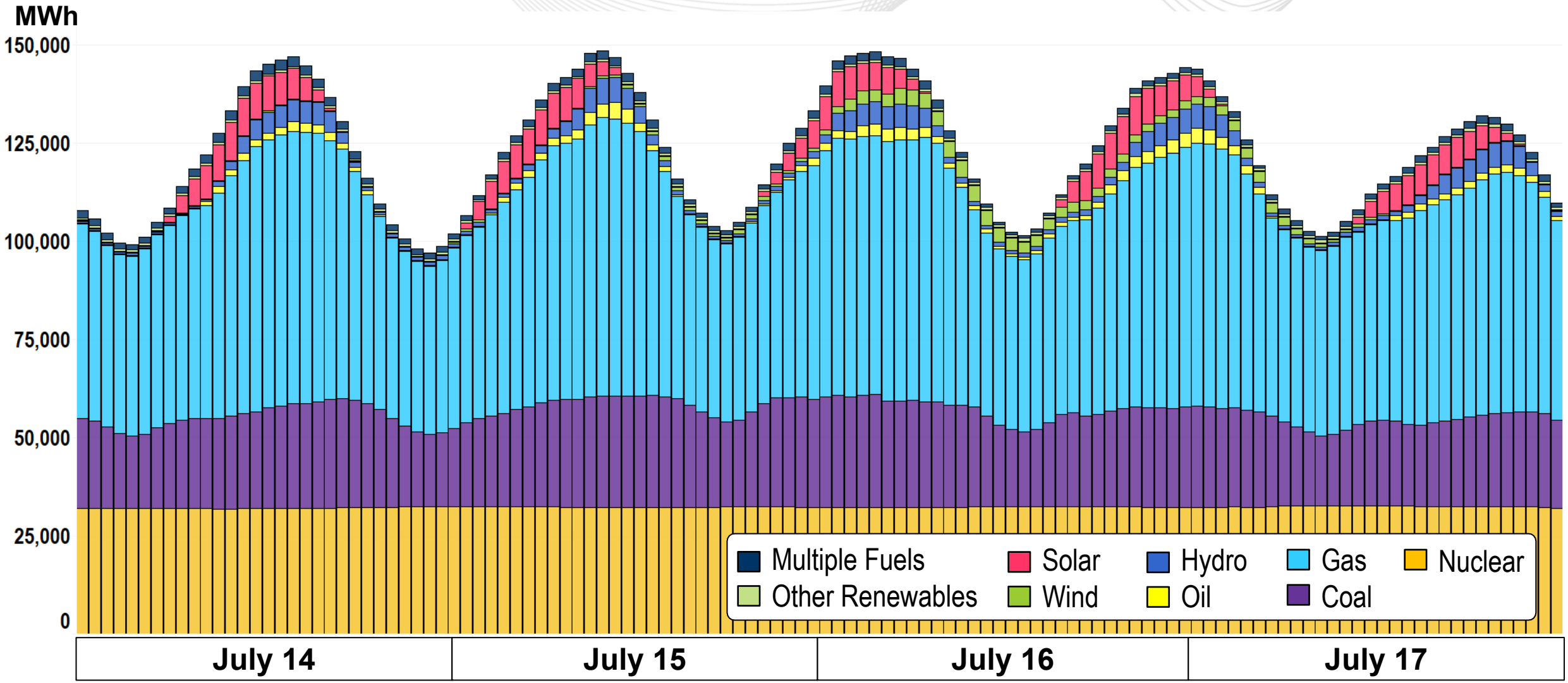
Forecast Error Trend for July 14–17, 2025



Forecast Error Trend for July 23–30, 2025



Hourly Generation by Fuel July 14 – 17



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Daily Generation by Fuel July 14 – 17

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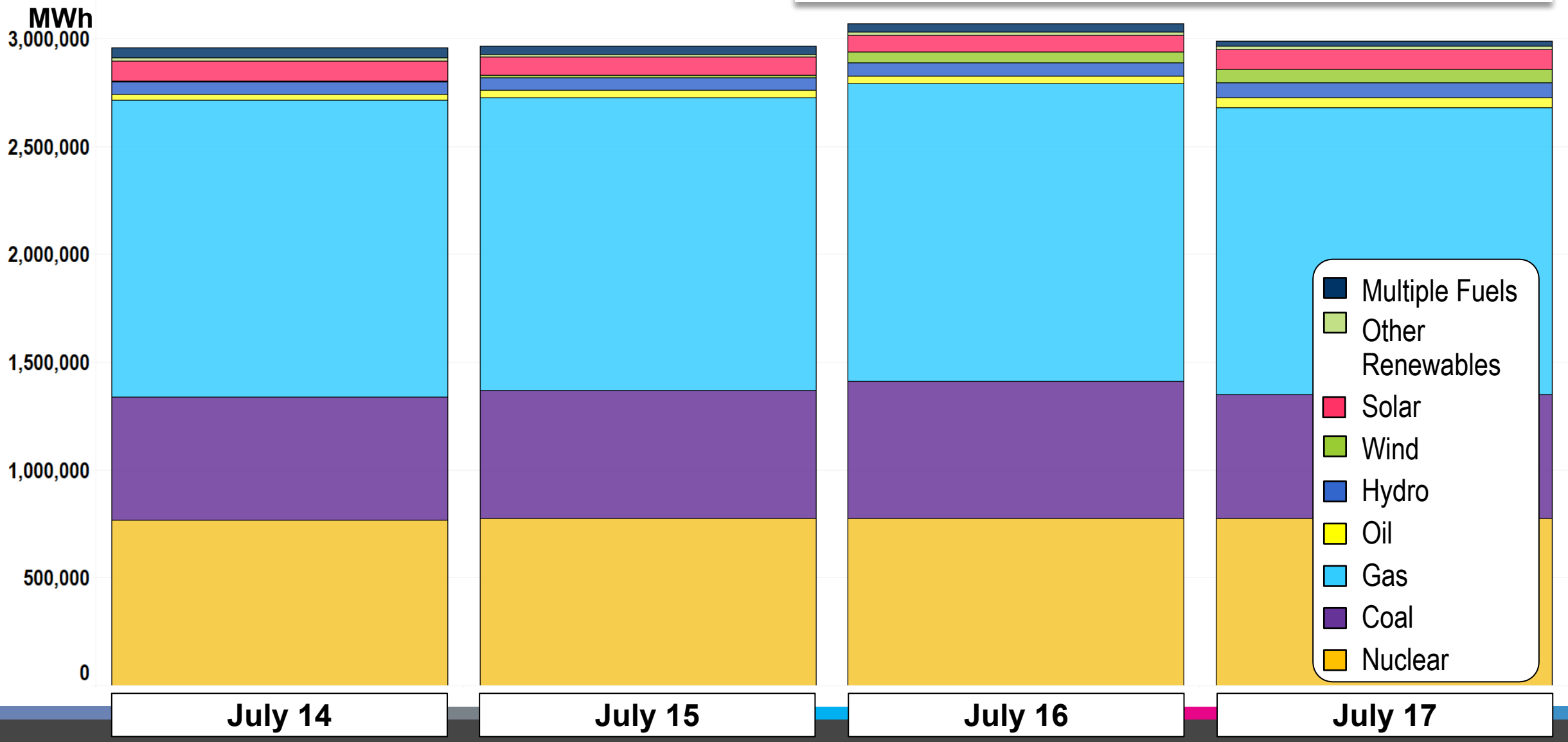

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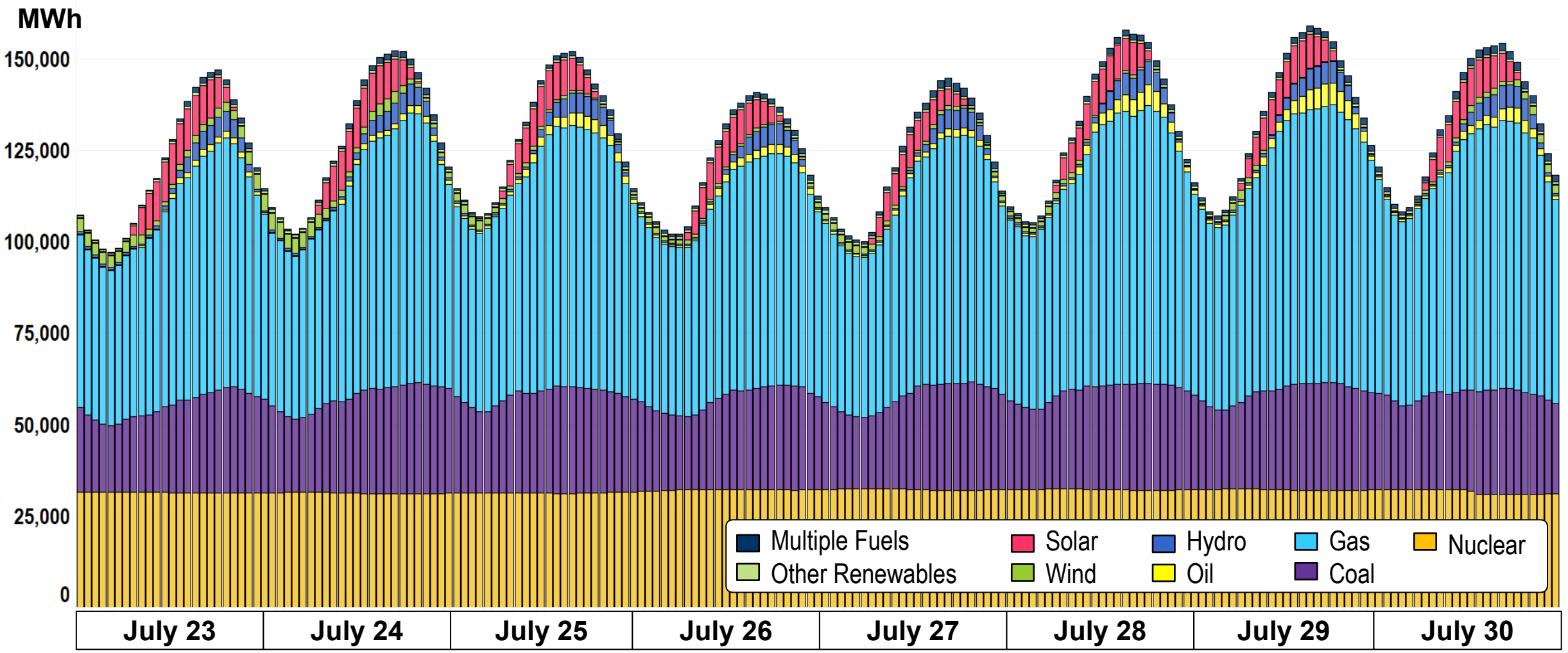

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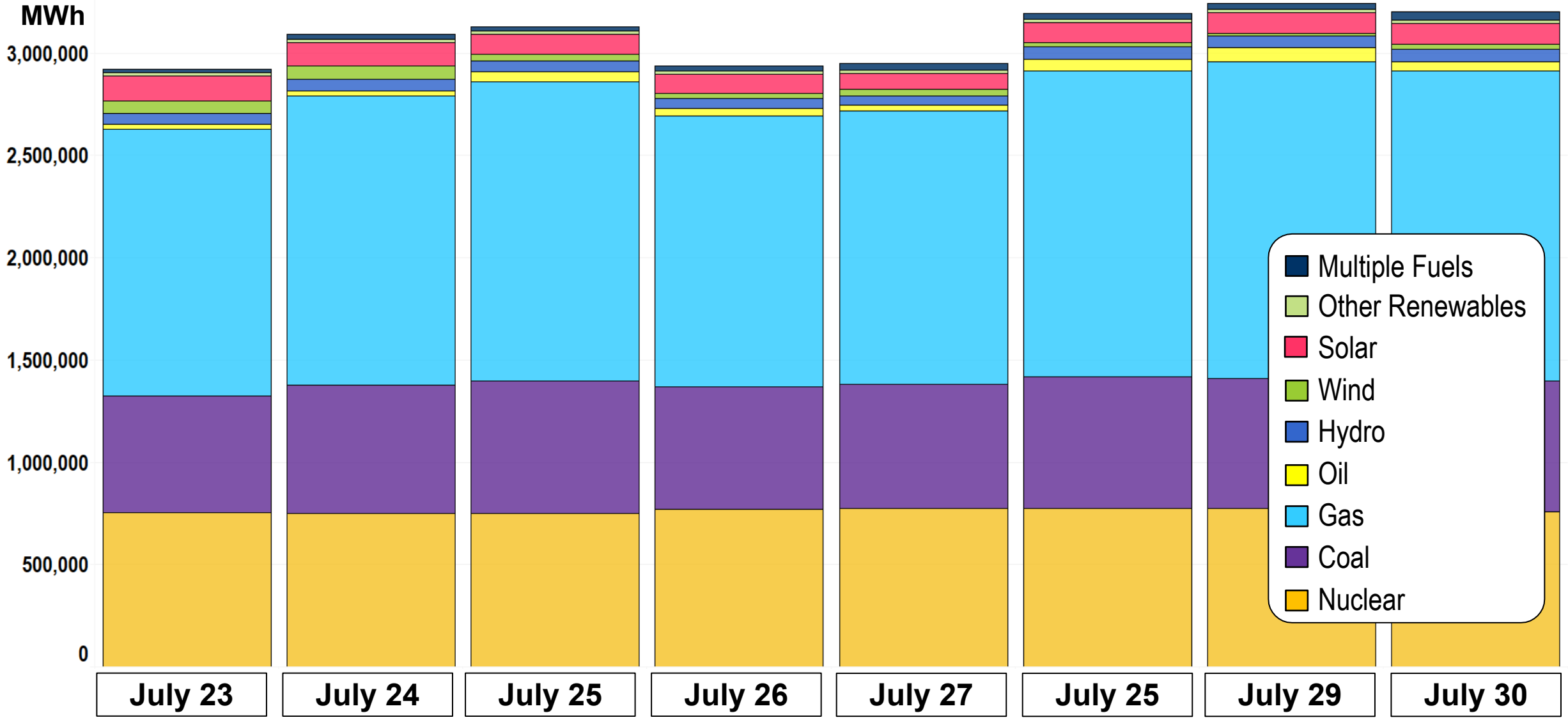
Daily Generation by Fuel July 23 – 30



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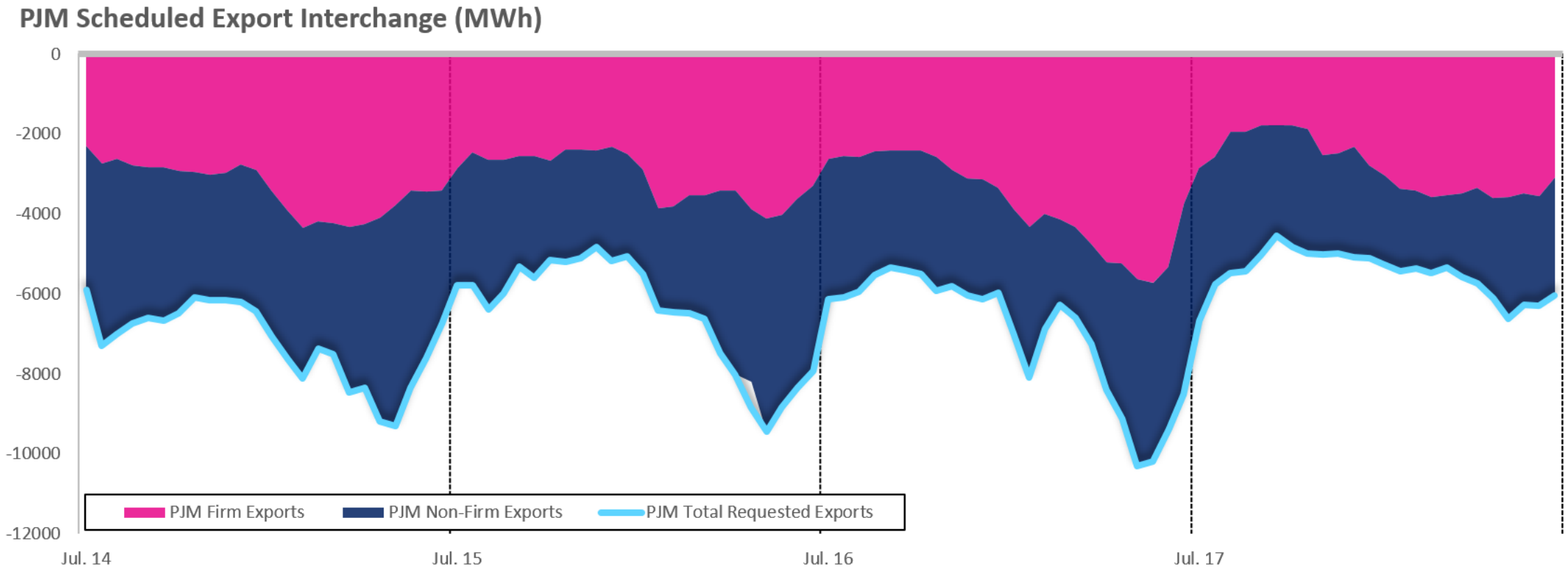
PJM Total Exports



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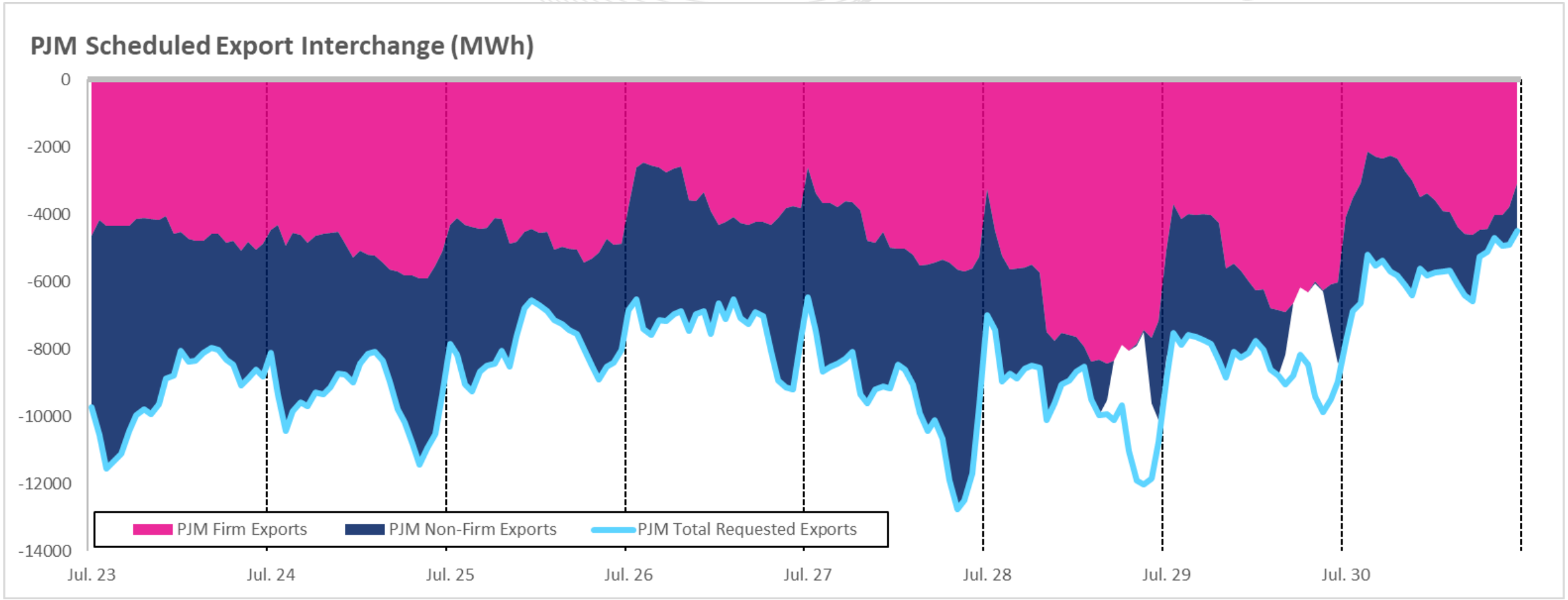
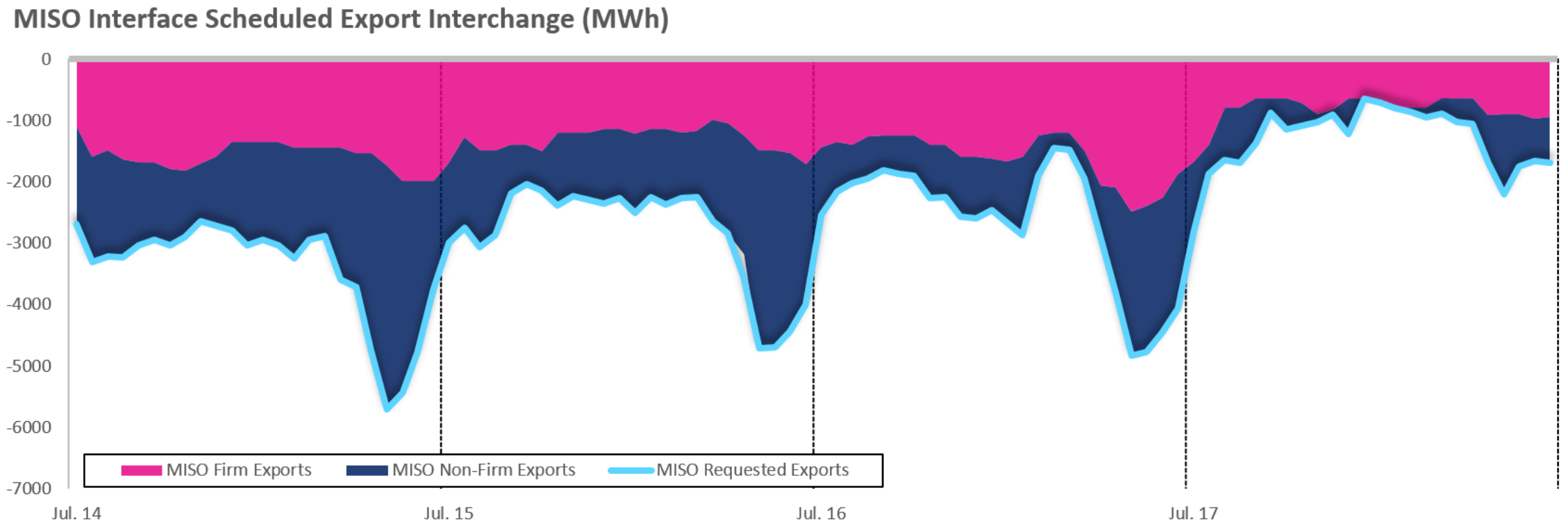


PJM Exports to MISO



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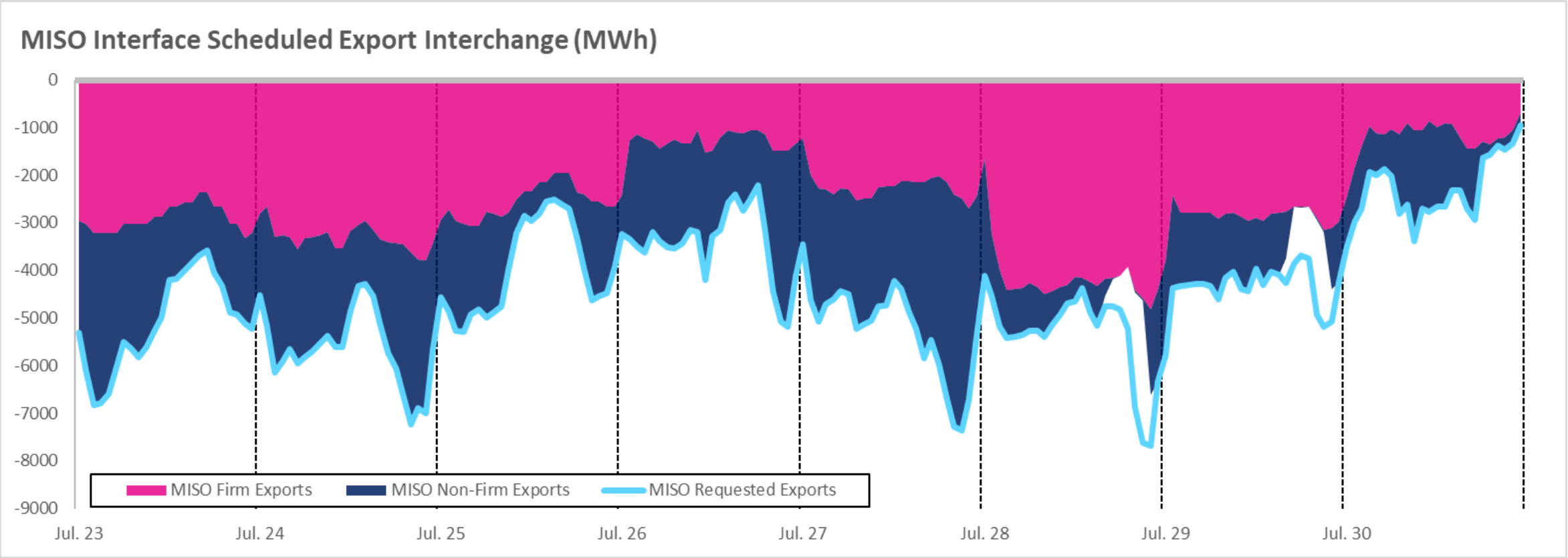
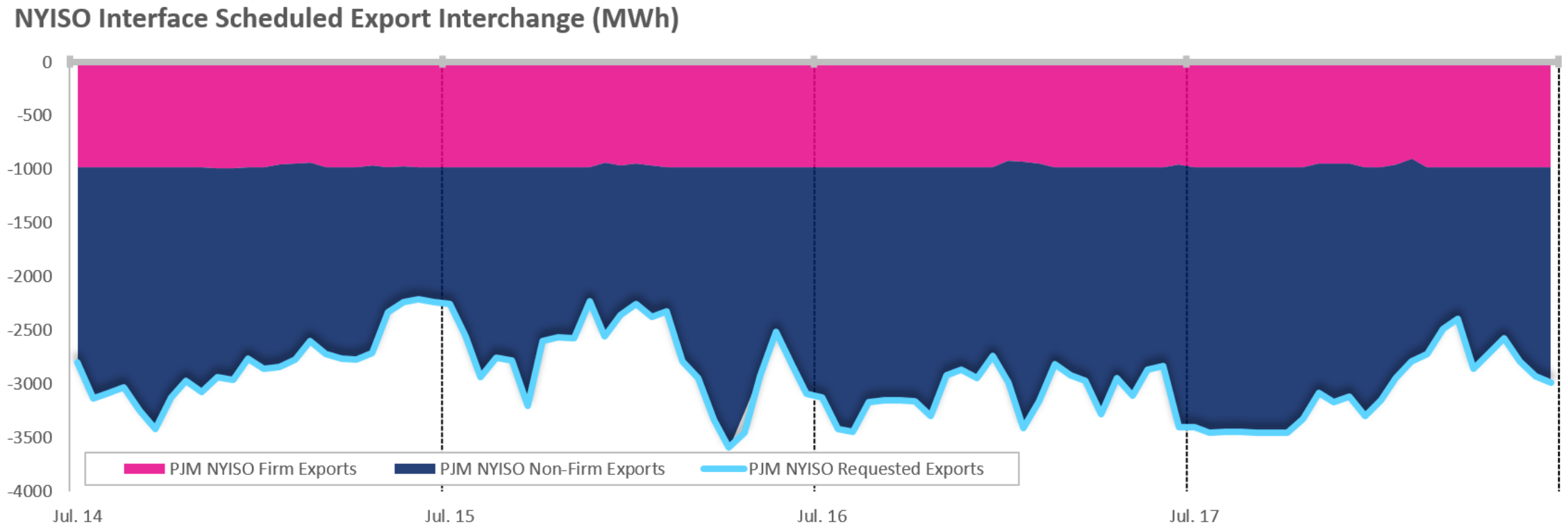


PJM Exports to NYISO



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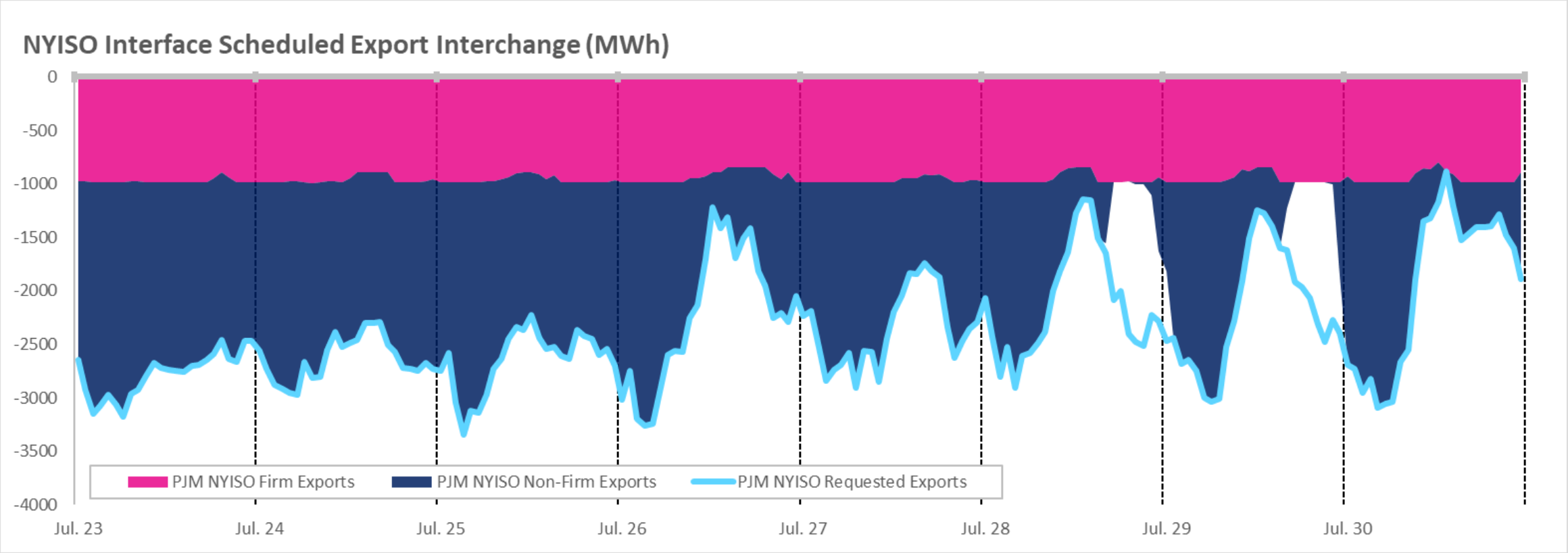
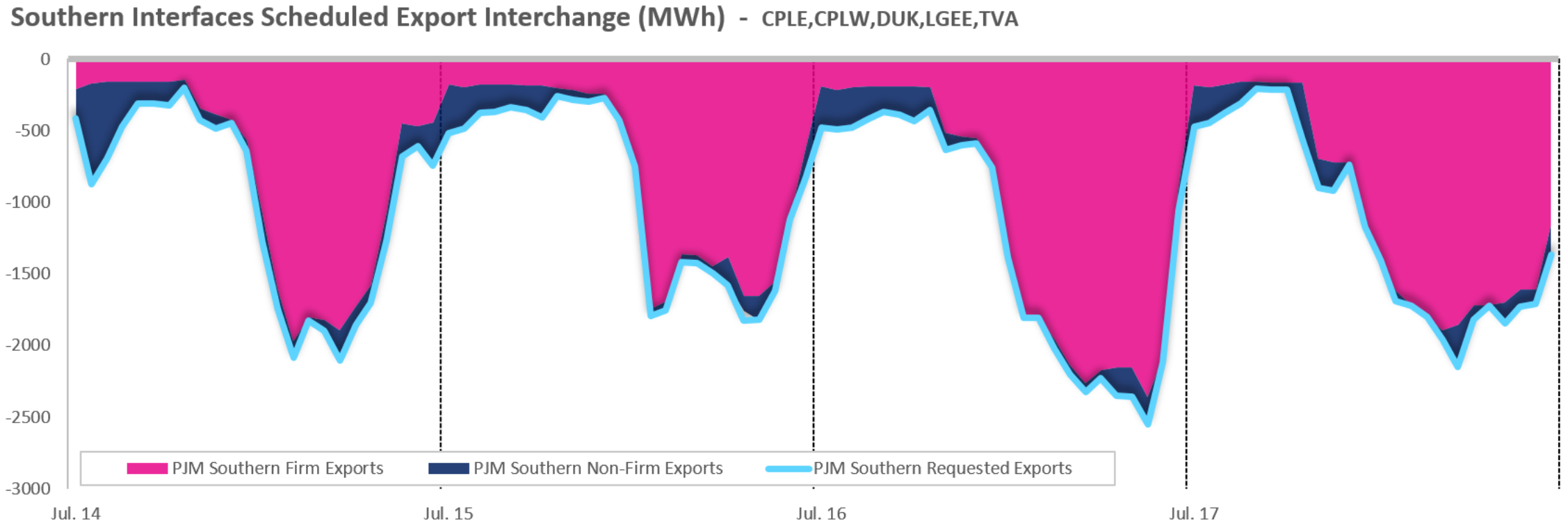
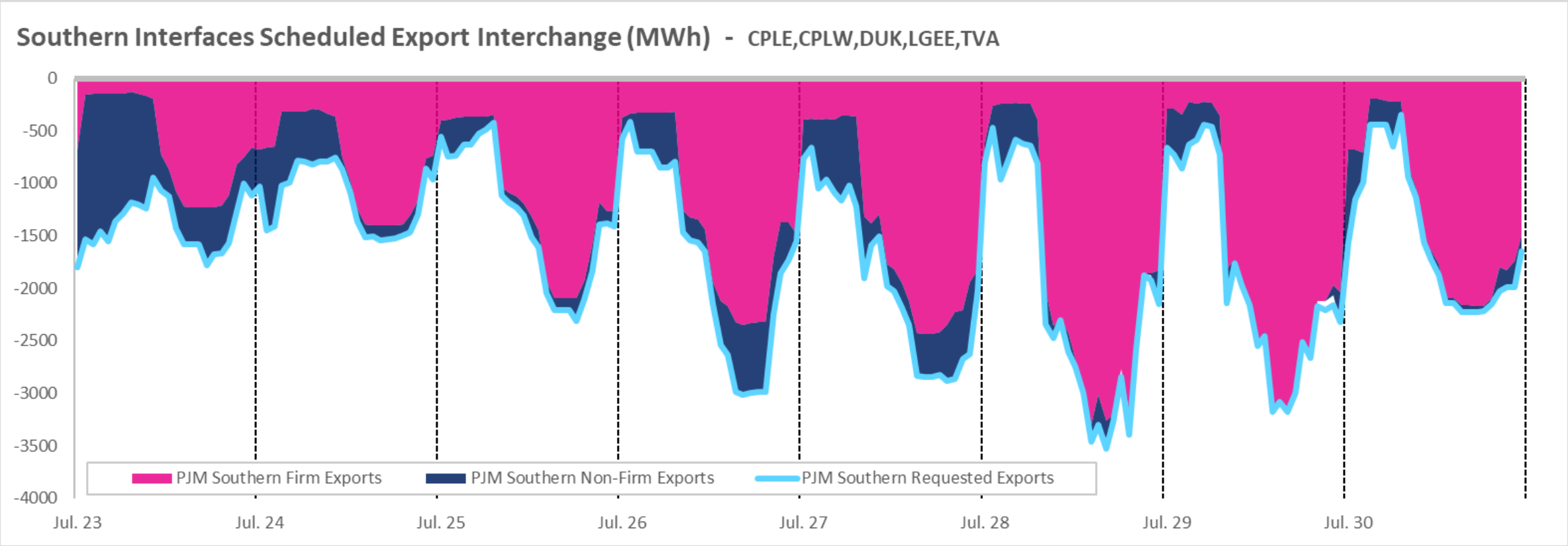


PJM Exports to the South



PJM Exports to the South



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