

July 4th Heat Wave

MIC

September 9, 2026

Joel Romero Luna



Monitoring Analytics

July 4th Heat Wave

- Between June 29 and July 5, the region experienced very high temperatures.

City	29-Jun	30-Jun	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul
Chicago	92	94	95	94	86	83	76
Columbus	90	92	95	95	97	94	89
Newark	89	90	96	104	102	98	84
Philadelphia	89	90	97	102	102	101	93
Richmond	85	88	93	96	98	99	95
Average	89	91	95	98	97	95	87

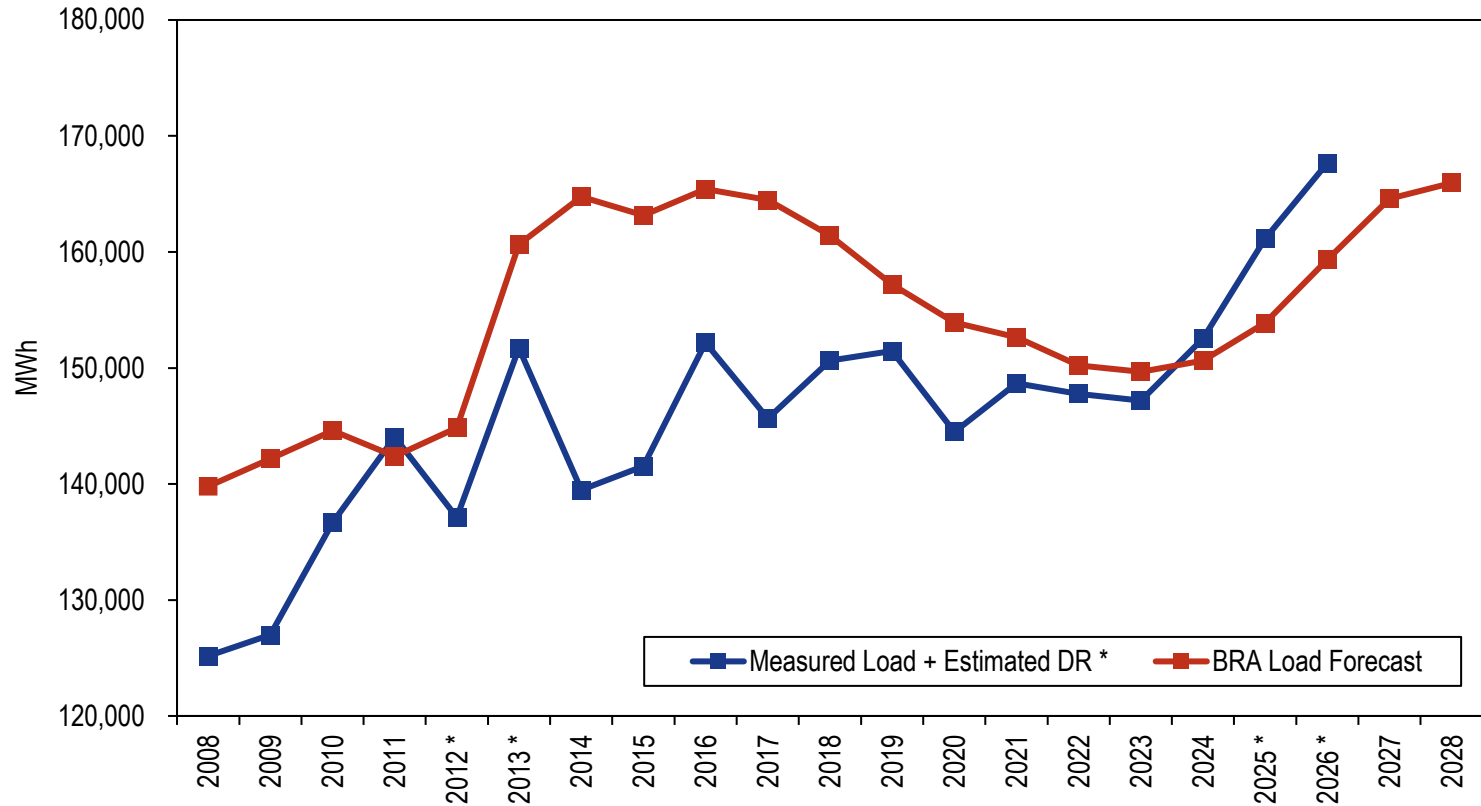
July 4th Heat Wave

- This event had two of the top 20 highest temperatures in PJM since 2009.
- Measured as the average of temperatures in five PJM cities: Chicago, Columbus, Newark, Philadelphia and Richmond.

Rank	Date	°F
1	7-Jul-12	100.4
2	22-Jul-11	99.2
3	5-Jul-12	98.8
3	6-Jul-12	98.8
5	21-Jul-11	98.2
5	4-Jul-12	98.2
5	2-Jul-26	98.2
8	24-Jun-25	98.0
9	6-Jul-10	97.8
10	7-Jul-10	97.6

Rank	Date	°F
10	17-Jul-12	97.6
12	18-Jul-12	97.0
12	23-Jun-25	97.0
12	3-Jul-26	97.0
15	23-Jul-10	96.4
16	29-Jun-12	96.2
16	20-Jul-19	96.2
18	5-Jul-10	96.0
19	24-Jul-10	95.8
20	8-Jun-11	95.6

PJM Yearly Peak Load



Highlights

- **Highest load ever served by PJM: 162,221 MWh.**
 - **Exceeded 2025 record of 160,158 MWh.**
 - **Caveats:**
 - Metered load settled in the PJM market.
 - Not instantaneous.
 - Not adding integrations retroactively.
- **RPM/FRR Committed Capacity failed to meet all the demand.**
 - **Demand could have not been met without uncommitted capacity.**

Emergency Procedures

Procedure	29-Jun	30-Jun	1-Jul	2-Jul	3-Jul	4-Jul	5-Jul
Hot Weather Alert	Western	PJM RTO				PJM RTO	Mid-Atlantic, Dominion
Maximum Generation Emergency/Load Management Alert - Capacity Emergency - NERC EEA 1			PJM RTO	PJM RTO	PJM RTO		
Pre-Emergency Mandatory Load Management Reduction				PJM RTO	PJM RTO		
Emergency Mandatory Load Management Reduction - NERC EEA2				PJM RTO	PJM RTO		
Maximum Generation Emergency Action - Capacity Emergency				Mid-Atlantic, Dominion			
Low Voltage Alert			PJM RTO	PJM RTO	PJM RTO	PJM RTO	
Heavy Load Voltage (HLV) Schedule Warning			PJM RTO	PJM RTO	PJM RTO		
Heavy Load Voltage (HLV) Schedule Action				PJM RTO	PJM RTO		
Transmission Security - Load Management Alert						Dominion, BGE, PEPCO	
Transmission Security - Emergency Use of Back-Up Generator Warning				Mid-Atlantic, Dominion	Dominion		
Transmission Security - Local Maximum Generation Emergency Action					Dominion, BGE, PEPCO		
Transmission Security - Deploy All Resources Action				Dominion, BGE, PEPCO			
Maintenance Outage Recall	PJM RTO	PJM RTO	PJM RTO	PJM RTO	PJM RTO	PJM RTO	PJM RTO



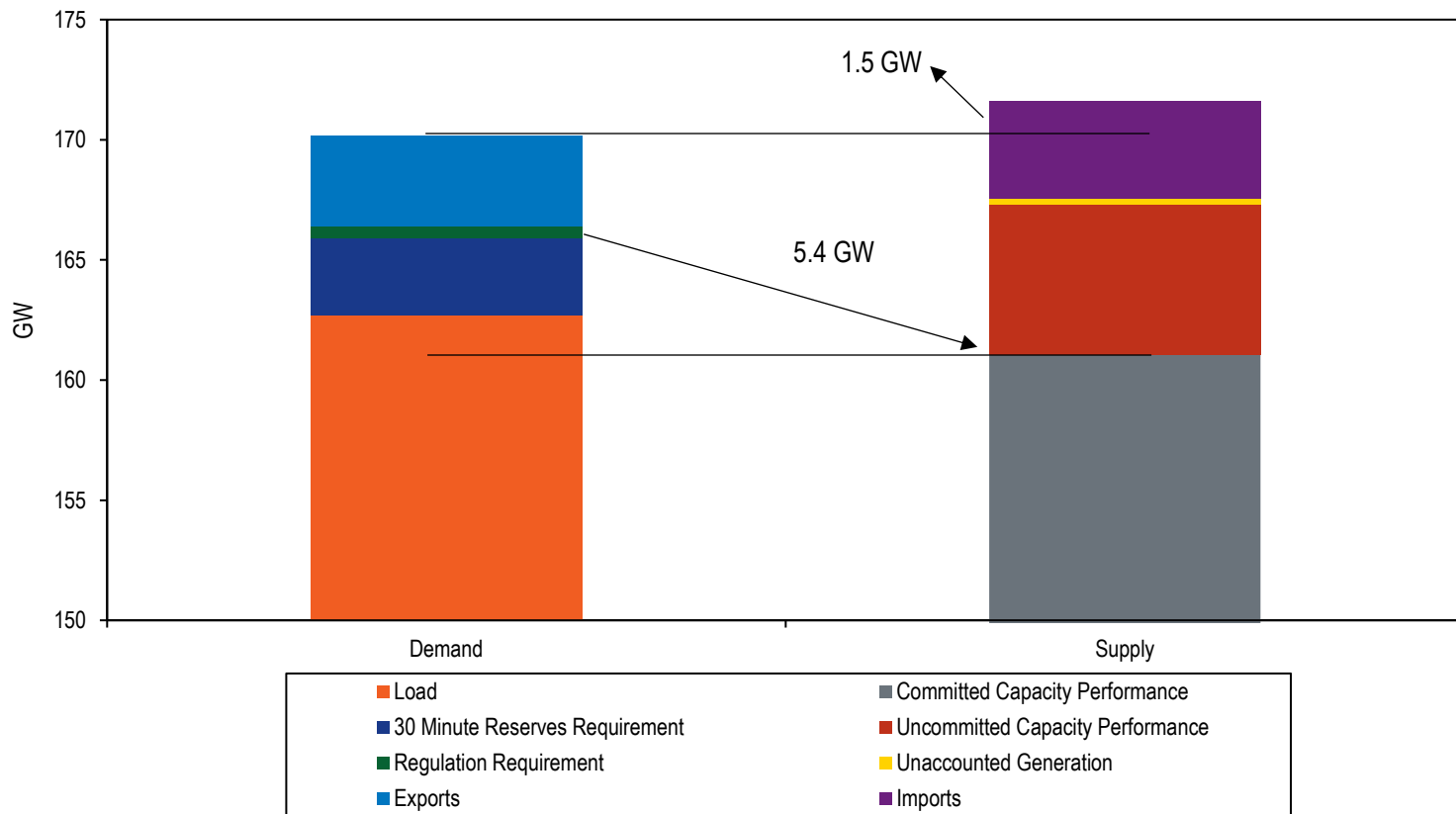
July 4th Heat Wave

- **July 2:**
 - **Peak load forecast at 17:00: 164,906 MWh (10:00 day prior) 165,094 MWh (18:00 day prior)**
 - **Actual peak hourly AGC load: 162,555 MWh at 17:00.**
 - **Actual peak instantaneous AGC load: 162,713 MW at 17:55.**
- **RTO DA LMP averaged:**
 - **Jun 20 – Jul 5: \$160/MWh / Jul 1 – Jul 3: \$268/MWh**
- **RTO RT LMP averaged:**
 - **Jun 20 – Jul 5: \$215/MWh / Jul 1 – Jul 3: \$396/MWh**
- **Uplift costs were \$65.5 million for the 7 day period.**

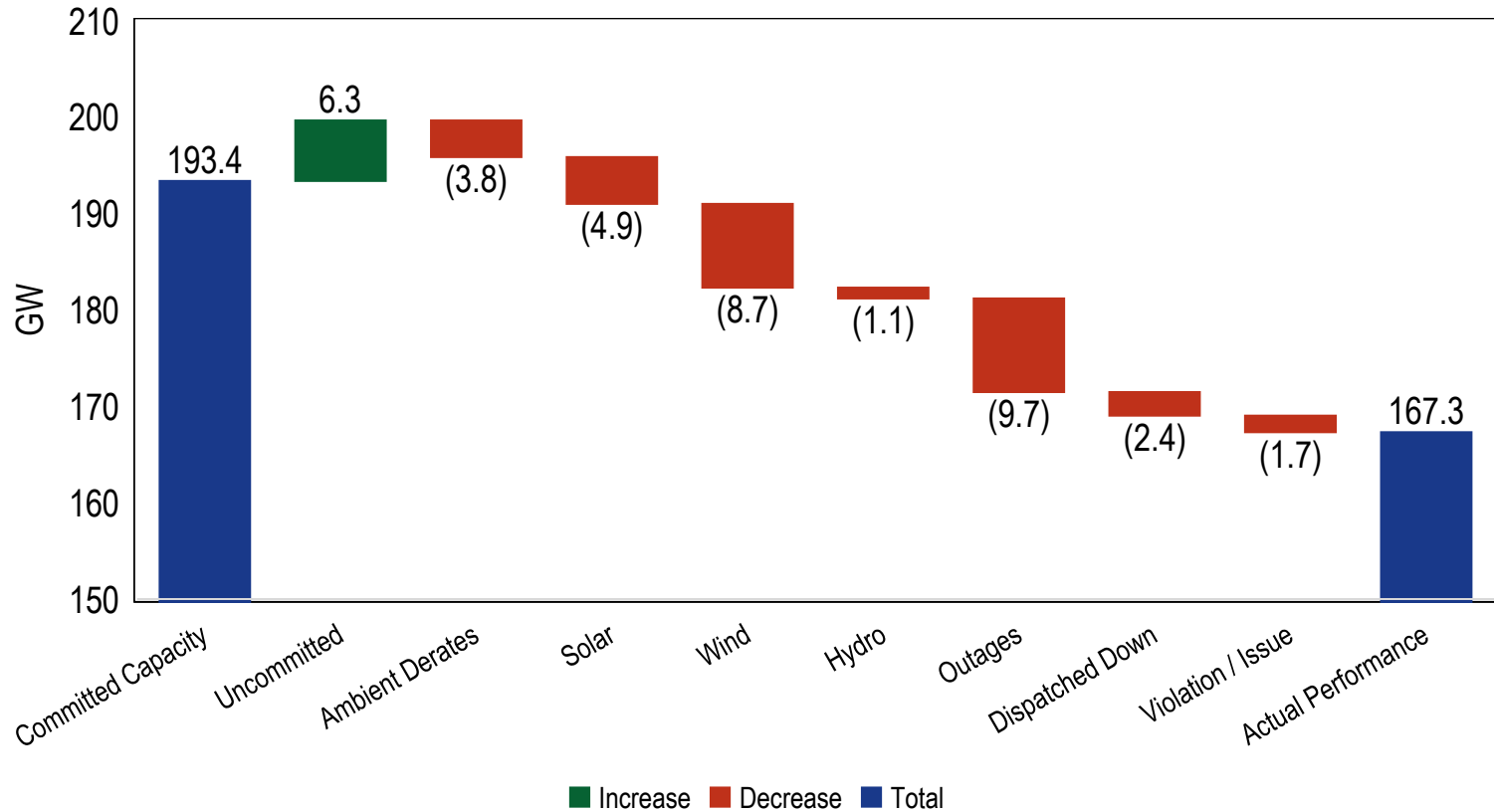
Capacity Performance

- **For a second year, the capacity MW committed by PJM via RPM/FRR were not enough to cover PJM needs (load plus reserves).**
- **The next figures show two distinct intervals on Jul 2.**
 - **Highest peak load (17:45)**
 - **Lowest 30 minute reserves (19:25)**
- **Absent uncommitted capacity, PJM did not have enough resources to meet load plus reserves.**

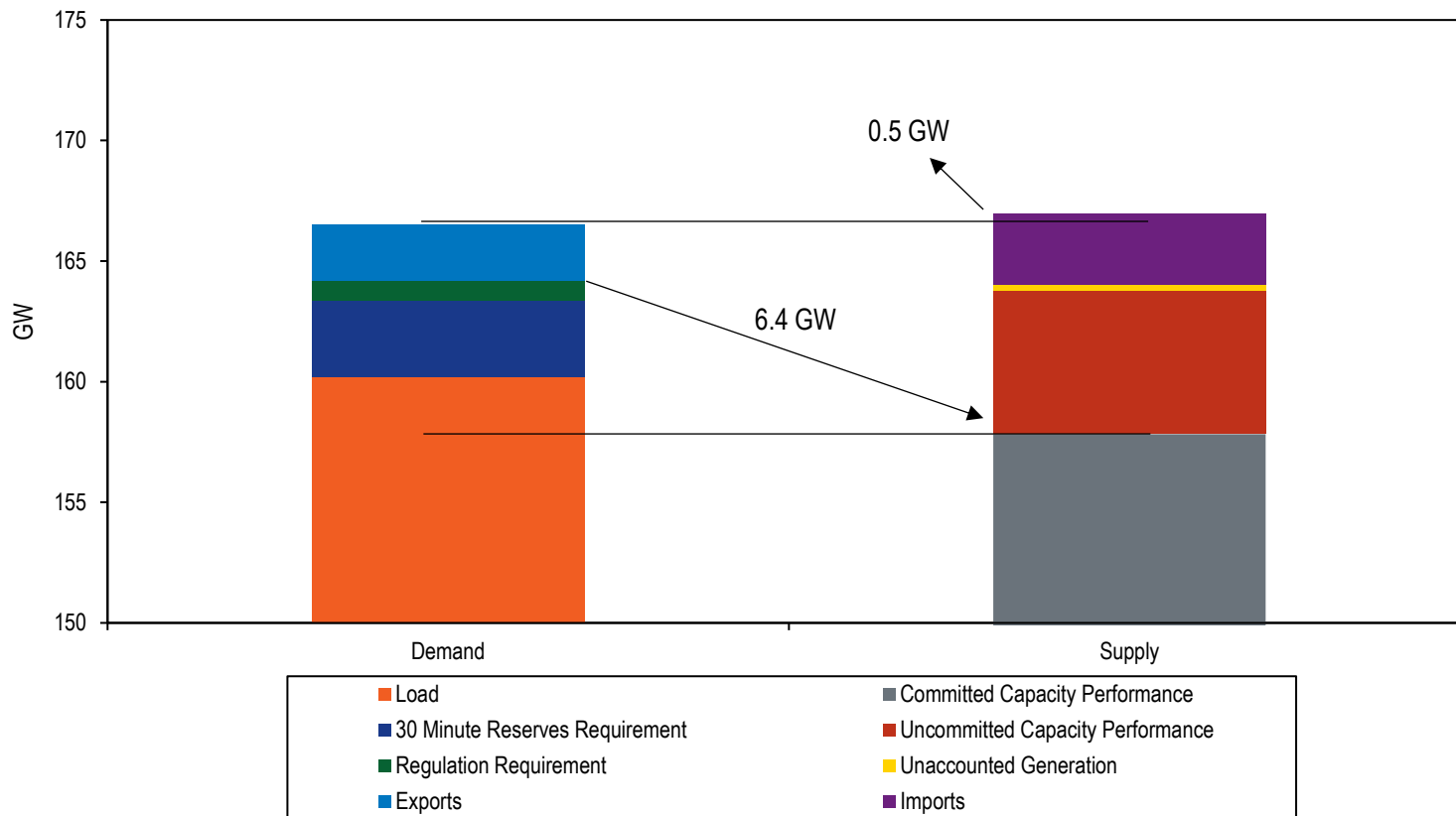
Supply and Demand (17:45)



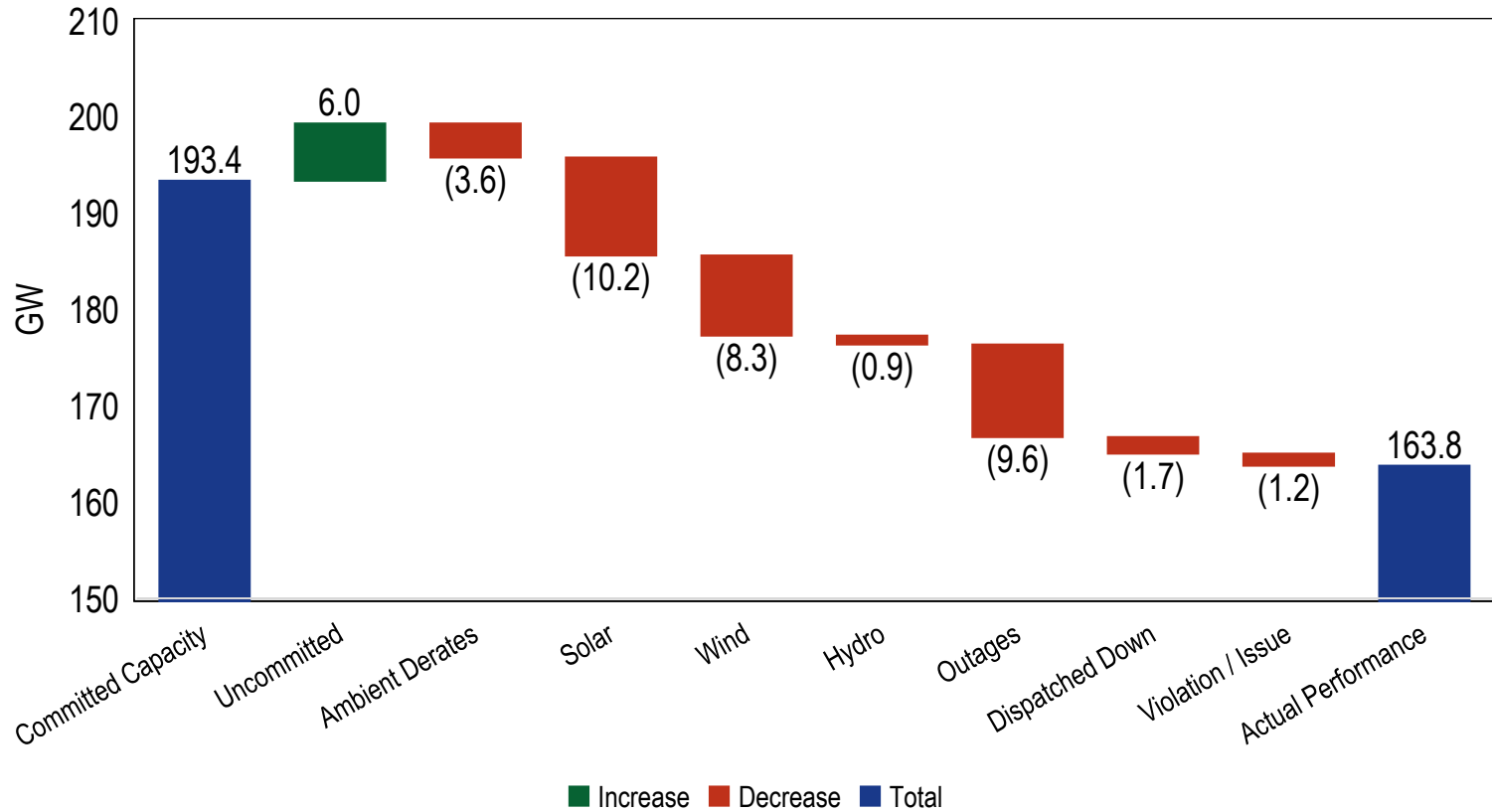
Performance (17:45)



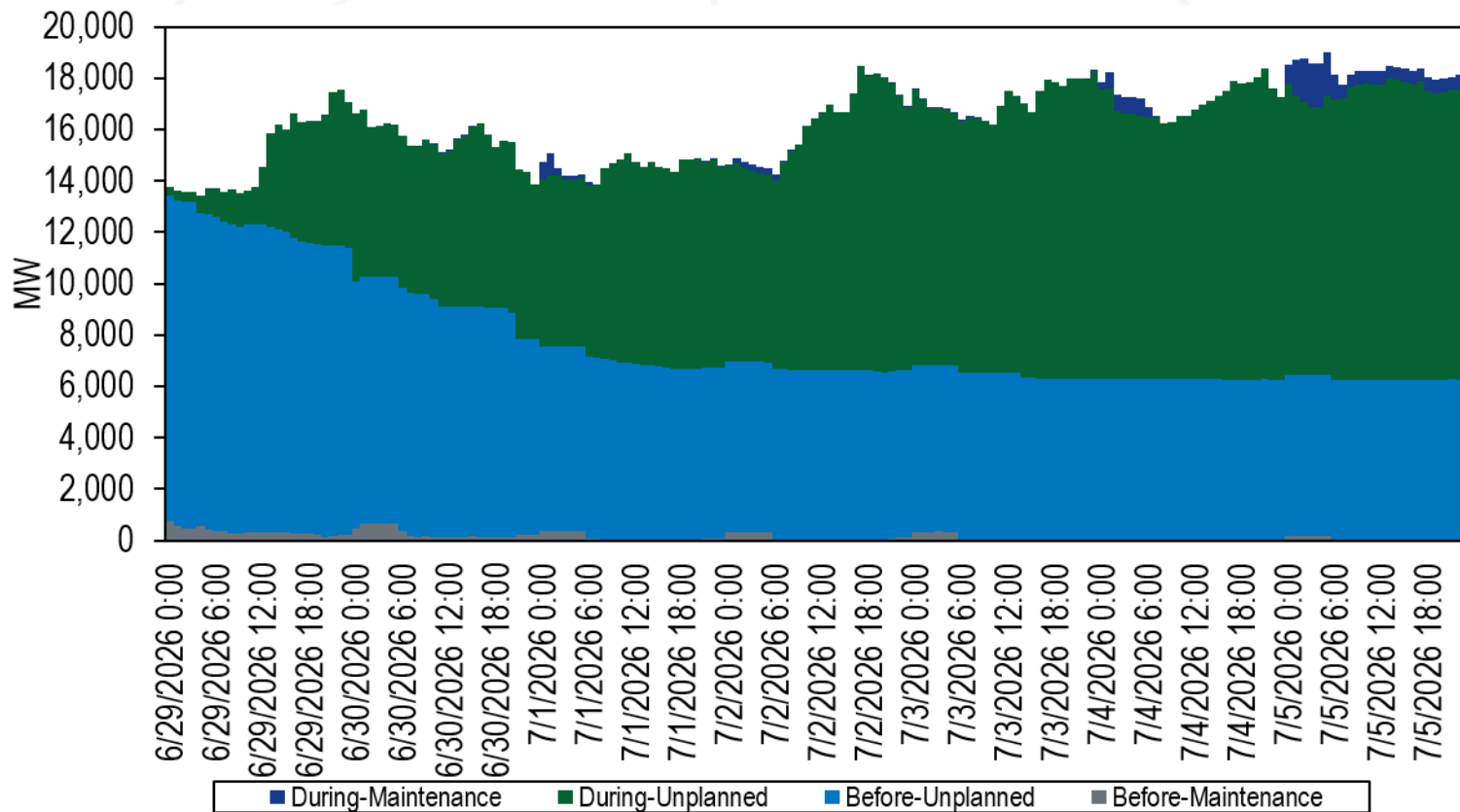
Supply and Demand (19:25)



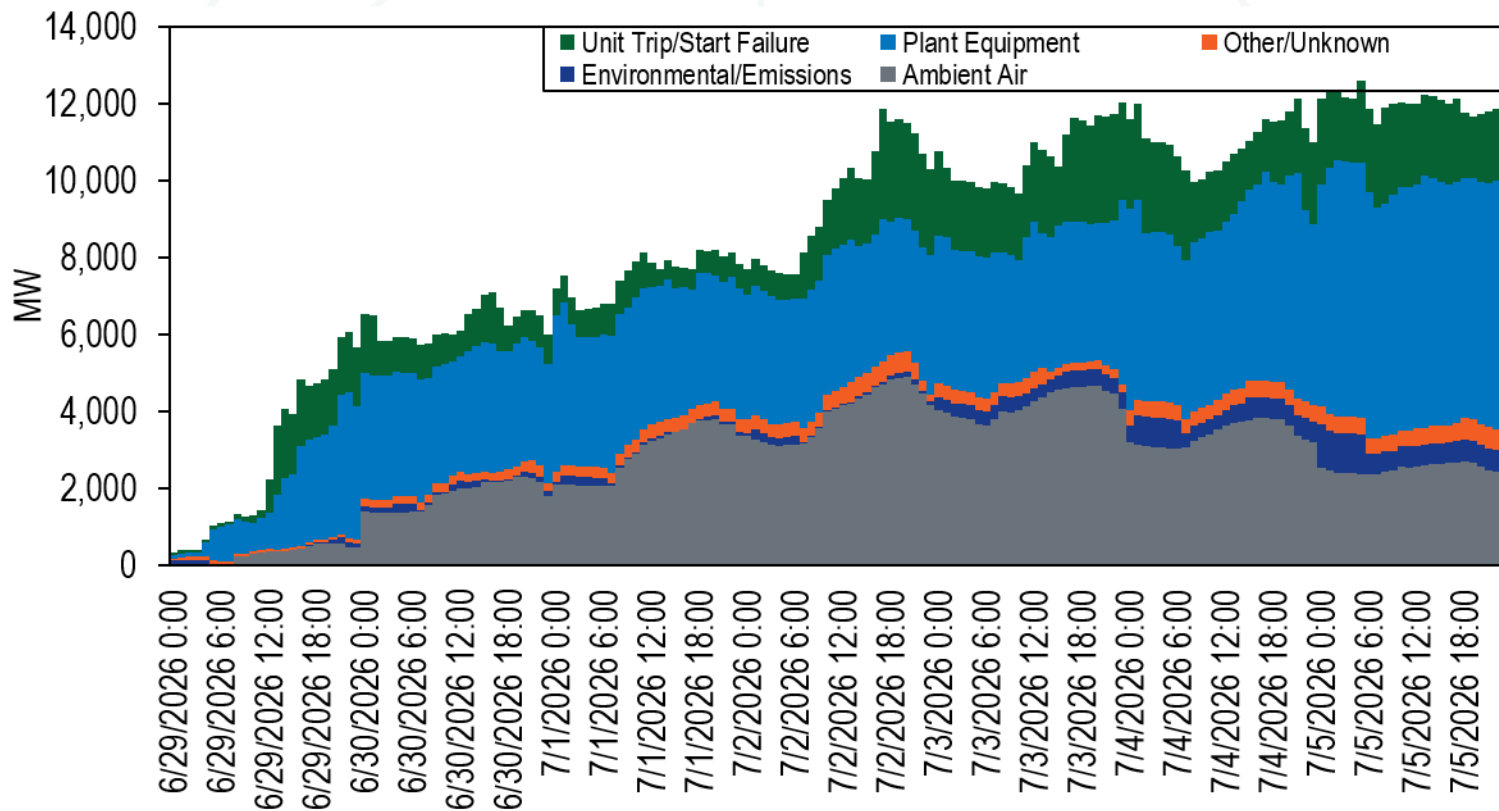
Performance (19:25)



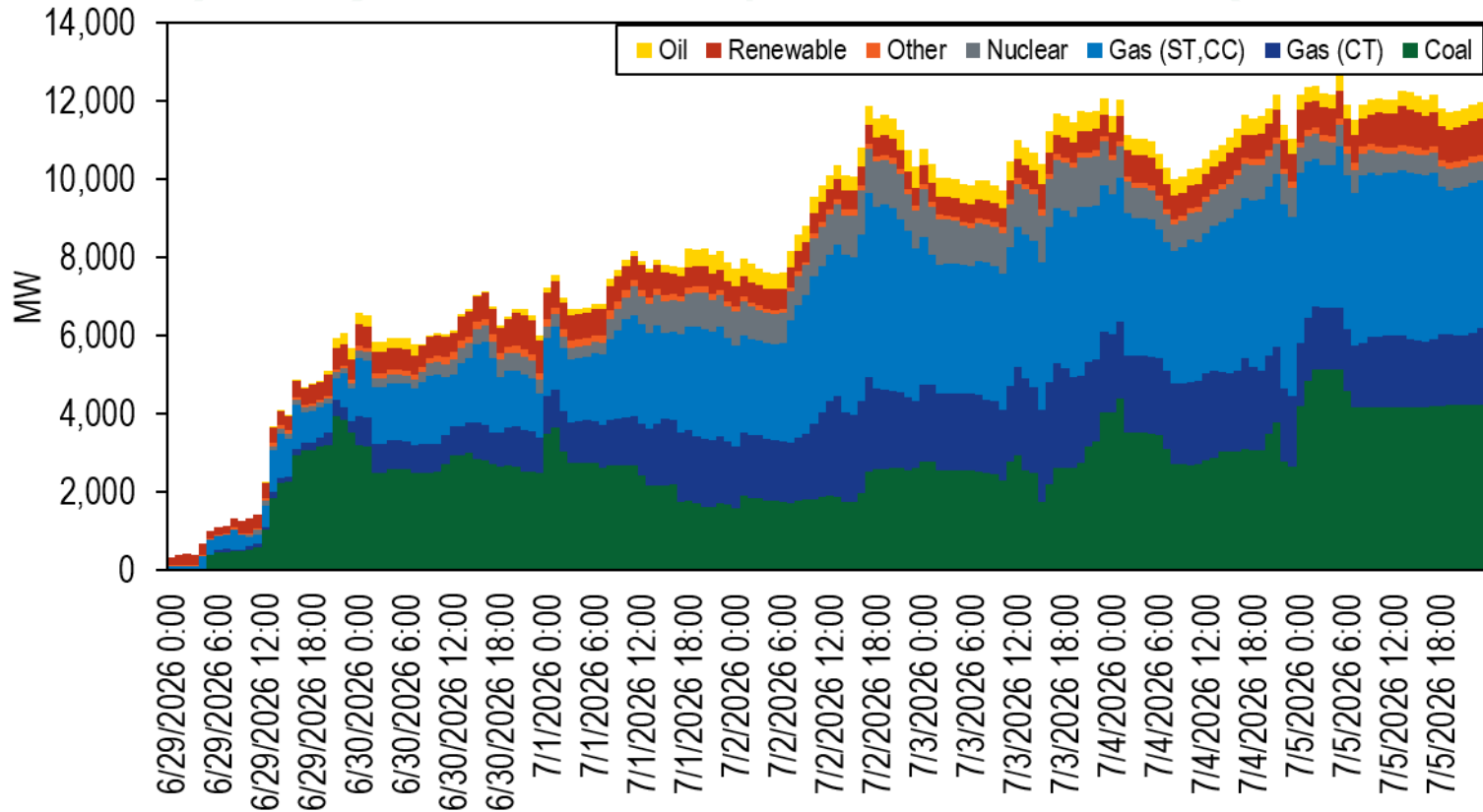
Outages Submitted Before/During the Heat Wave



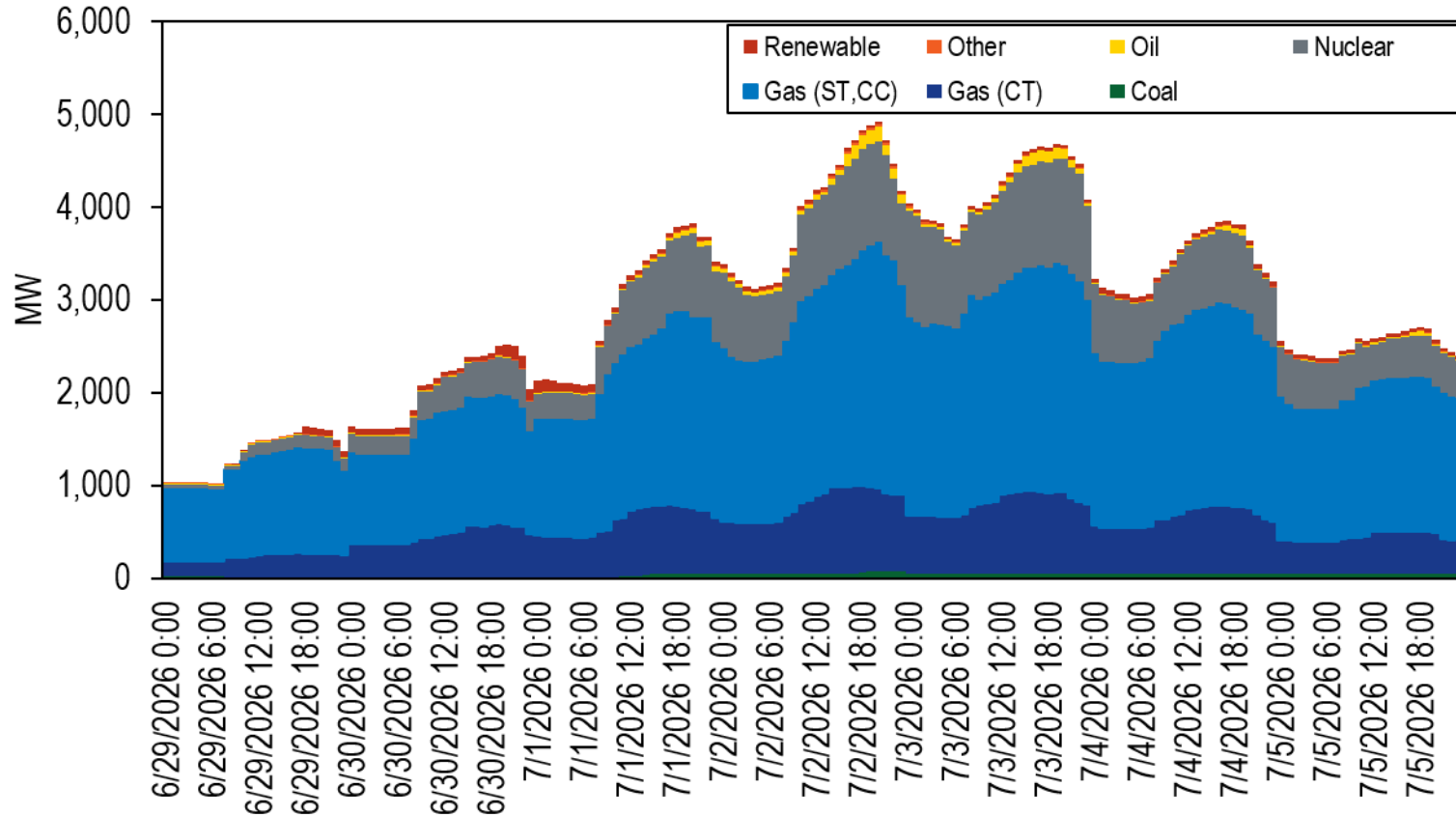
Outage Causes Submitted During Heat Wave



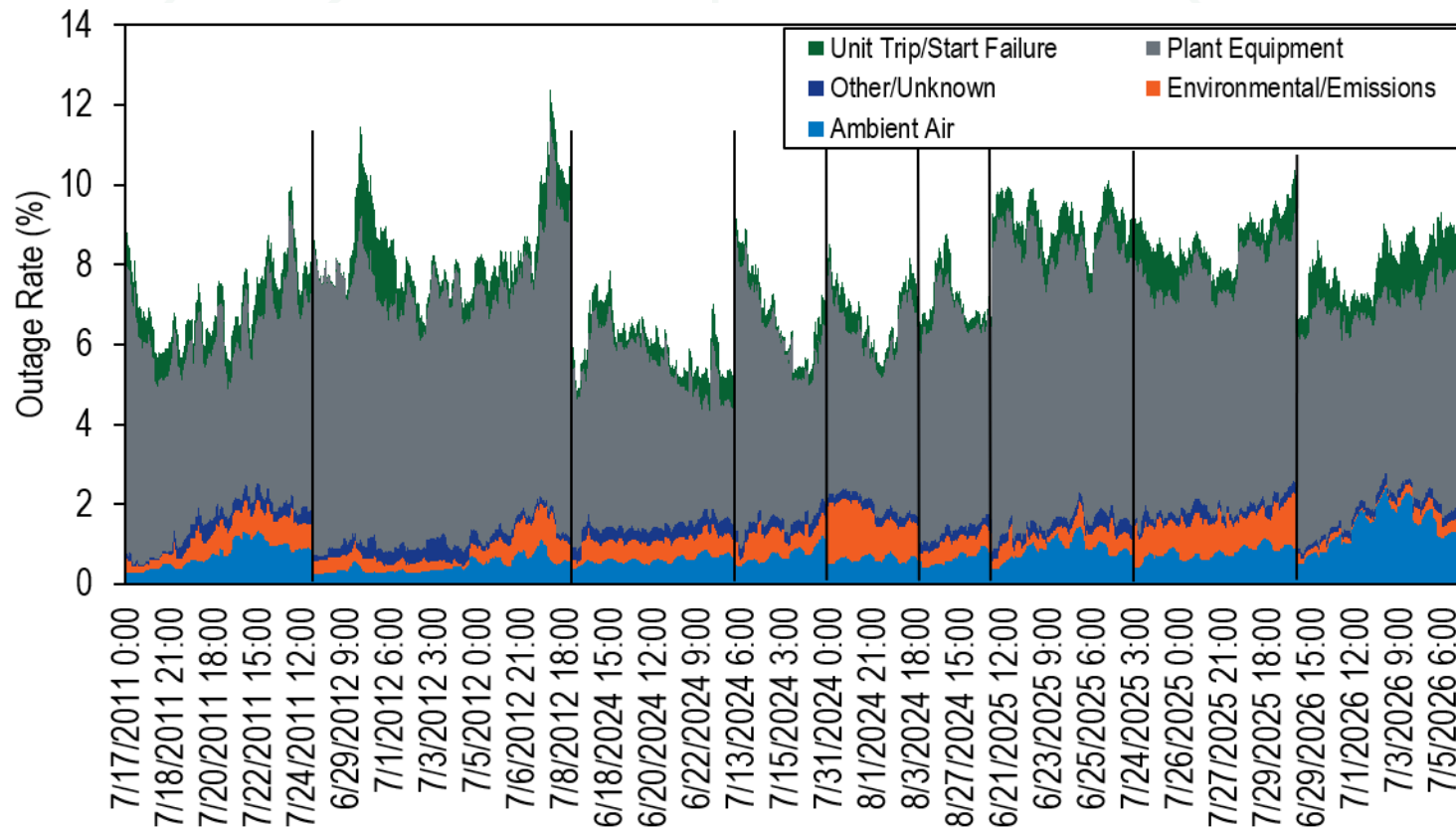
Outages Submitted During Heat Wave Unit Types



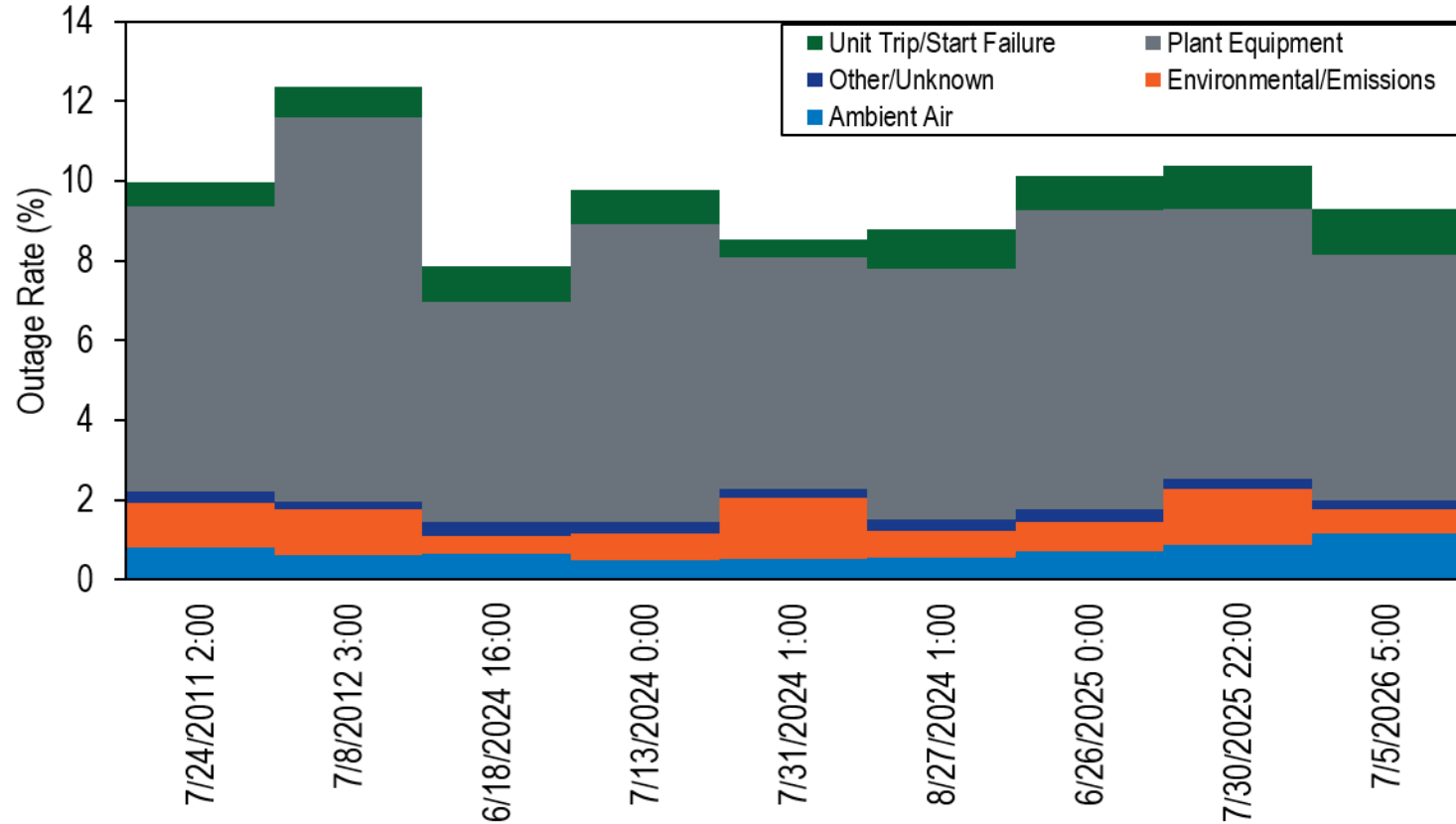
Heat Wave Ambient Derates



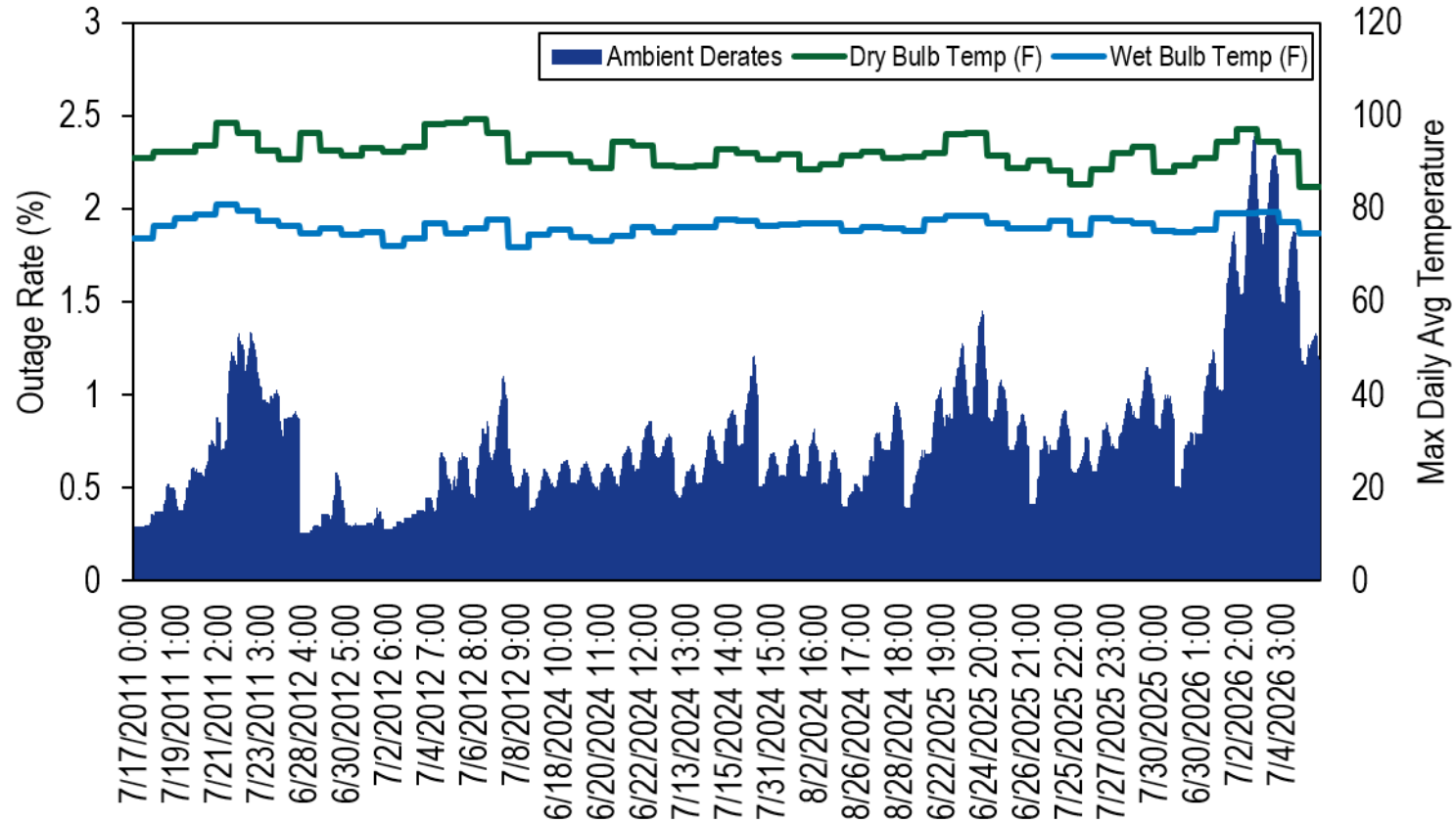
Prior Heat Wave Outage Causes



Peak Outage Hour Outage Causes



Prior Heat Wave Ambient Derates



Monitoring Analytics, LLC

2621 Van Buren Avenue

Suite 160

Eagleville, PA

19403

(610) 271-8050

MA@monitoringanalytics.com

www.MonitoringAnalytics.com

