2025 Heat Waves Capacity Performance

MIC

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June – July Heat Waves Performance

- **PAIs are triggered when, for an entire reserve zone or subzone there is:**
  - **(1) Shortage of the Primary Reserve Requirement (Step 1) plus one of the following:**
    - Voltage Reduction Warning and reduction of non-critical plant load
    - Manual Load Dump Warning
    - Maximum Generation Emergency Action
    - Curtailment of non-essential building loads and Voltage Reduction Warning
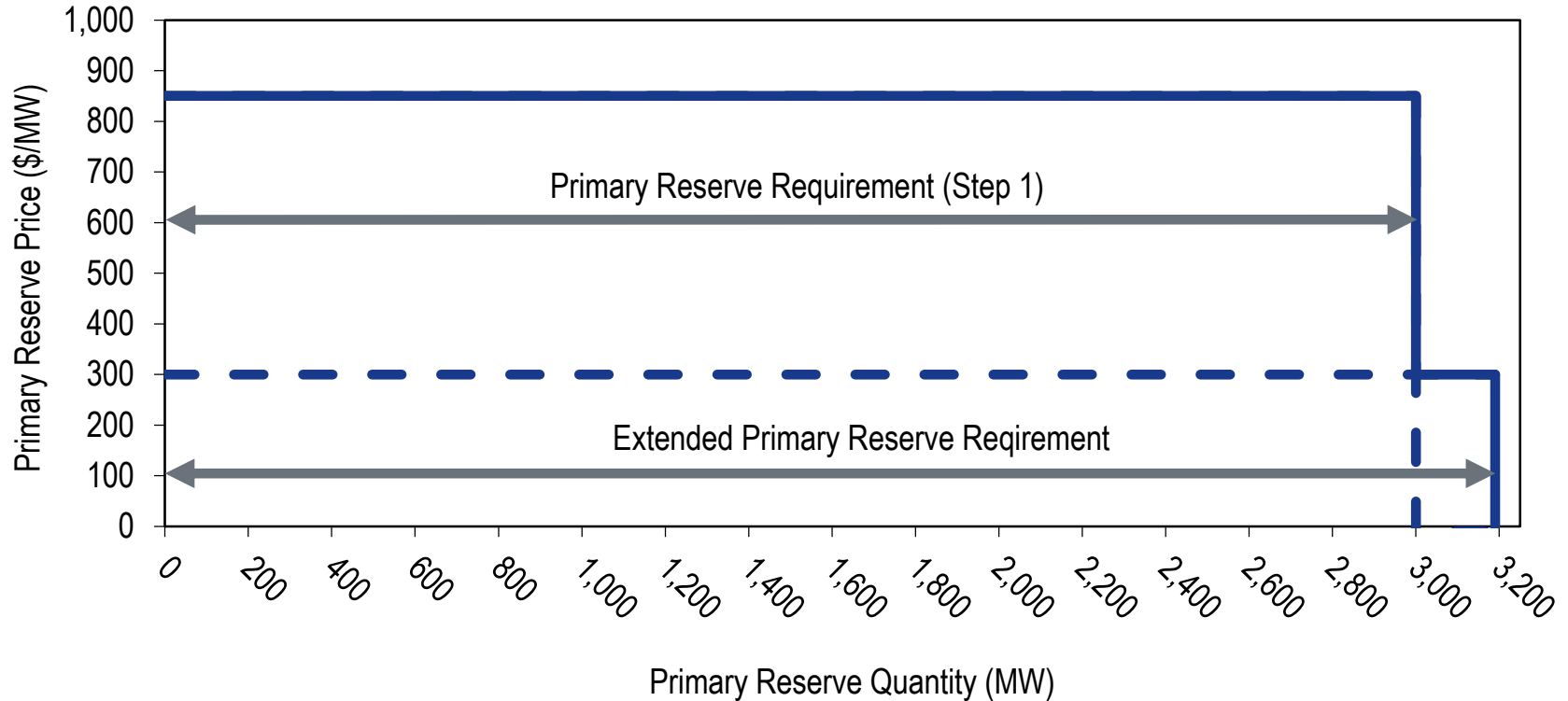
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June – July Heat Waves Performance

- **(2) or anytime, for an entire reserve zone or subzone:**
  - a load shed directive is issued
  - Manual Load Dump Action is issued
  - Voltage Reduction Action is issued
  - Deploy all resources action is issued

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Primary Reserve ORDC

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June – July Heat Waves Performance

- **PJM experienced several periods of high demand in June and July:**
  - **June 22-26**
  - **July 14-17**
  - **July 23-30**
- **Several emergency procedures were declared including:**
  - **Generation maintenance outage recall.**
  - **Hot weather alerts**
  - **Maximum generation and load management alert.**
  - **Pre emergency load management.**
- **None of the alerts triggered PAIs.**

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June – July Heat Waves Performance

- **The system was short of the Primary Reserve Requirement (Step 1) during 40 intervals on June 23, 24 and July 28.**
  - **June 23: 16 intervals.**
  - **June 24: 20 intervals**
  - **July 28: 4 intervals**
- **None of the four alerts that in combination with Primary Reserve Requirement shortage trigger a PAI were invoked.**
- **Therefore none of these intervals were PAIs.**

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# Performance Evaluation

- **Performance for purposes of the PAIs is measured as:**

  - **Expected Performance = Committed UCAP x Balancing Ratio (BR)**

    - Where BR = the ratio of [(total amount of Actual Performance for all generation resources, plus net energy imports, plus total Demand Response Bonus Performance for that interval, plus total PRD Bonus Performance for that interval / (total amount of committed Unforced Capacity of all Generation Capacity Resources)].

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Performance Evaluation

- The IMM evaluated the performance of generation resources excluding the impact of imports/exports, DR and PRD.

- The IMM evaluated the performance of generation resources to committed ICAP or Nameplate for variable resources.

- Actual performance used was energy plus ancillary services assignment. No adjustments.

- The IMM evaluated the performance of generation resources capped at committed ICAP or Nameplate for variable resources.

- No excuses were included.

- One interval on June 24 was excluded: 11:55 (transient shortage).

- The IMM calculations are not a PJM Settlement calculation. This is for illustration purposes only.
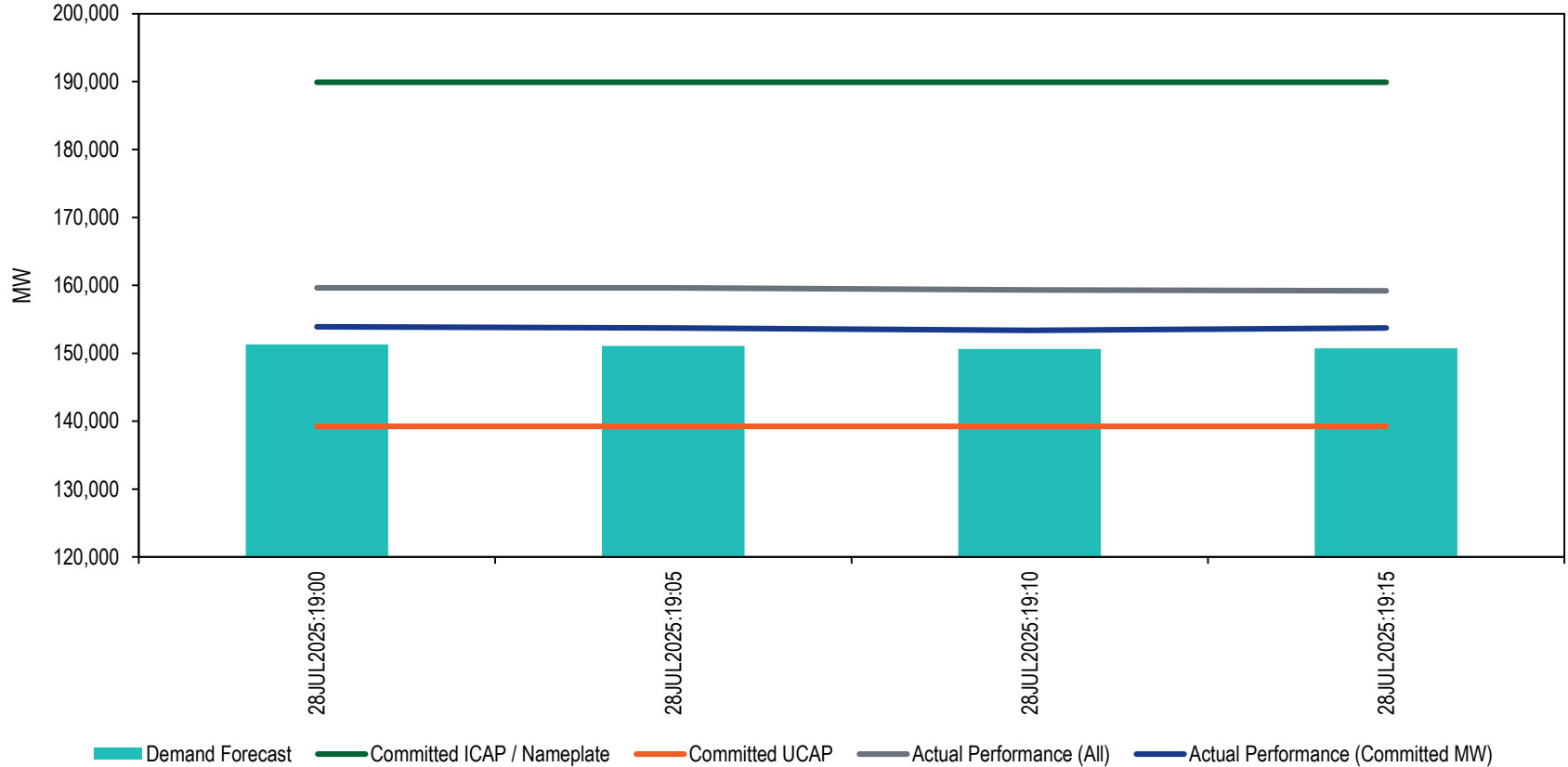
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June 23 Results

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June 24 Results
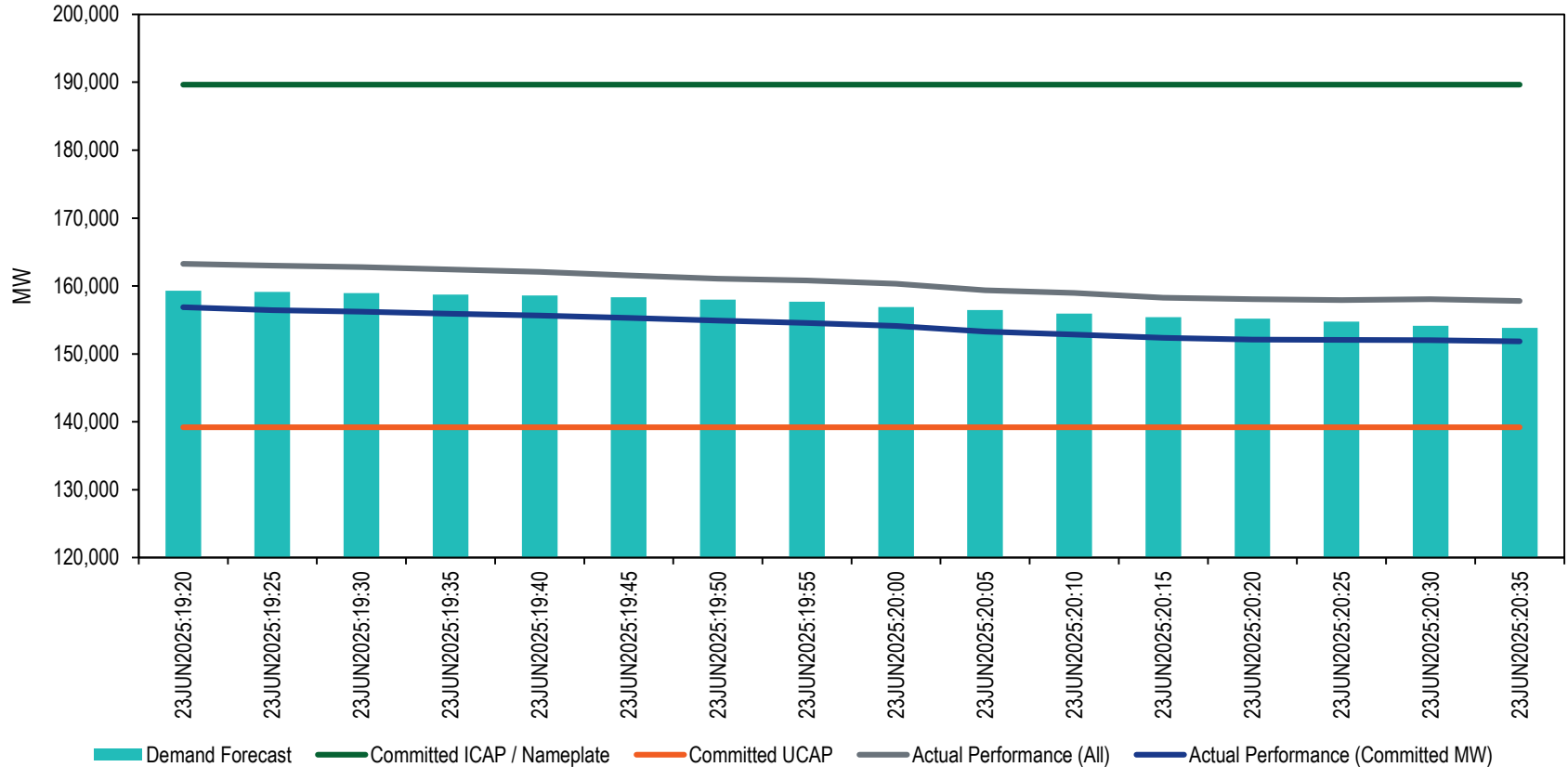
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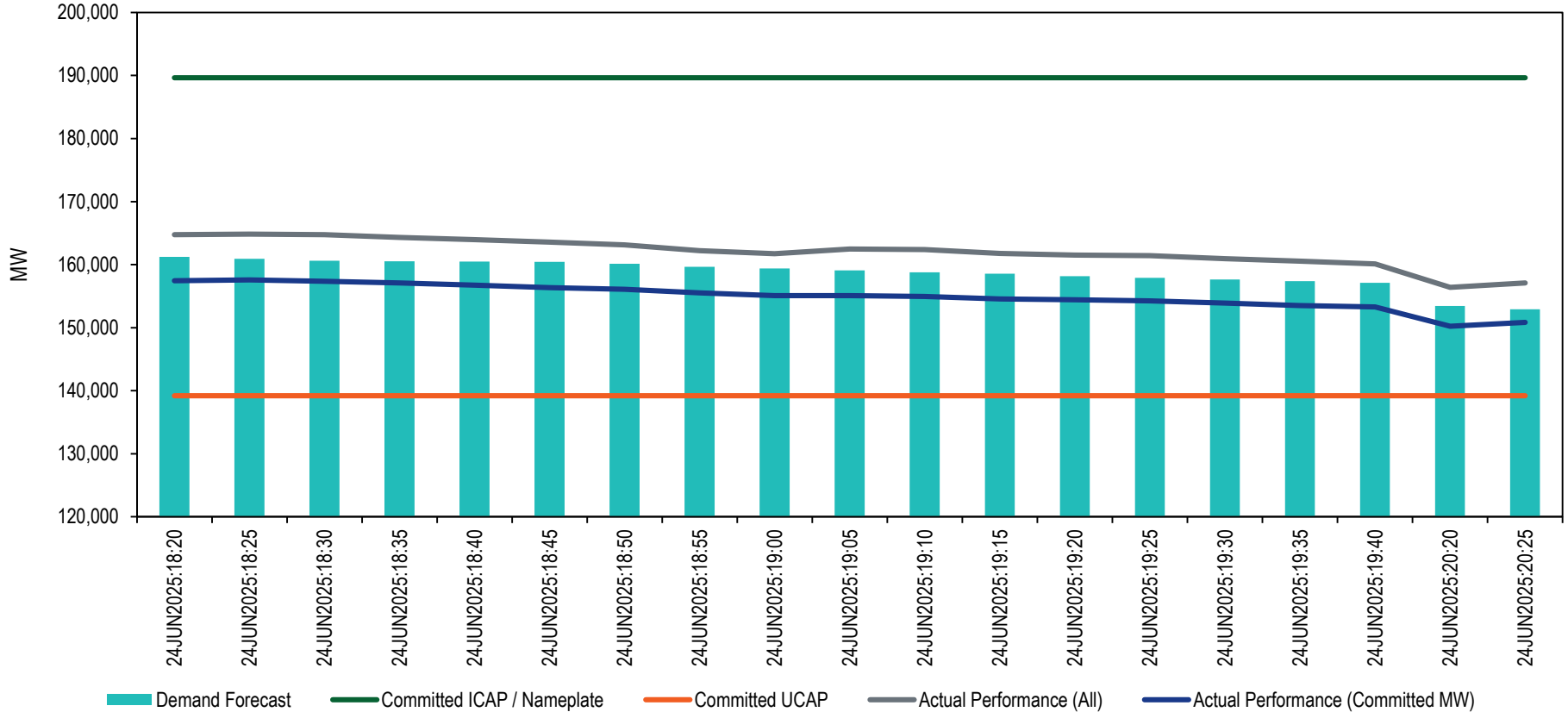
July 28 Results

Average Performance by Unit Type

Unit Type	June 23 (Shortage Intervals) Compared to Committed ICAP/Nameplate	Compared to Committed UCAP	June 24 (Shortage Intervals) Compared to Committed ICAP/Nameplate	Compared to Committed UCAP	July 28 (Shortage Intervals) Compared to Committed ICAP/Nameplate	Compared to Committed UCAP
Hydro (Not Pumped Storage)	71%	104%	73%	107%	61%	89%
Solar	13%	97%	31%	227%	24%	174%
Storage	93%	137%	91%	135%	94%	139%
Thermal	89%	110%	90%	110%	90%	110%
Wind	30%	171%	9%	51%	7%	39%
Total	81%	111%	82%	111%	81%	110%

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Observations

- **During all intervals, Actual Performance exceeded Committed UCAP. Uncapped average balancing ratios (B) would have been (B is actual performance/committed UCAP):**
  - **June 23: 1.15**
  - **June 24: 1.16**
  - **June 28: 1.15**
- **Balancing ratios are capped at 1.00.**
- **On June 23 and 24, performance from committed ICAP MW was not enough to cover PJM's load forecast (RTSCED). The balance was met by uncommitted capacity.**

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Observations

- **After ELCC implementation, the system UCAP no longer represents summer performance expectation.**

- **Evaluating performance against an ELCC based UCAP is distorted.**

- **Summer loads easily exceed total committed UCAP of 139,000 MW.**

  - **If performance had been 100% (based on committed UCAP), PJM would have had to shed load because demand would exceed supply.**

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