



Load Management and PRD Performance December 23 and 24, 2022

Jack O'Neill
Capacity Market & Demand Response Operations
DISRS
April 10, 2023



Load Management Deploy and Release Times

- RTO-wide Load Management dispatched by PJM on December 23 and 24, 2022.
- Load Reduction expected to be fully implemented by the Start Time:
 - December 23:

Notification Time	Start Time	End Time	Resource Type	Lead Time
17:30	18:00	22:00	Pre-Emergency	Quick (30 minutes)
17:30	18:00	22:15	Pre-Emergency	Quick (30 minutes)
17:45	18:15	21:30	Emergency	Quick (30 minutes)
18:00	19:00	21:30	Emergency	Short (60 minutes)
18:00	19:00	22:00	Pre-Emergency	Short (60 minutes)
18:00	19:00	22:15	Pre-Emergency	Short (60 minutes)

- December 24:

Notification Time	Start Time	End Time	Resource Type	Lead Time
4:20	6:20	19:30	Emergency / Pre-Emergency	Long (120 minutes)
4:20	6:20	19:45	Emergency / Pre-Emergency	Long (120 minutes)
4:20	6:20	20:15	Emergency / Pre-Emergency	Long (120 minutes)
4:20	6:20	20:30	Emergency / Pre-Emergency	Long (120 minutes)
5:00	6:00	19:30	Emergency / Pre-Emergency	Short (60 minutes)
5:00	6:00	19:45	Emergency / Pre-Emergency	Short (60 minutes)
5:00	6:00	20:15	Emergency / Pre-Emergency	Short (60 minutes)
5:00	6:00	20:30	Emergency / Pre-Emergency	Short (60 minutes)
5:30	6:00	19:30	Emergency / Pre-Emergency	Quick (30 minutes)
5:30	6:00	19:45	Emergency / Pre-Emergency	Quick (30 minutes)
5:30	6:00	20:15	Emergency / Pre-Emergency	Quick (30 minutes)
5:30	6:00	20:30	Emergency / Pre-Emergency	Quick (30 minutes)

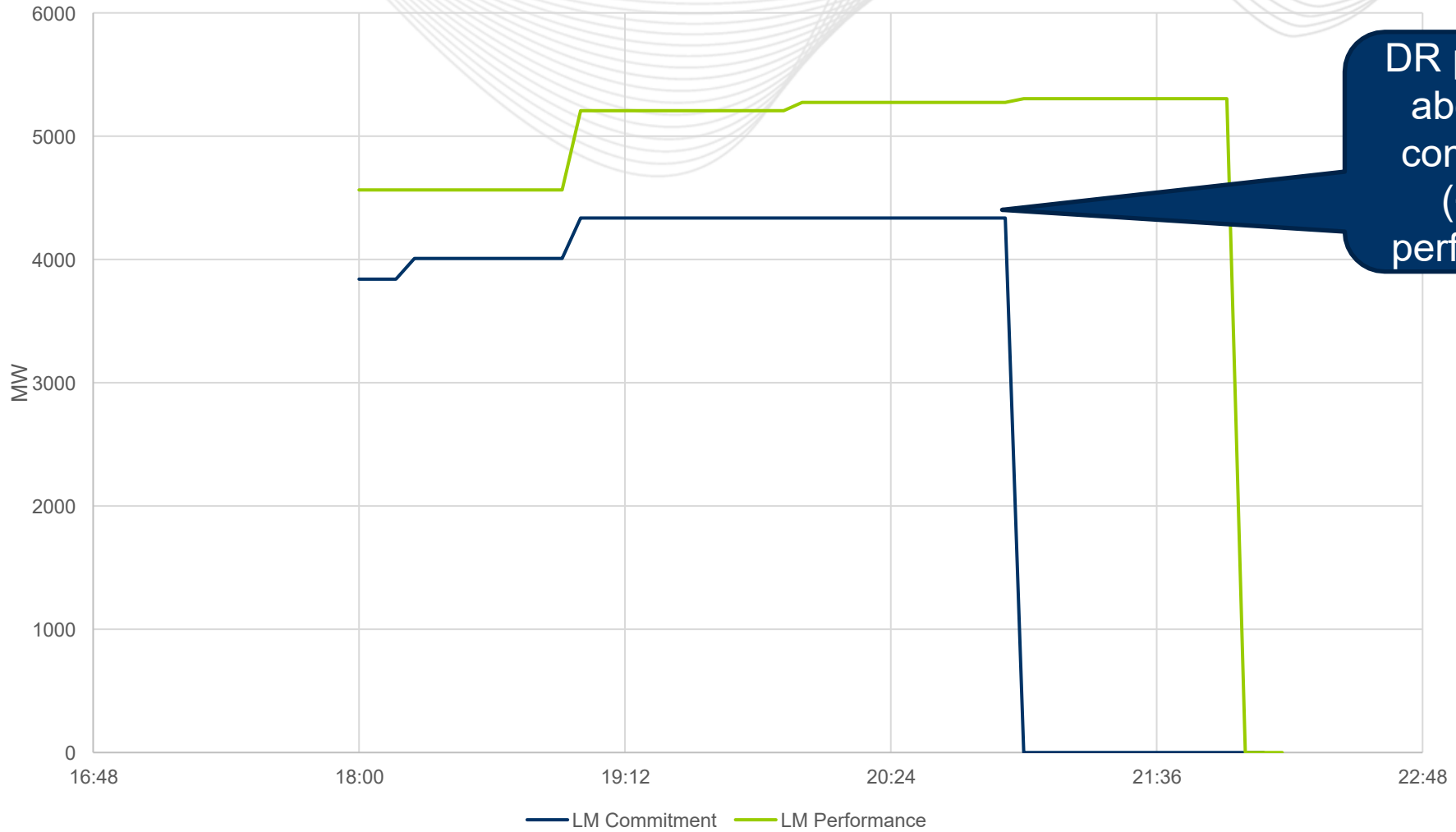
- Load Management (“LM”)
 - Includes Emergency and Pre-Emergency Demand Response
 - Required to reduce load to firm service load level within 30 minutes of PJM dispatch unless qualified for longer lead time exception (1 or 2 hour)
 - Eligible for energy settlements
- Price Responsive Demand (“PRD”)
 - Required to reduce load to firm service load level immediately if real time energy nodal price > strike price AND PAI is in effect.
 - Not eligible for energy settlements
- Economic Demand Response
 - Eligible for bonus payment if cleared/dispatched in energy markets, or
 - cleared in Ancillary Service markets

- Load Management mandatory event. Load reductions eligible for penalties, energy settlement and CP bonus payments.
 - Load Management events spanned 2 days and totaled 23 hours of load reductions.
- Capacity compliance calculation determines penalties and bonus payment
 - Load Reductions based on seasonal peak demand (PLC or WPL) minus actual load
 - Load Management is required to consume at or below their firm service load level
 - This may include reducing load and/or postponing power consumption to stay below the firm service load level
- Real time energy load reductions are used to determine energy settlements
 - Customer baseline (forecasted energy) minus actual load
- *Capacity compliance and energy settlements measure 2 different things and therefore are separate calculations*

*See following link for historic specific deployment times for each zone and lead time:

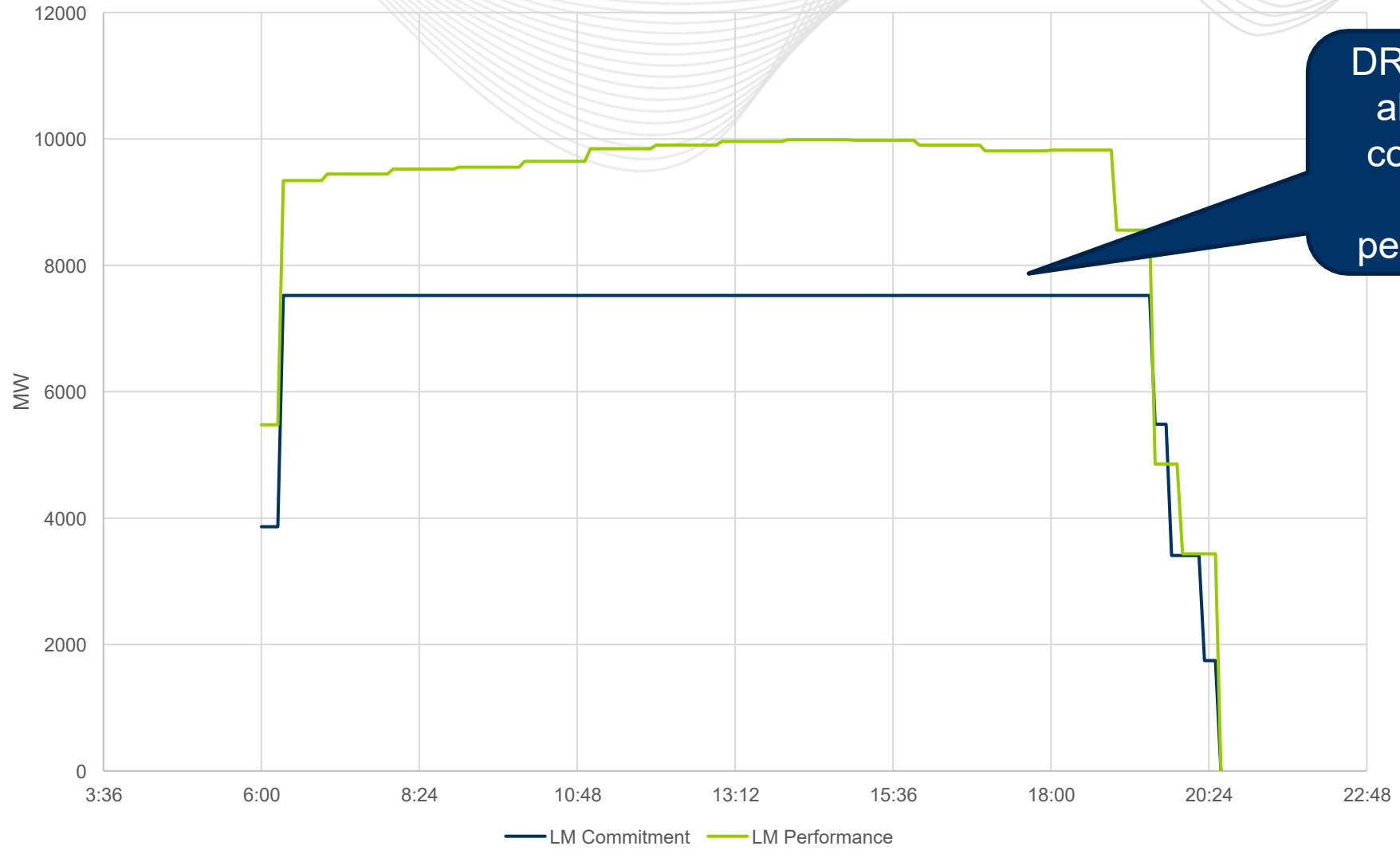
http://www.pjm.com/planning/resource-adequacy-planning/~/_media/planning/res-adeq/load-forecast/alm-history.ashx

Dec 23 Load Management Capacity compliance



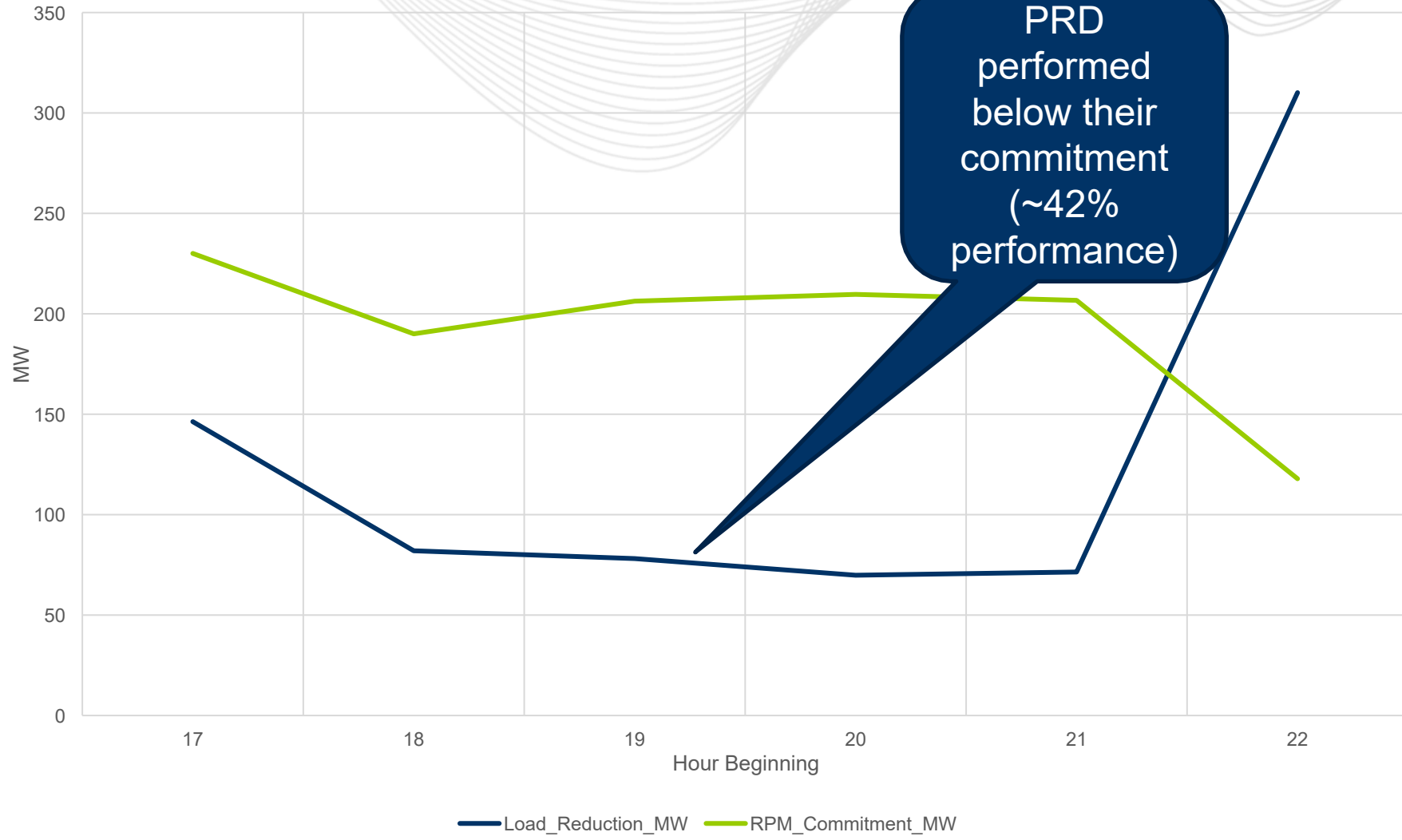
DR performed above their commitment (~119% performance)

Dec 24 Load Management Capacity Compliance

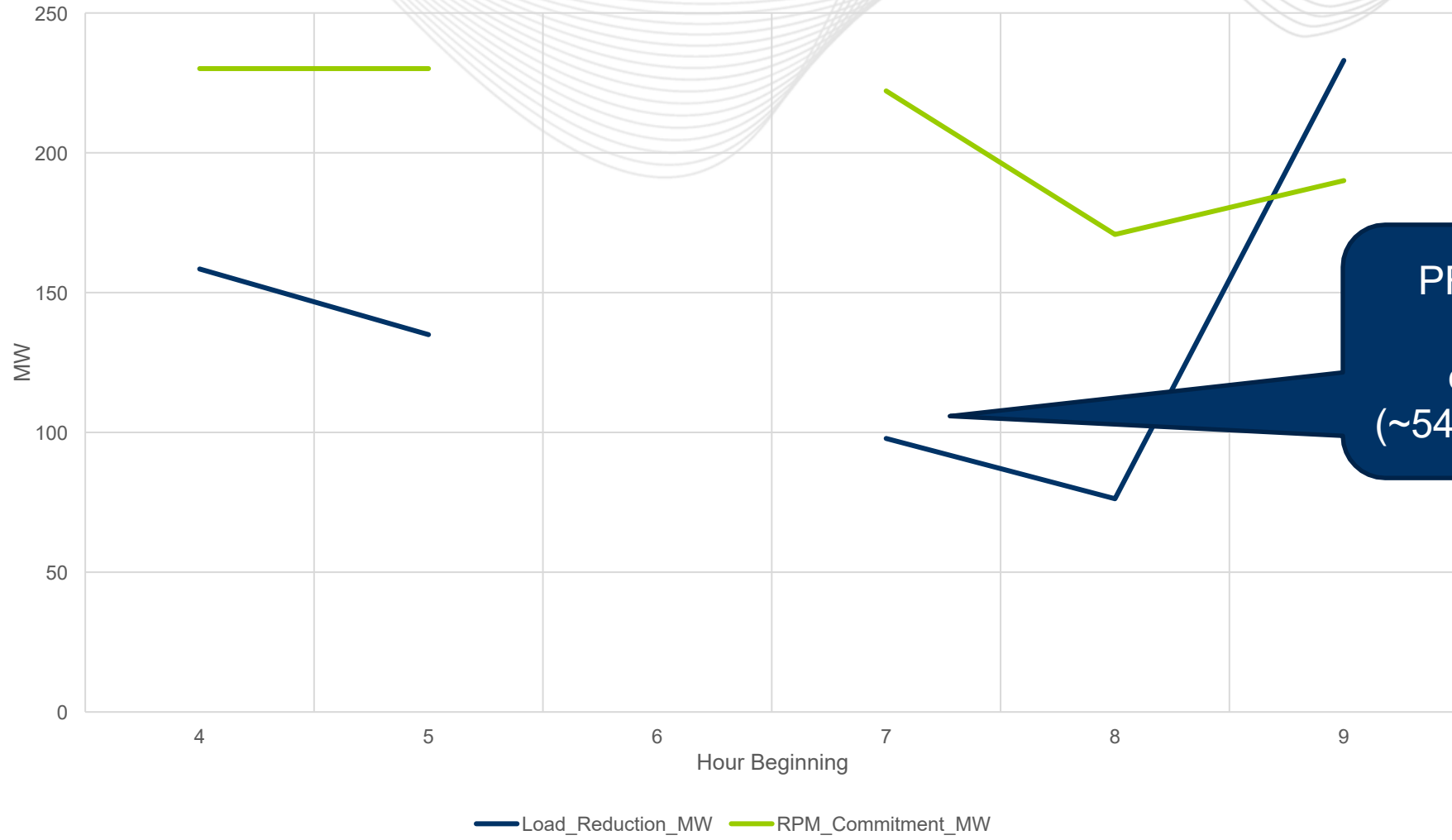


DR performed above their commitment (~129% performance)

Dec 23 PRD Capacity Compliance

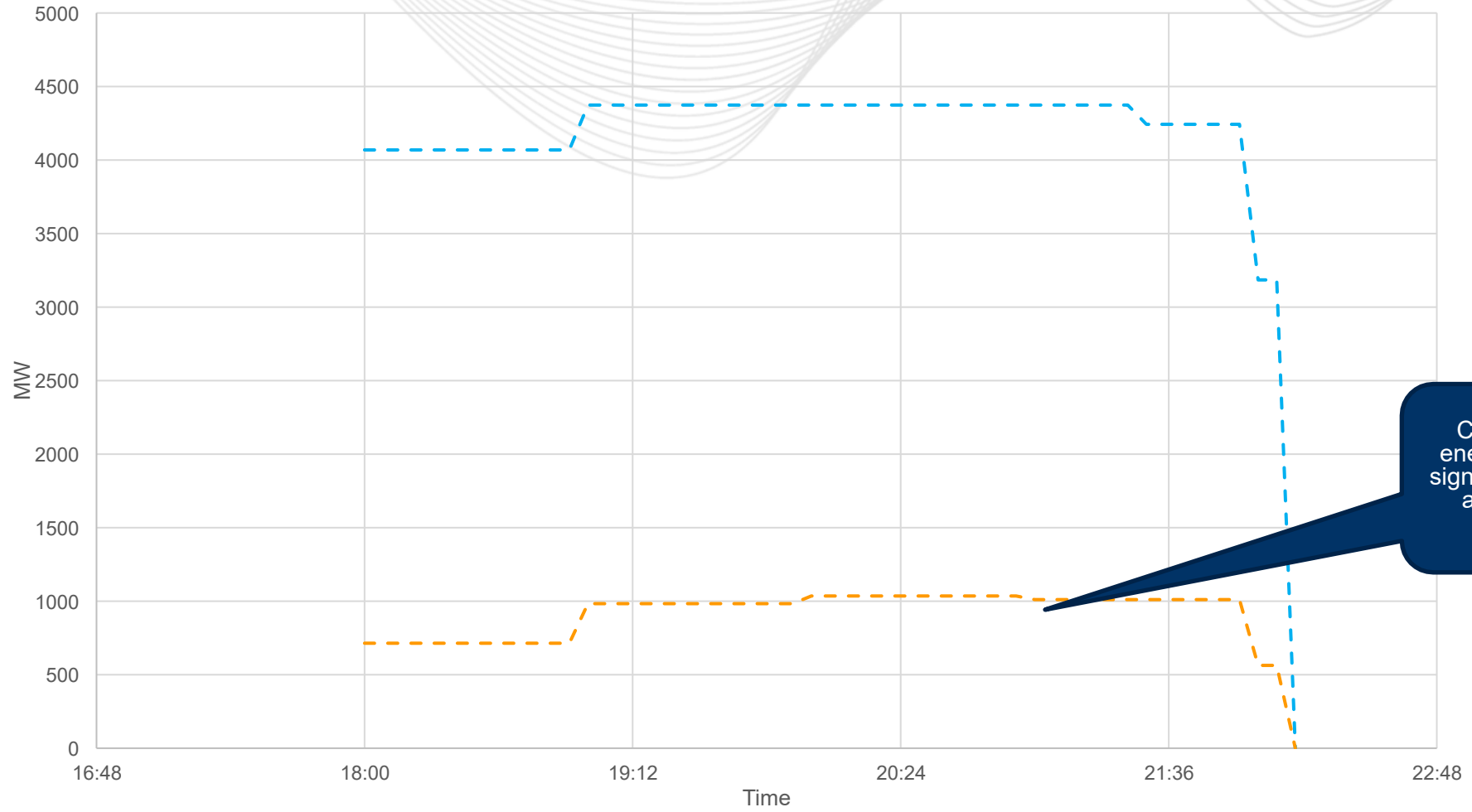


Dec 24 PRD Capacity compliance



PRD performed below their commitment (~54% performance)

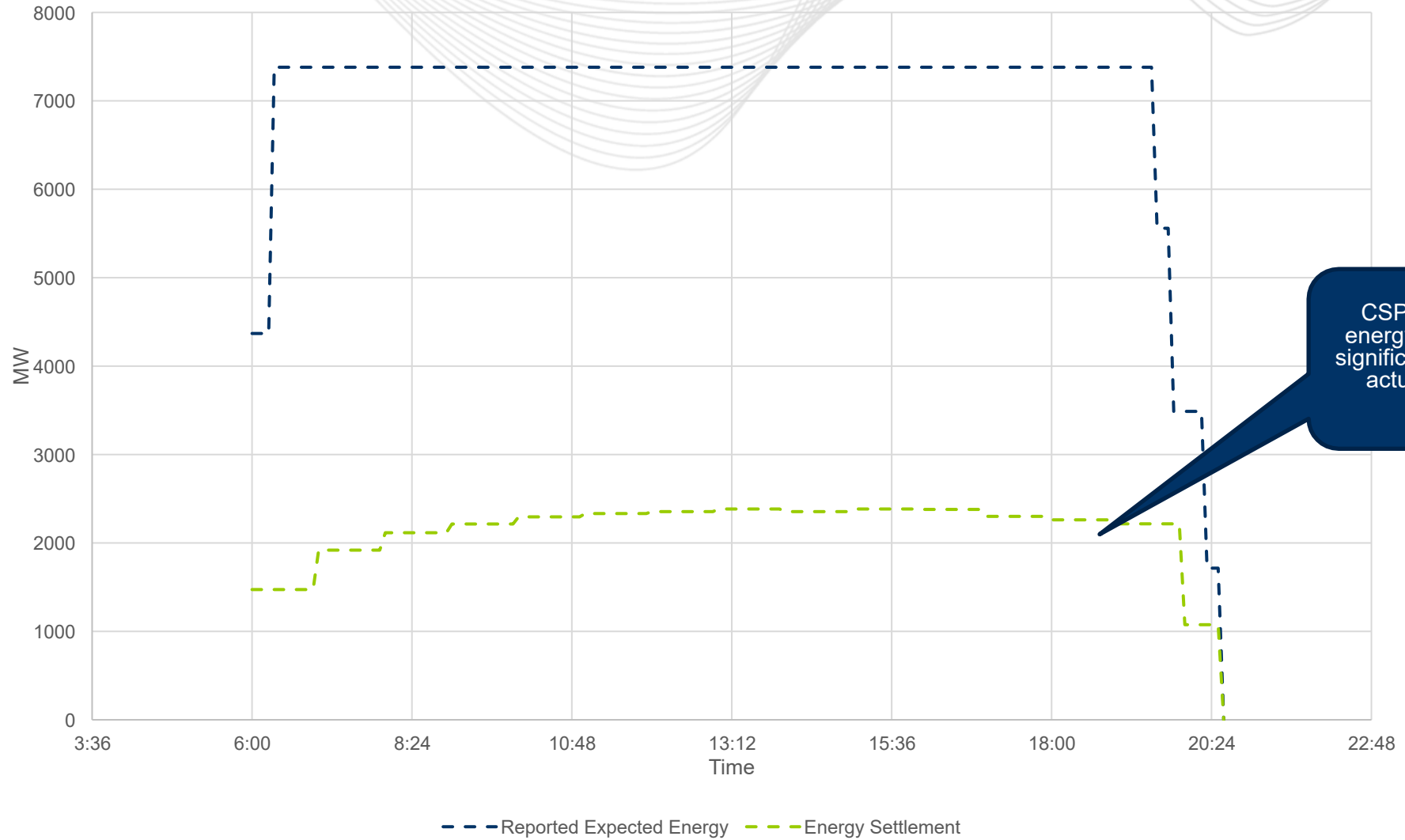
Dec 23 Event Data



CSP forecasted RT energy reductions was significantly greater than actual energy load reductions

--- Reported Expected Energy --- Energy Settlement

Dec 24 Energy Data



- DR capacity performance exceeded commitments
- PRD capacity performance was less than commitments
- CSP estimated real time energy reductions were higher than actual real time energy load reductions
 - Estimates are used to help with dispatch decisions but do not reflect whether or not the resources met their capacity commitment

SME/Presenter:
Jack O’Neill

Jack.ONeill@pjm.com

Facilitator:

Ilyana Dropkin

Ilyana.Dropkin@pjm.com

Secretary:

Luke Zinszer

Luke.Zinszer@pjm.com

Load Management and PRD Performance



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.
(610) 666-2244 / it_ops_ctr_shift@pjm.com

