

# Proposed 30 Minute Reserve Requirement Analysis

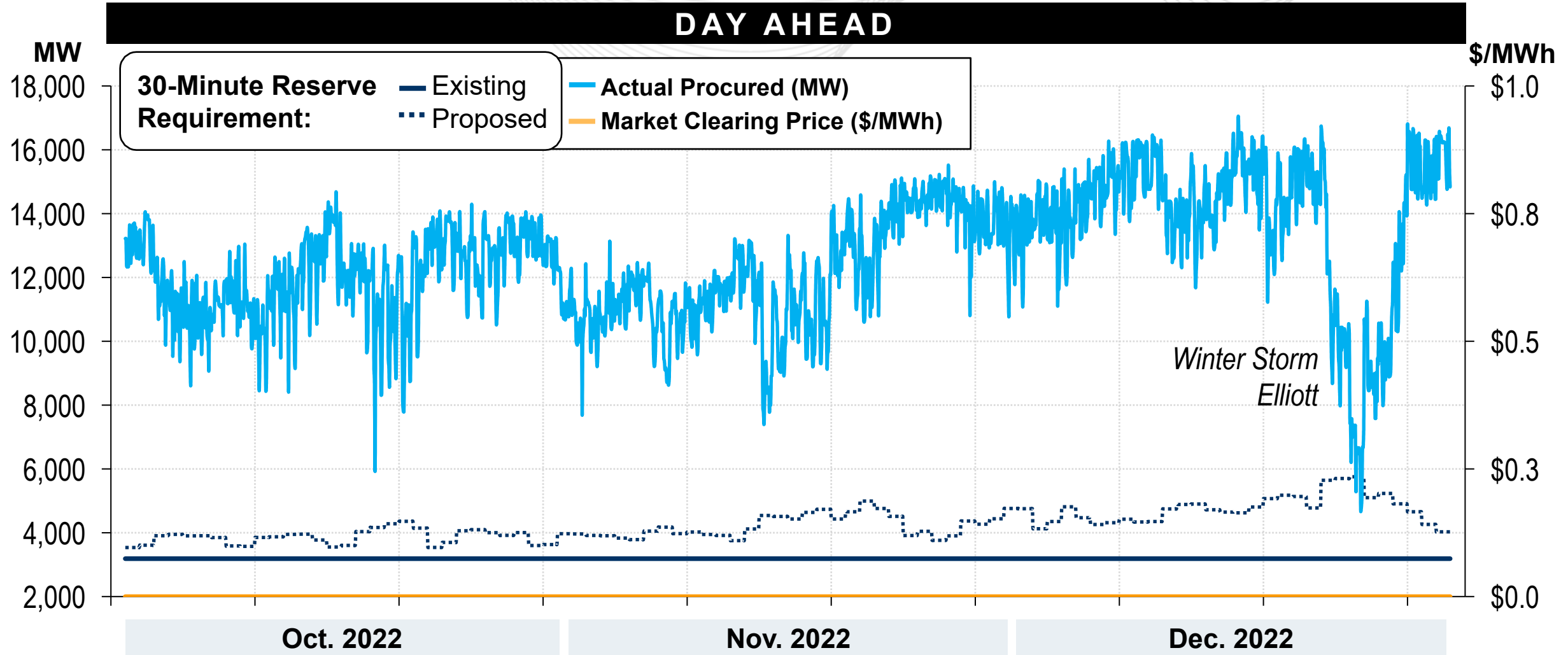
Joey Tutino

Sr. Engineer, Real Time Market Ops.

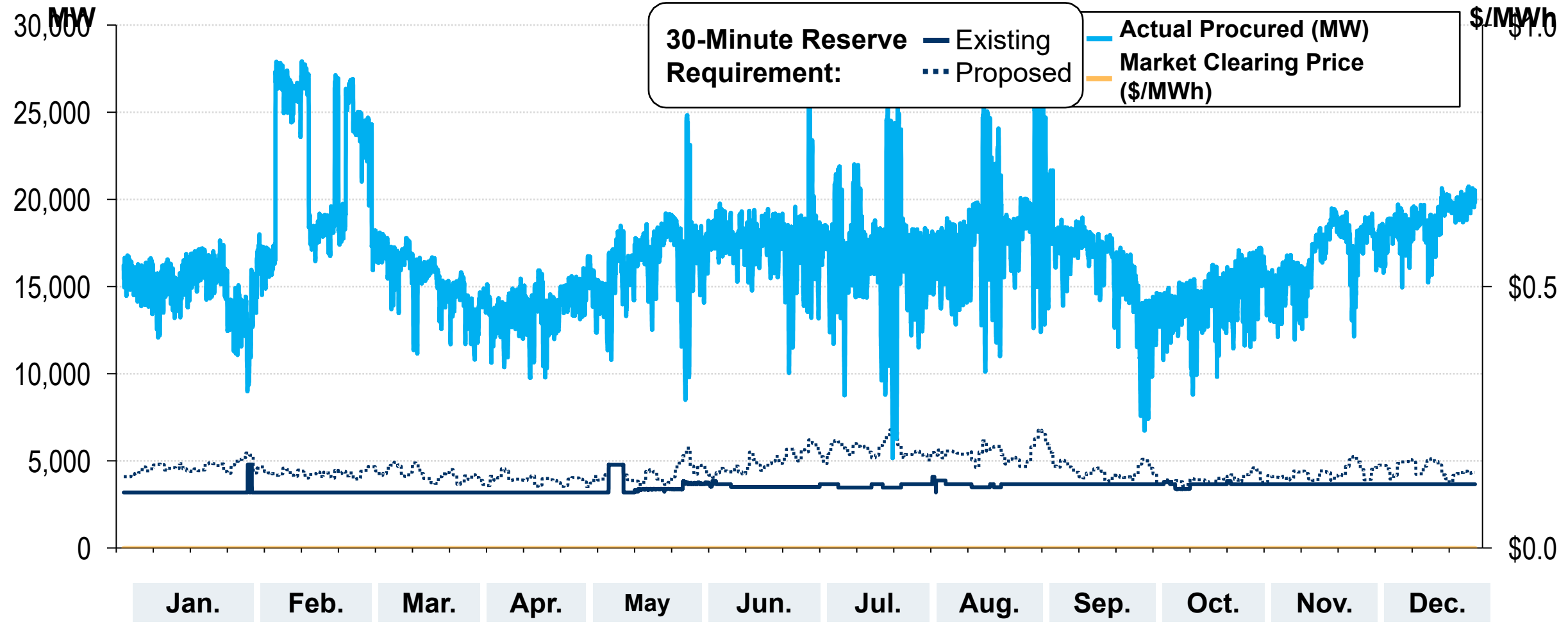
Reserve Certainty Senior Task Force

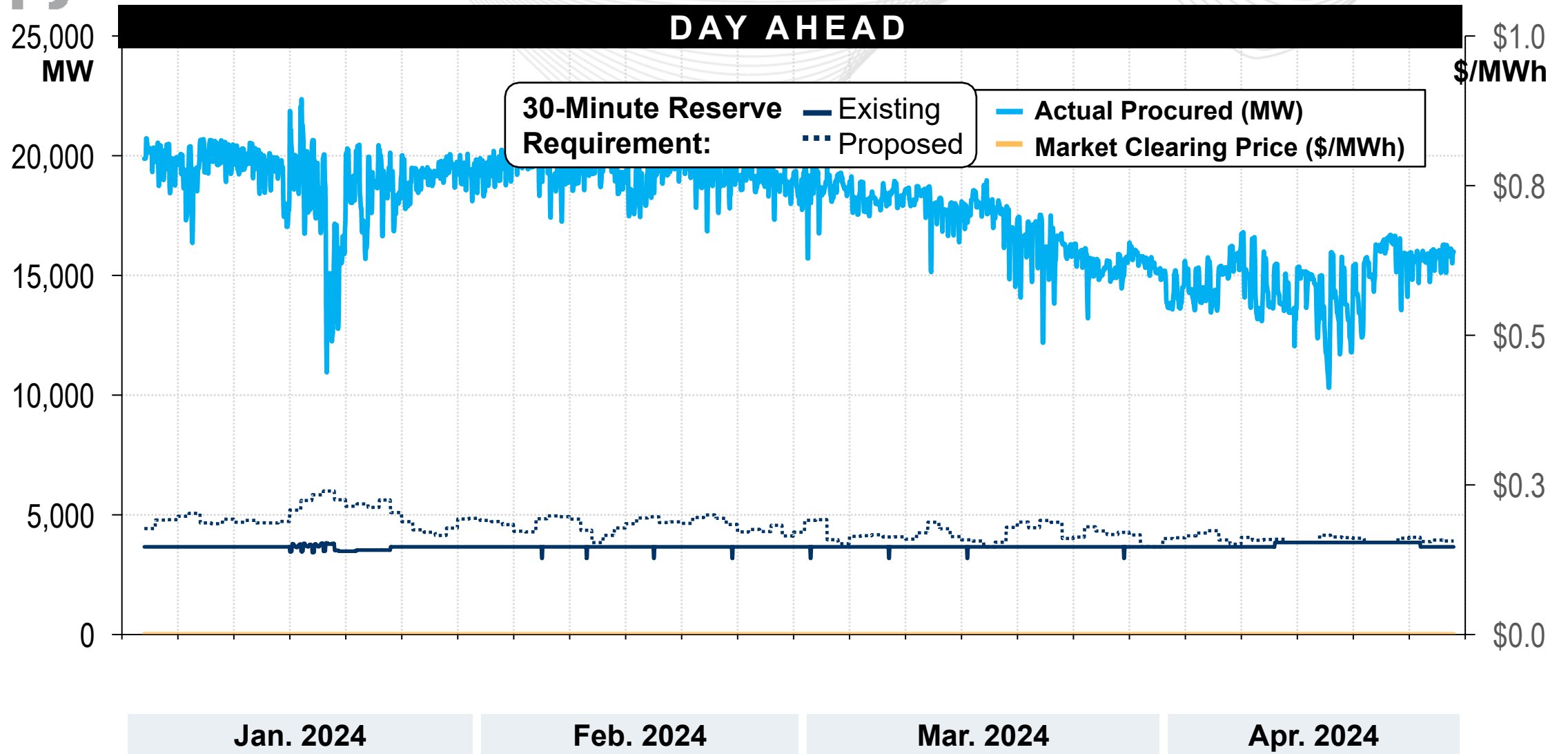
May 15, 2024

- Calculate historical “what-if” 30 min reserve requirement back to 10/1/22 in Real Time and Day Ahead Markets similar to the previously used methodology in the Day Ahead Scheduling Reserve (DASR) market prior to RPF.
  - 30 minute Reliability Requirement:  $\text{MAX}(\text{Load Forecast Peak} * (\text{Avg. Load Forecast Error} + \text{Avg. Forced Outage Rate}), \text{Primary Reliability Reserve Requirement, Largest Active Gas Contingency})$  *(portion in red would replace current static value of 3000MW)*
  - Load Forecast Peak is calculated as maximum zonal sum of forecasted load as seen at time of DA run to be applied for the market day in DA and RT.
  - Avg. Load Forecast Error + Avg. Forced Outage Rate set to 4.3% for 2024
  - Actual existing requirement kept if greater than new calculated value.
  - 190 MW second step added.

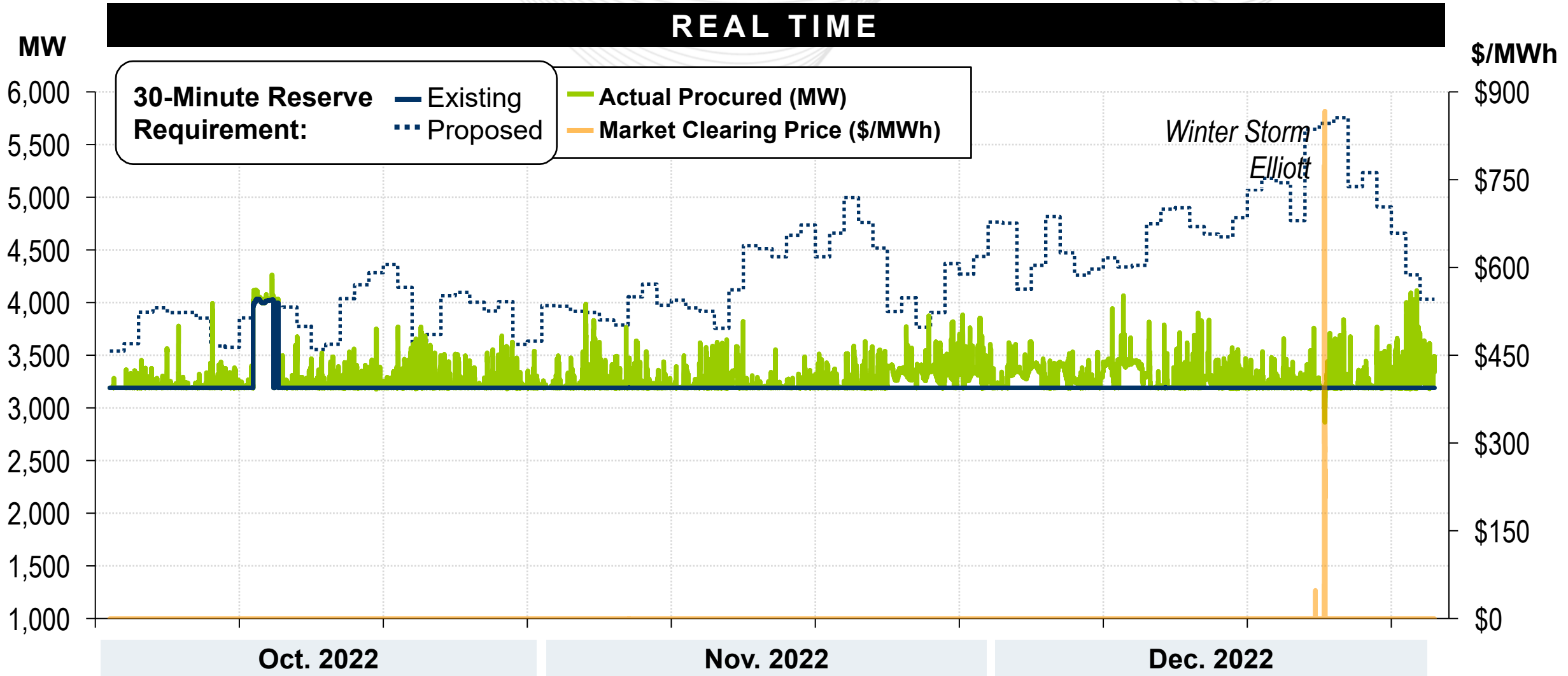


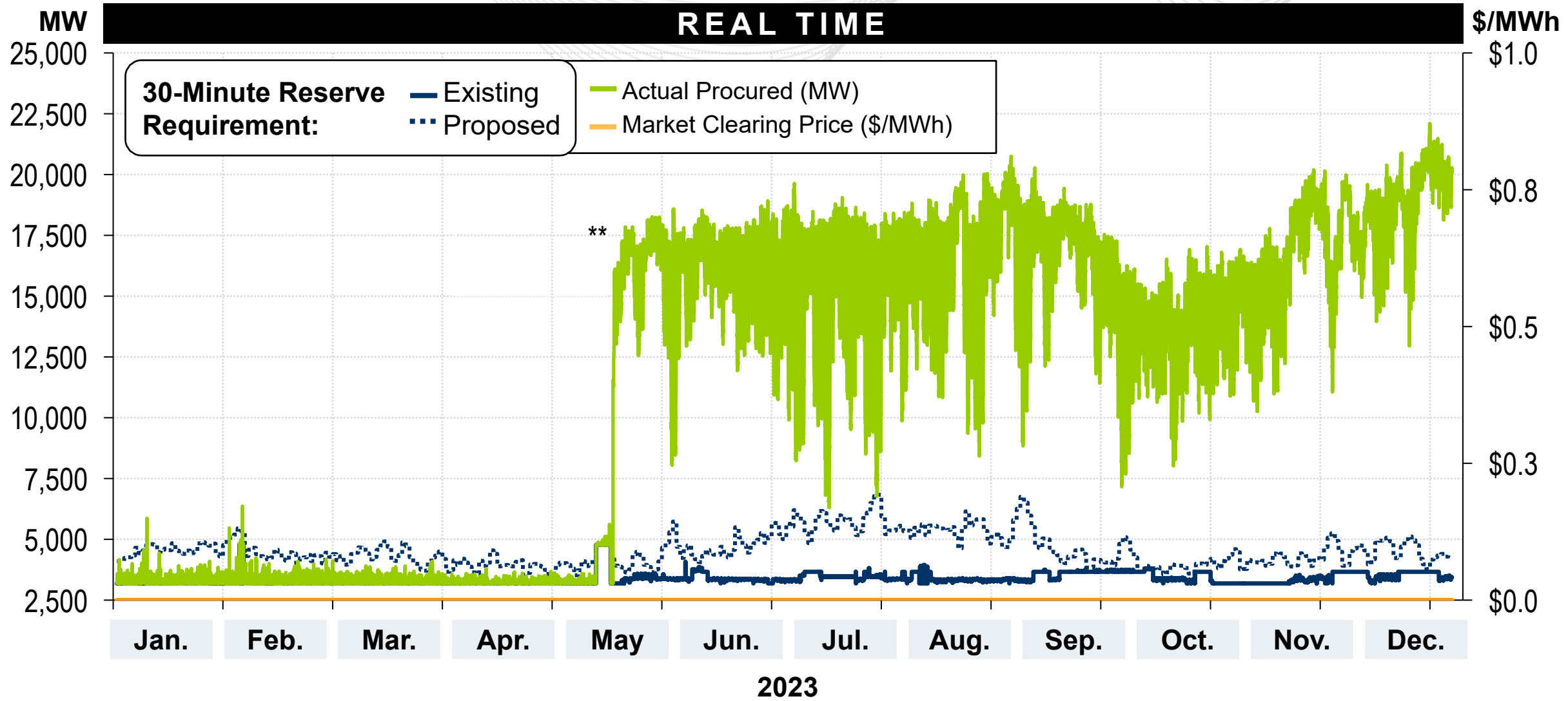
## DAY AHEAD





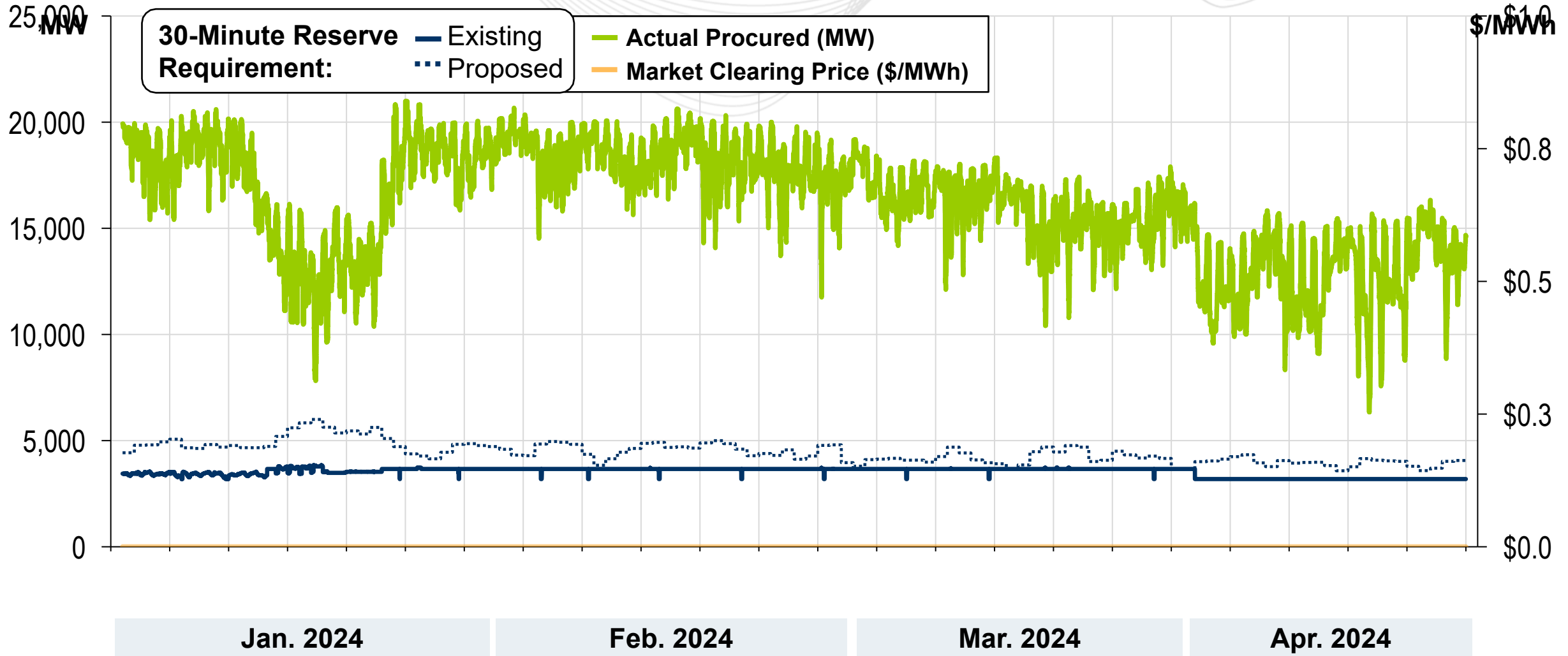
- DA SecR clearing price has always been \$0 including during WS Elliott.
- Ample secondary reserves vast majority of the time.
- A few instances of past procurement falling below new requirement during WS Elliott and Summer 2023 which could have led to a non-zero clearing price.
- New calculated requirement added on average ~1100 MW, max 3600 MW.







**REAL TIME**



- SecR clearing price in RT has always been \$0 except during WS Elliott.
- Ample secondary reserves vast majority of the time with one instance of procurement being below new requirement.
- Change in methodology in May 2023 to align with DA to procure all available SecR with a \$0 clearing price instead of just the requirement.\*\*
- New calculated requirement adds on average ~1100 MW, max ~3600 MW.

- Addition of requirement component based on forecasted peak load and error rates align Markets and Operations philosophies of reserve procurement.
- Proposed change does not materially change our usual outcome of a \$0 secondary reserve clearing price and ample reserves, but does provide a higher requirement during peak periods that will ensure more scheduled reserves and better price signals if warranted.

Facilitator:  
Lisa Morelli, [Lisa.Morelli@pjm.com](mailto:Lisa.Morelli@pjm.com)

Secretary:  
Amanda Egan, [Amanda.Egan@pjm.com](mailto:Amanda.Egan@pjm.com)

SME/Presenter:  
Joey Tutino, [Joseph.Tutino@pjm.com](mailto:Joseph.Tutino@pjm.com)

**Proposed 30 Minute Requirement Analysis**



**Member Hotline**

(610) 666 – 8980

(866) 400 – 8980

[custsvc@pjm.com](mailto:custsvc@pjm.com)

Acronym	Term & Definition
SR	<p><b>Synchronized Reserves</b> is a reserve capability that can be converted fully into energy within 10 minutes following the request of PJM. Equipment providing Synchronized Reserve must be electrically synchronized to the power system.</p>
NSR	<p><b>Non-Synchronized Reserves</b> is a reserve capability that can be converted fully into energy within 10 minutes following the request of PJM. Equipment providing Non-Synchronized Reserve need not be electrically synchronized to the power system.</p>
SECR	<p><b>Secondary Reserves</b> is a reserve capability that can be converted fully into energy within 30 minutes following the request of PJM. Equipment providing Secondary Reserve need not be electrically synchronized to the power system.</p>

**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](mailto:it_ops_ctr_shift@pjm.com)

