



# ERCOT Risk Based Maximum Daily Resource Planned Outage Capacity (MDRPOC) Methodology Revision

Shun Hsien (Fred) Huang  
Operations Support

April 23, 2025  
Technical Advisory Committee (TAC) Meeting

# Overview

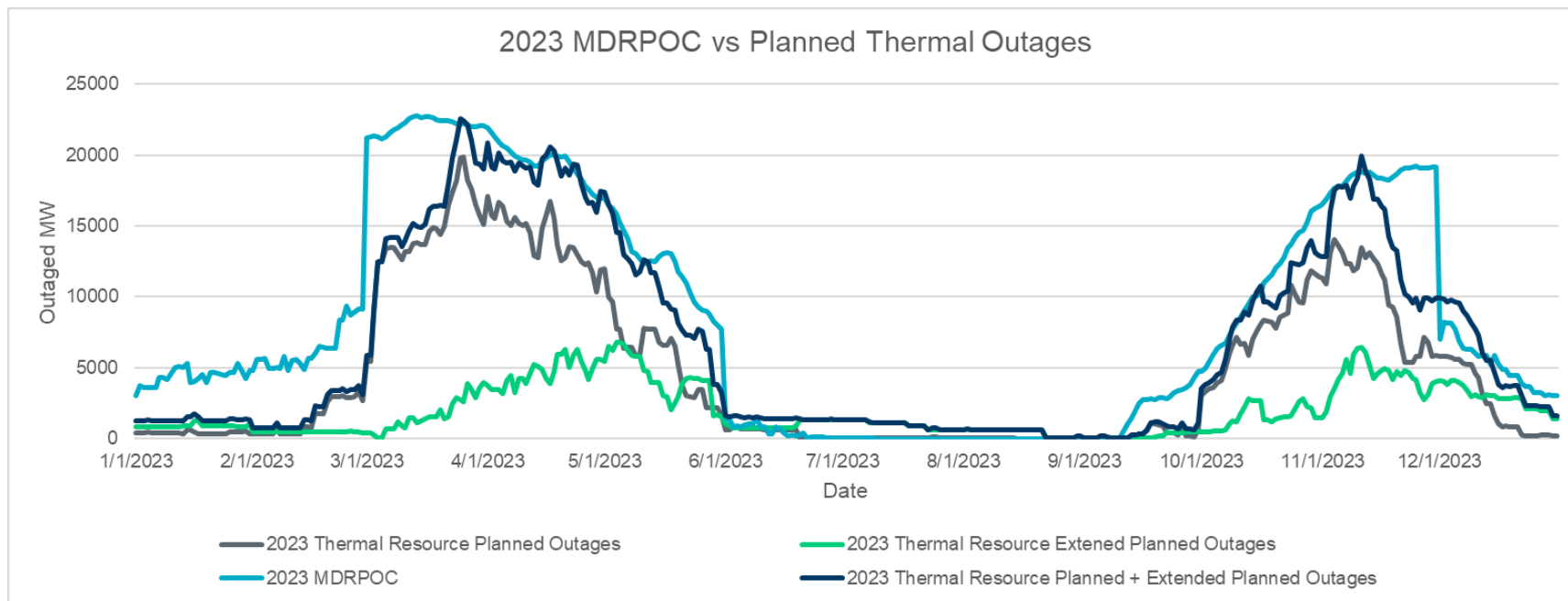
- **Purpose**

- Provide information on resource planned outage performance in 2023 and 2024
- Provide an update on the revised MDRPOC calculation and preliminary results for days more than 7 days up to next 60 months ahead of the Operating Day

- **Key Takeaways**

- Load growth and limited planned generation resources reduce the grid capability to support the needed resource outage requests
- More generation and or demand response will help support more outage capacity
- More flexibility to adjust the outages and or return to service will help support more outage capacity

# Performance Review: 2023 MDRPOC vs Thermal Resource Planned Outages



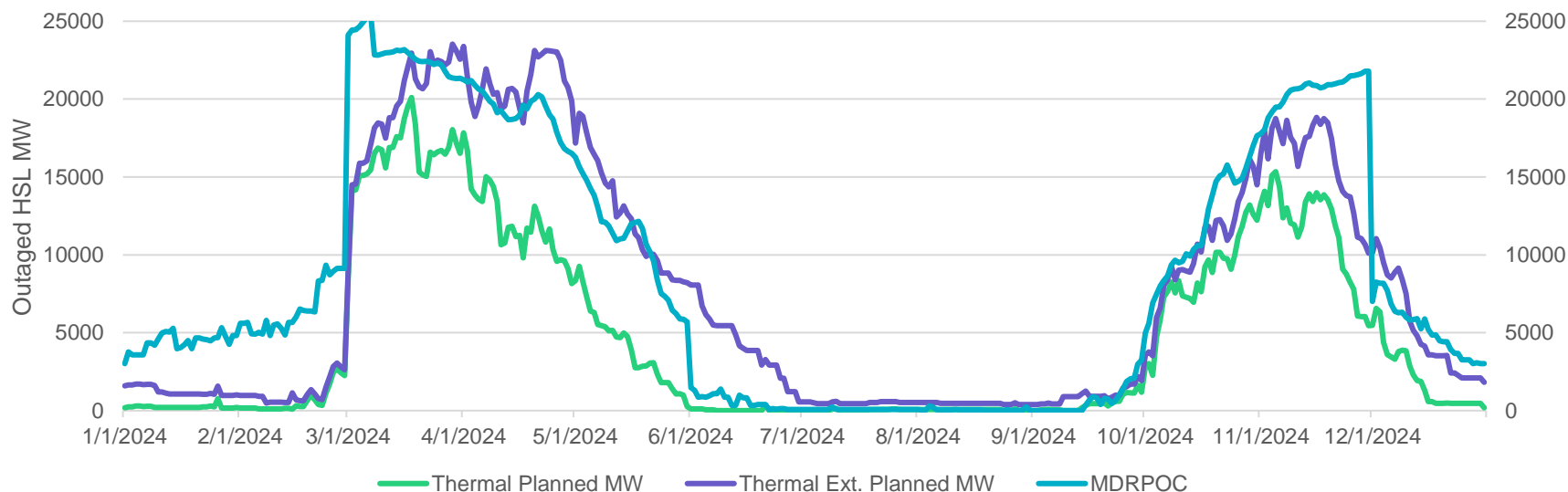
## Notes:

1. Outage MW is based on the outage capacity, not output potential. And it is based on the snapshot on each day in 2023.
2. Planned outage with unavoidable extension request is categorized as forced outage capacity

- MDRPOC provided sufficient outage window in 2023
- The approved planned outages would not be withdrawn due to the changes of MDRPOC after the approval

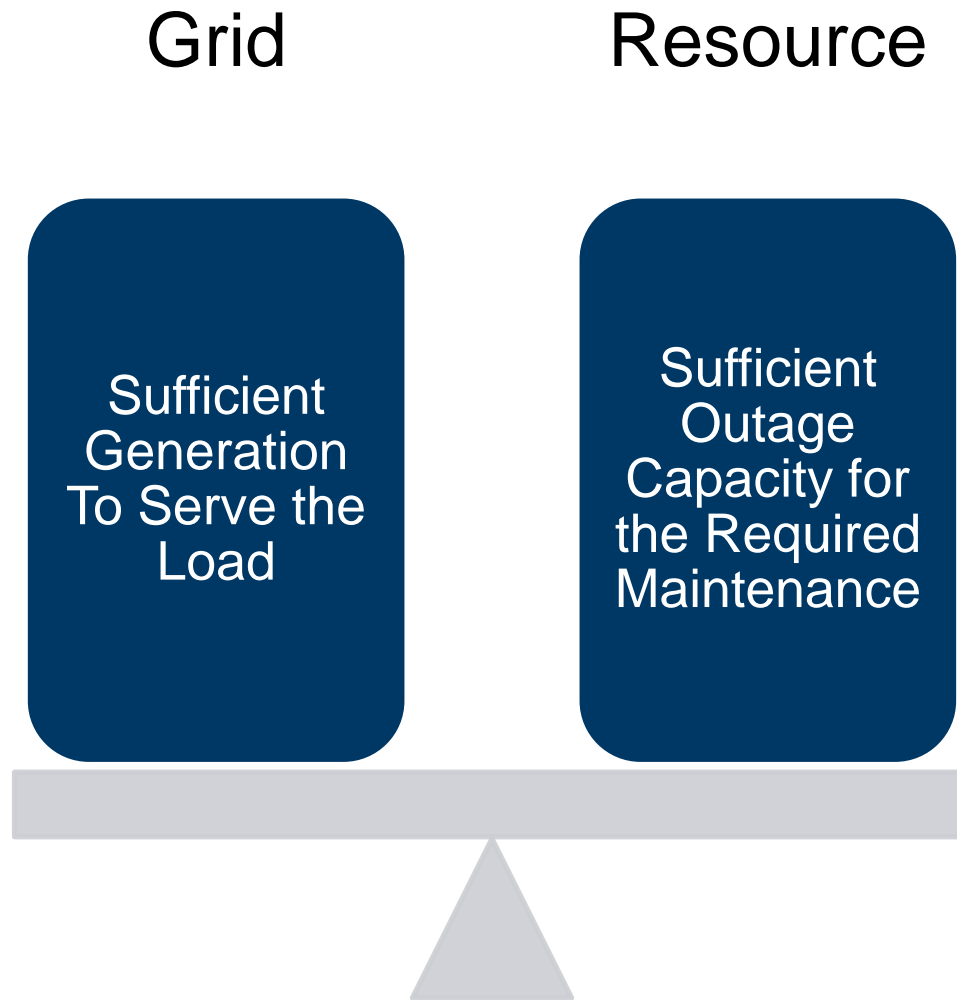
# Performance Review: 2024 MDRPOC vs Thermal Resource Planned Outages

2024 MDRPOC vs Planned Thermal Outages

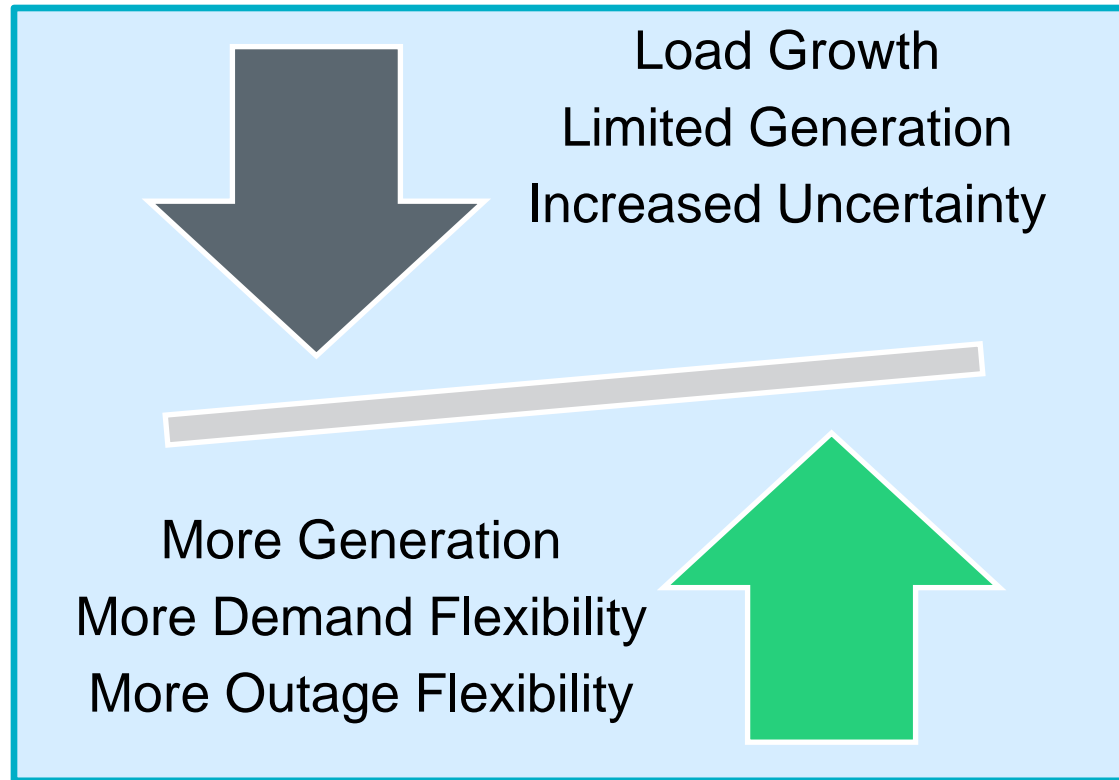


- MDRPOC provided sufficient outage window in 2024
  - Planned outages in 2024: 55% of MDRPOC
  - Planned outages and planned extension: 90% of MDRPOC

# Consideration of Resource Outage Capacity



# Challenges of Determining Resource Outage Capacity



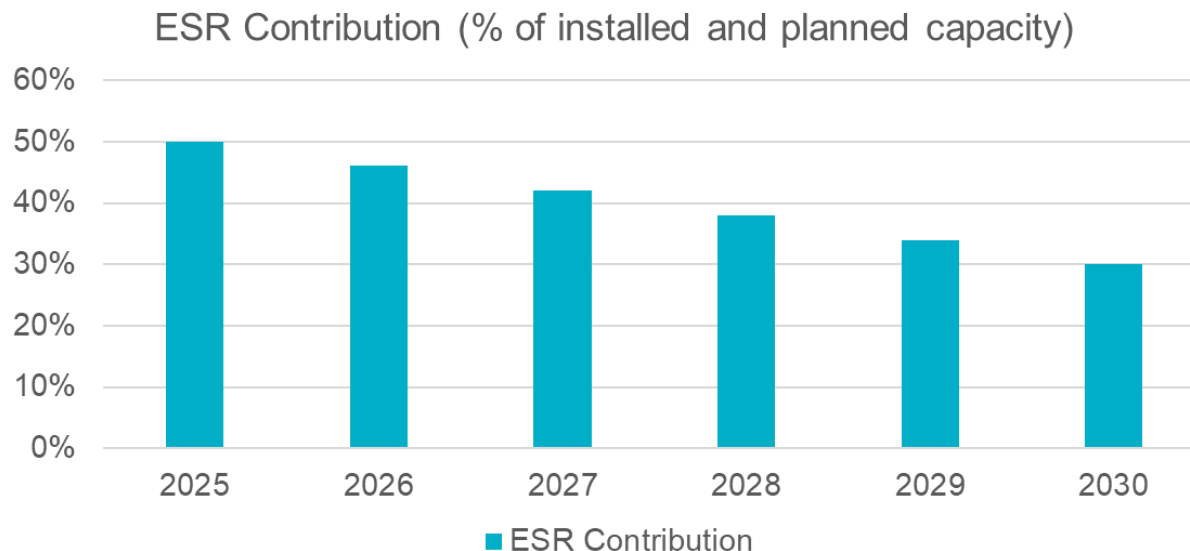
- The existing and planned generation resources are not sufficient to support the required planned outage capacity in the near future

# Consideration of MDRPOC Methodology Change

- The existing MDRPOC is calculated using a deterministic method based on the historical performance. This approach generally works for a grid with gradual and smooth changes over the years.
- The rapid changes of the ERCOT grid today introduce significant variation and uncertainty that cannot properly be incorporated in a deterministic method.
- As a result, a risk based MDRPOC is proposed to
  - quantify the risk level for the selected MDRPOC
  - quantify the impact of risk for any adjustment of MDRPOC calculation, such as load forecast
  - determine MDRPOC at selected risk levels

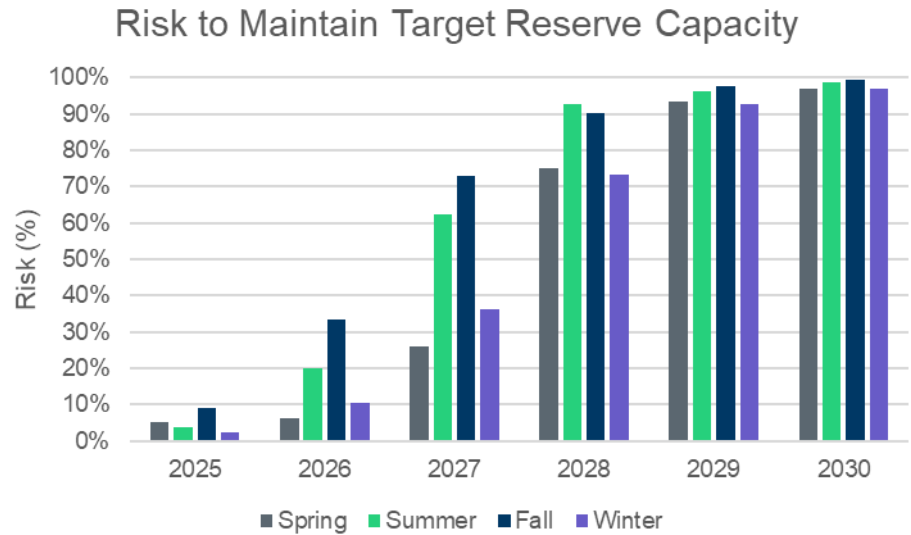
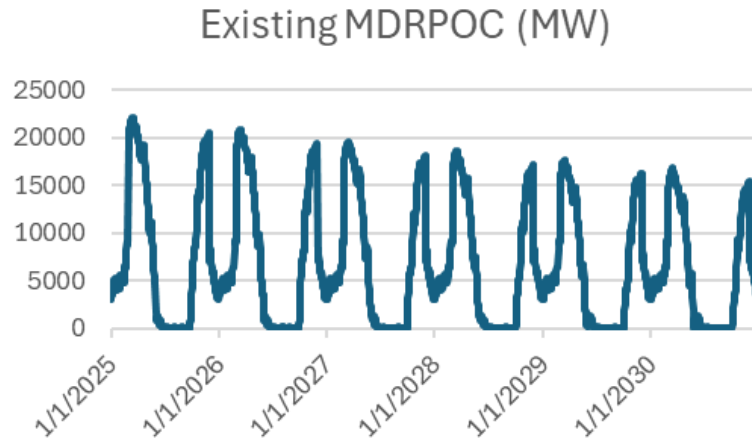
# Energy Storage Resource (ESR) Contribution

- No ESR contribution included in the current deterministic method
- 100% is optimistic and 0% is conservative
- Considering the actual performance and Capacity, Demand and Reserve (CDR) report, the ESR contribution included in the MDRPOC is shown below:





# Preliminary Result: Risk of the existing MDRPOC

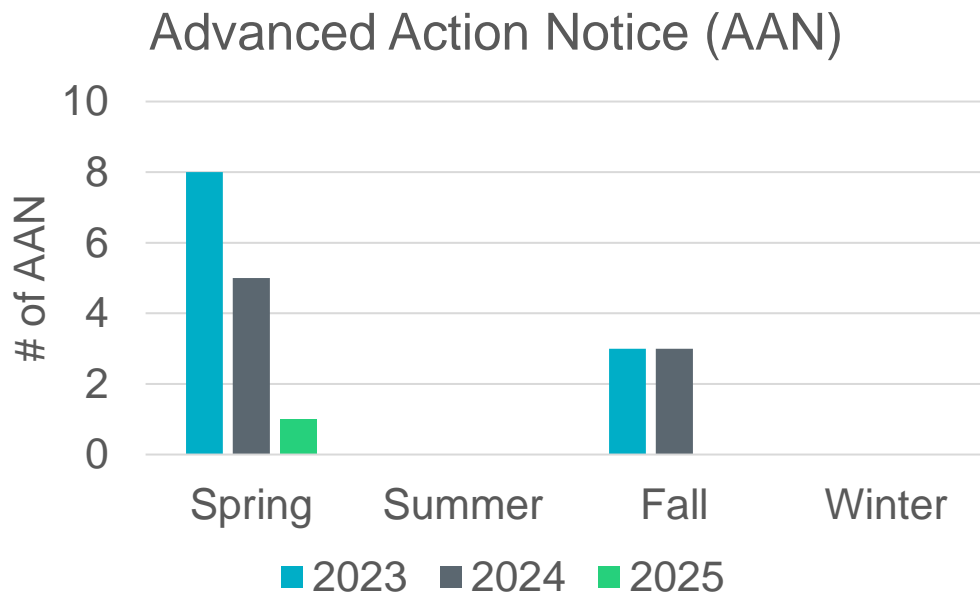


\*Risk of 5% indicates 5 days in a season may trigger the Advanced Action Notice (AAN) to maintain target reserve capacity  
\*\*Will be revised with the most recent ERCOT adjusted long term load forecast but the risk levels are expected to remain similar.

- Risk increases significantly after 2025 due to
  - Significant load growth based on 2025 long term load forecast
  - Limited new resource commitment for the future years

# AAN with issued requested MW Since 2023

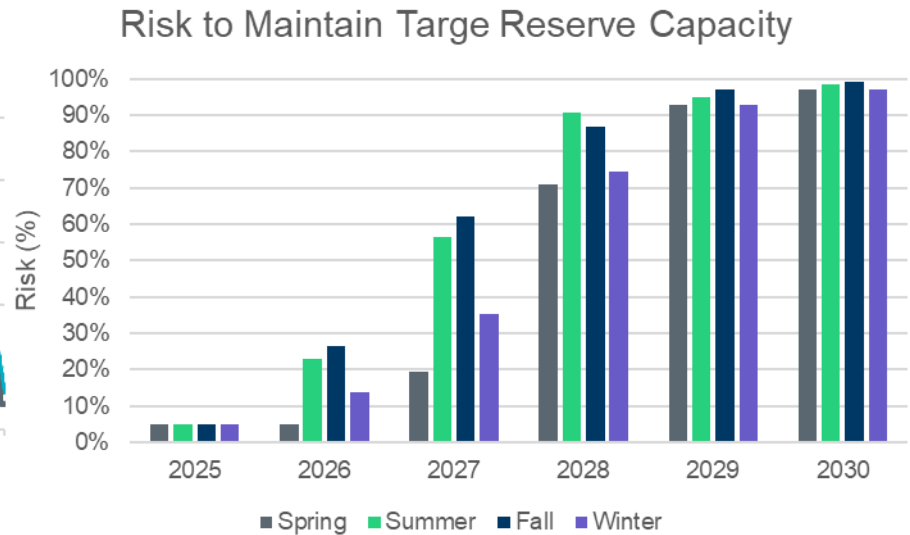
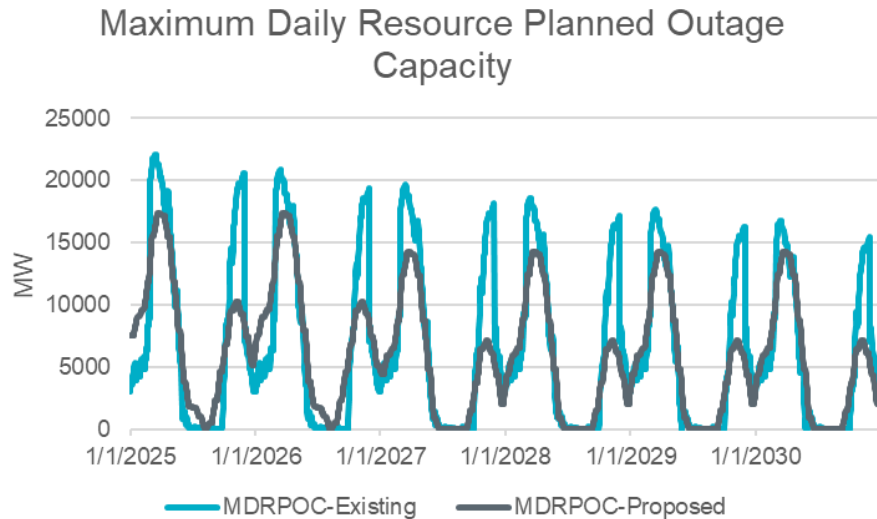
Date/Time	Requested MW
3/16/2023	3071
3/29/2023	7808
4/18/2023	2280
4/20/2023	1720
5/3/2023	2900
5/4/2023	3380
5/11/2023	4500
5/16/2023	3000
6/5/2023	586
10/16/2023	1950
10/27/2023	6430
11/5/2023	5700
4/11/2024	9950
4/26/2024	2832
5/2/2024	6060
5/15/2024	3377
5/16/2024	5265
10/17/2024	4682
11/7/2024	1568
11/8/2024	2251
4/16/2025	1340



## Proposed Risk Based MDRPOC Determination

- Objective
  - Maintain a selected risk level when possible
  - Provide sufficient outage capacity based on the historical outage needs
- For year 1~2 (2025 and 2026 as an example),
  - Determine MDRPOC at a selected risk level if it can provide equal to or greater than the 2024 actual **planned outages and planned extension**, otherwise
  - Adjust the MDRPOC to be equal to 2024 actual outage capacity (planned + extension)
- For year 3~5 (2027~2029 as an example),
  - Determine MDRPOC at a selected risk level if it can provide equal to or greater than the 2024 actual **planned outages**, otherwise
  - Adjust the MDRPOC to be equal to 2024 actual outage capacity (planned)

# Preliminary Results: Example



- The MDRPOC-Proposed in 2025 provides sufficient outage capacity and maintain the selected risk level of 5%
- MDRPOC-Proposed in 2026-2030 were adjusted to at least provide the needed outage capacity occurred in 2024. As a result, the risk is increased.
- MDRPOC will be updated periodically to include the latest grid changes, including new generation commitment.

## Next Steps

- April 23, TAC update
- May 2025
  - Issue the market notice for stakeholders' review and comments on the revised MDRPOC methodology
  - Submit NPRR (not dependent on the MDRPOC methodology change) for several miscellaneous update, including the potential exemption for specific Resource Planned Outages
- June 2025, BOD review and approval (tentative)