



# **Annual Review of 2023 Maximum Daily Resource Planned Outage Capacity (MDRPOC) Methodology and Outage Performance**

Technical Advisory Committee (TAC)

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# Review of MDRPOC Performance and Methodology

The [Methodology for Calculating Maximum Daily Resource Planned Outage Capacity](#) includes the following requirement:

For each calendar year, ERCOT will review the current methodology and the calculated Maximum Daily Resource Planned Outage Capacity and report its findings to Technical Advisory Committee (TAC). The findings will include but not be limited to, the following:

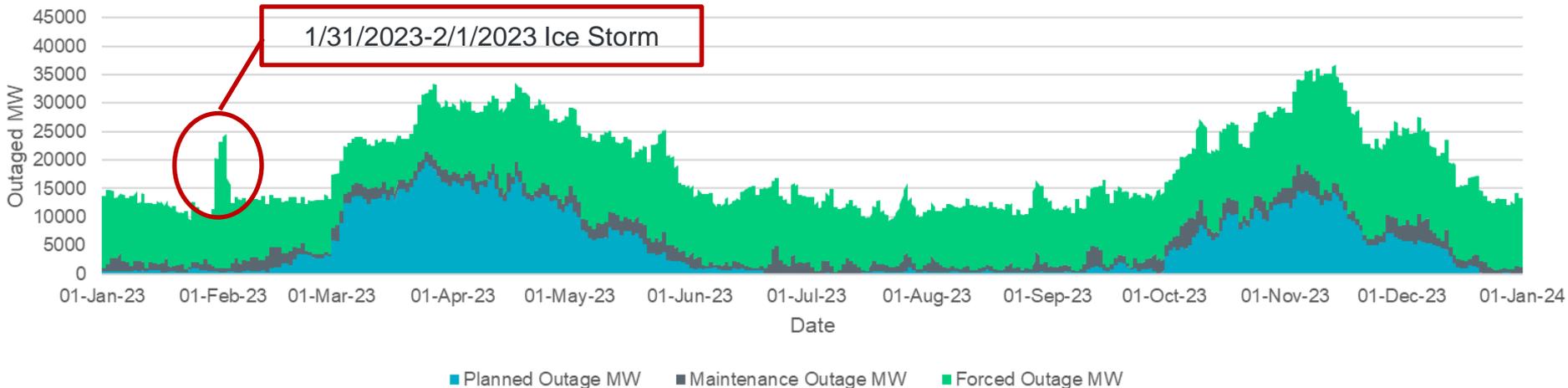
1. The aggregated hours of Resource Outages, including Planned Outages, Maintenance Outages, and Forced Outages in the preceding calendar year.
2. Comparison of the calculated Maximum Daily Resource Planned Outage Capacity and the aggregated hours of thermal Resource Planned Outages in the preceding calendar year.

The following comment/request was also submitted for the performance review:

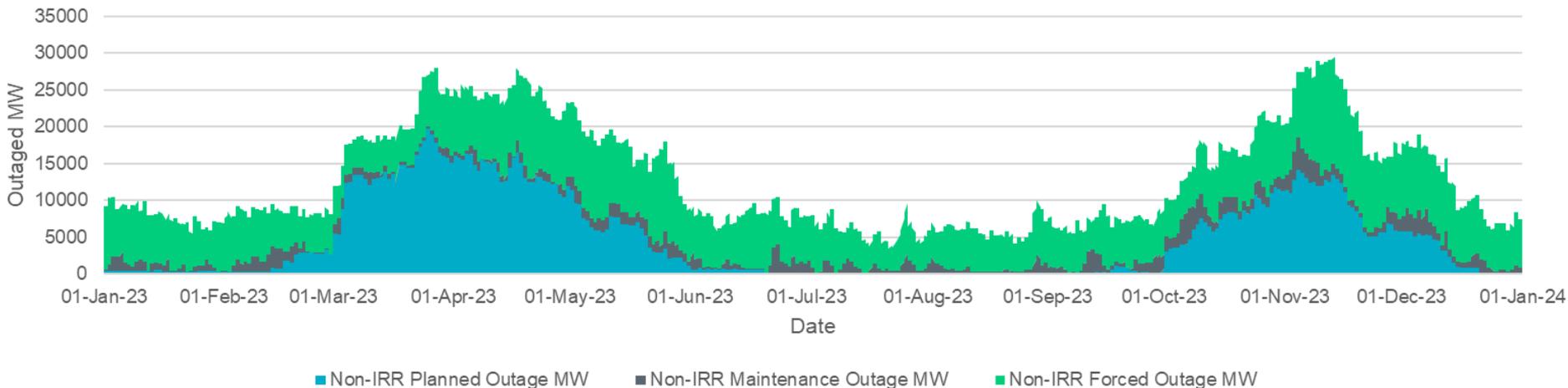
- When reviewing the MDRPOC effectiveness, ERCOT should consider sensitivities to load growth and generation retirements on the decreasing planned outage availability – and how that decreased planned outage ability translates to reliability outcomes.

# Performance Review: 2023 Aggregated Hours of Resource Outages

## 2023 Outaged MW - All Resource Types



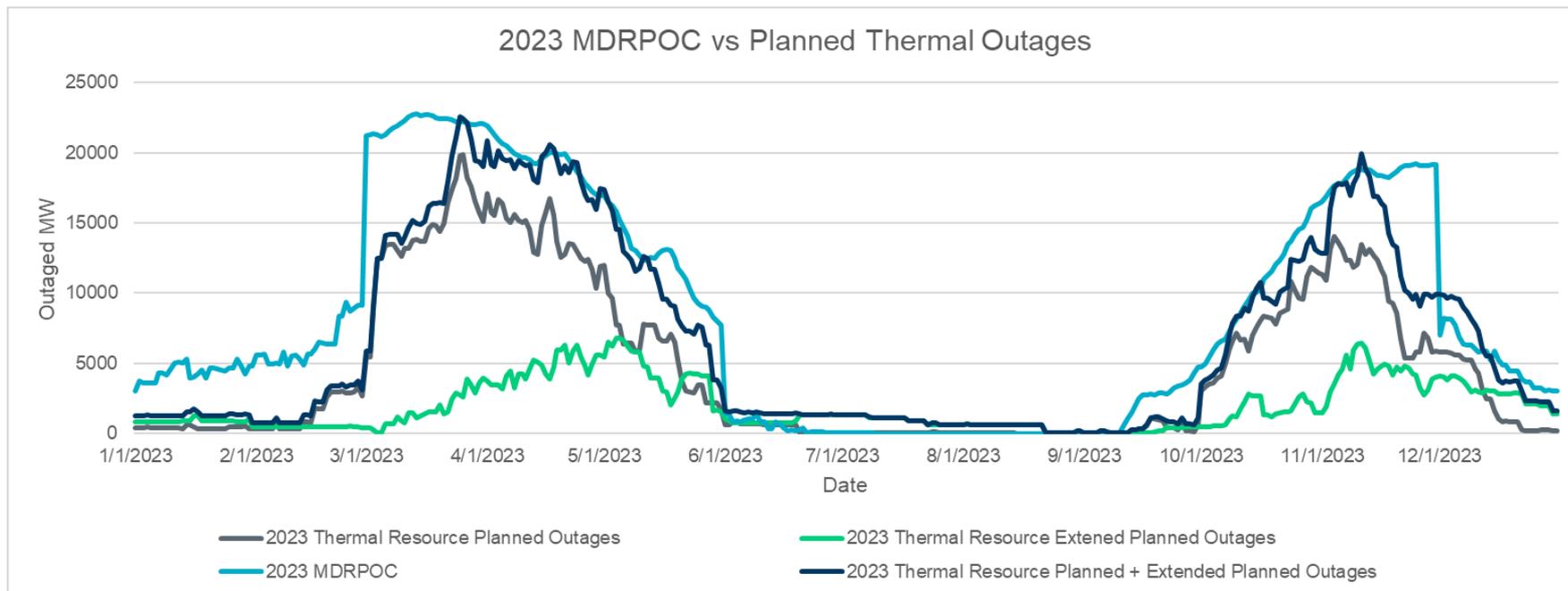
## 2023 Outaged MW - Non-IRRs



\*Outage MW is based on the outage capacity, not output potential



# Performance Review: 2023 MDRPOC vs Thermal Resource Planned Outages



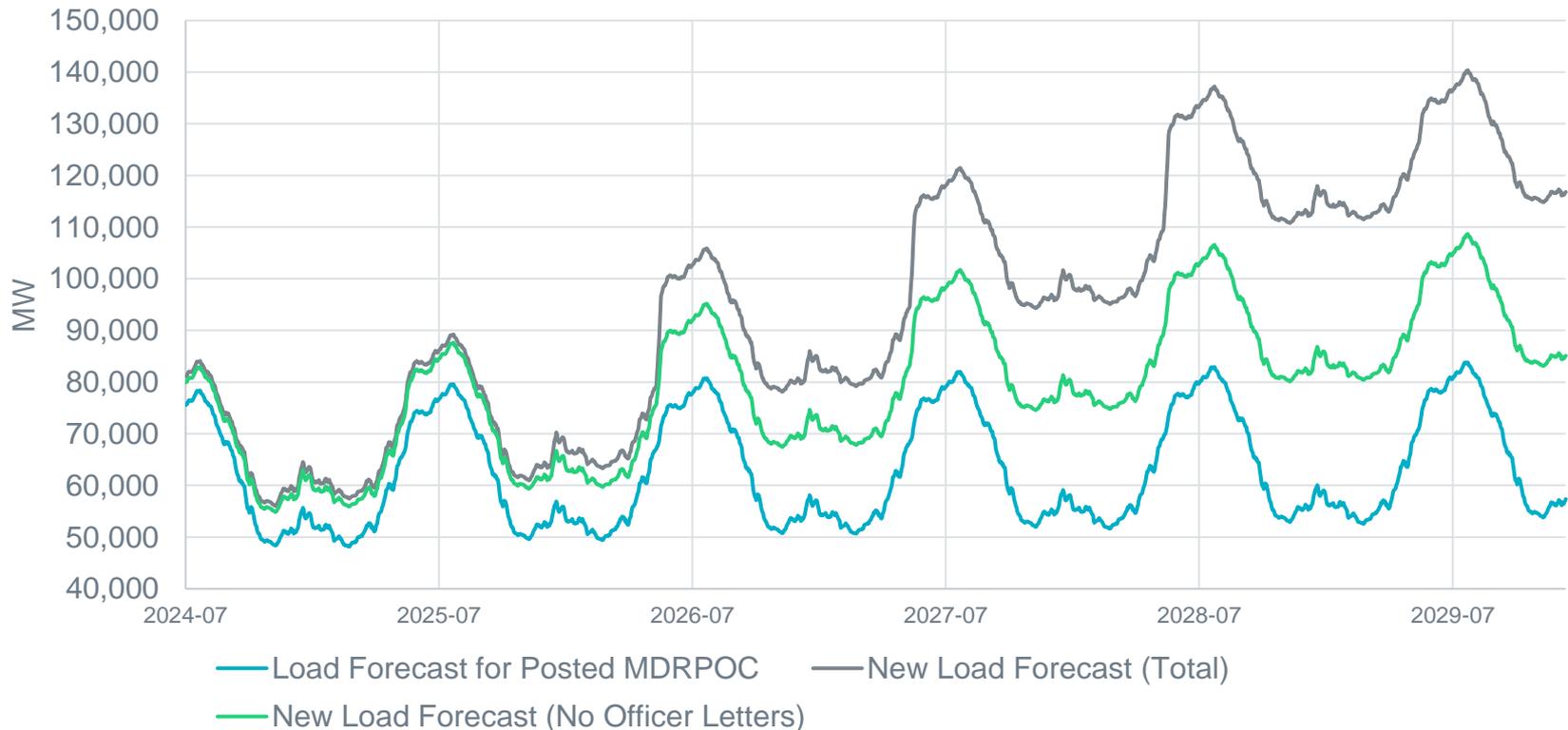
## Notes:

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 to support the 2023 planned outages
- The approved planned outages would not be withdrawn due to the changes of MDRPOC after the approval

# Long-Term Load Forecast in MDRPOC

Comparison of Load Forecast Inputs to MDRPOC Calculation

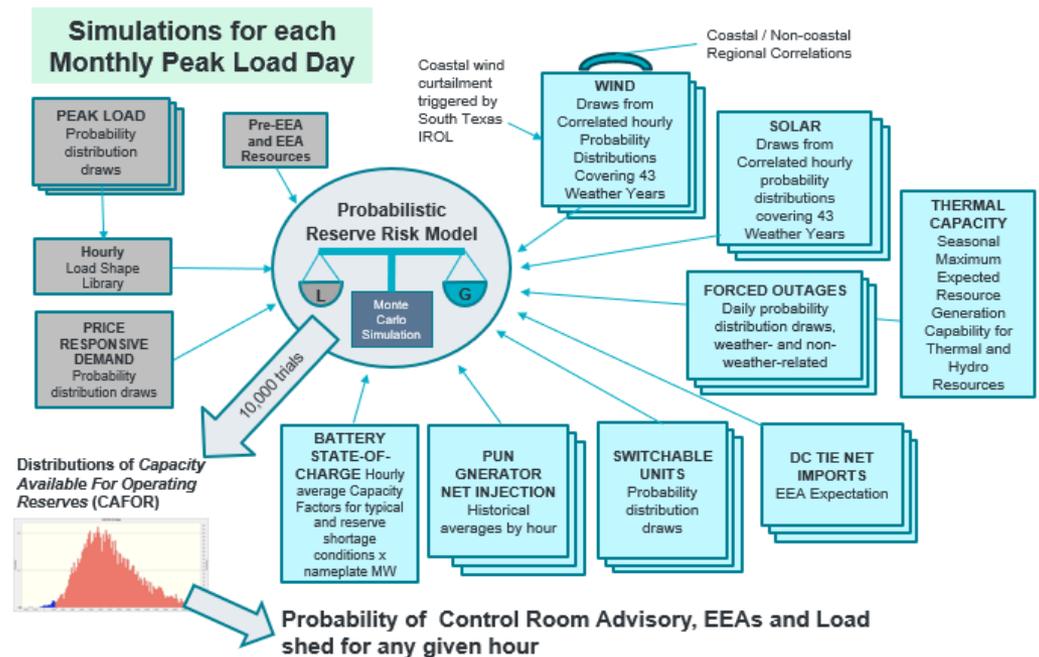


The updated Long-Term Load Forecast (LTLF) posted on July 19, 2024, showed a **significant increase** in projected load growth, which could **significantly reduce** the MDRPOC to support the planned outage requests based on the existing MDRPOC methodology.

# MDRPOC Methodology Review

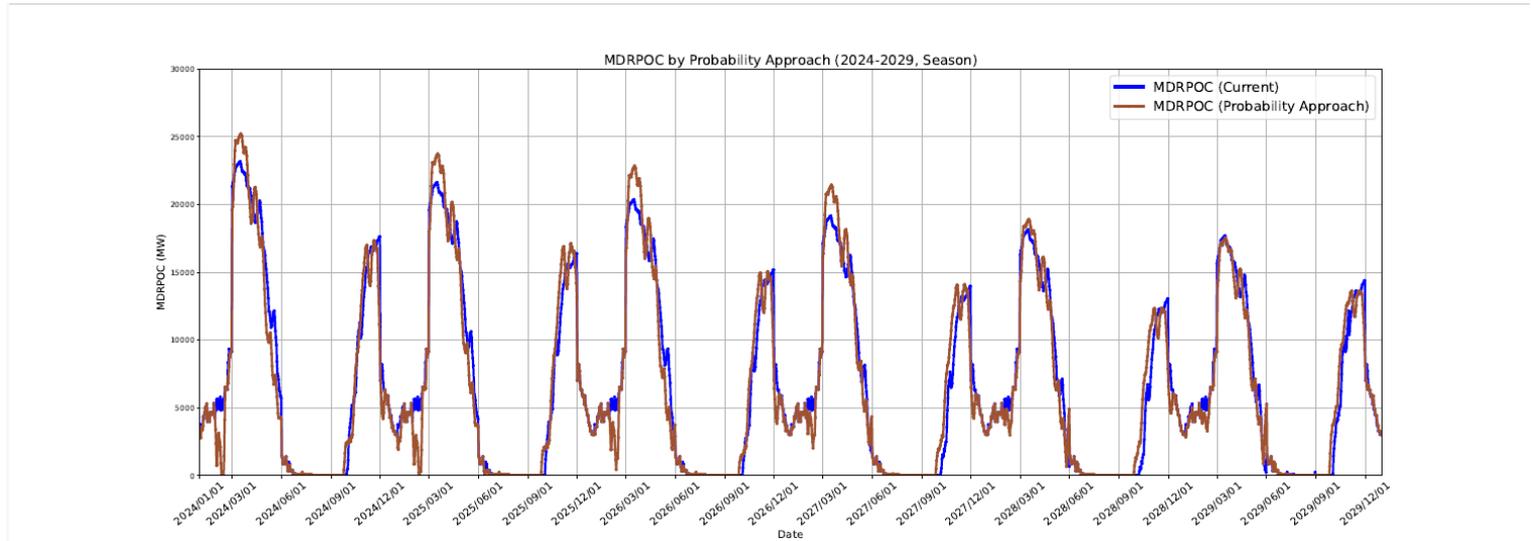
- The existing MDRPOC methodology calculates the MDRPOC deterministically and cannot easily quantify the risk level associated with the MDRPOC.
- Similar to the Monthly Outlook for Resource Adequacy (MORA), ERCOT has explored the feasibility of using a probabilistic approach to calculate MDRPOC. The benefits of a risk-based MDRPOC calculation include but not limited to:

- ❑ quantification of the risk level for the selected MDRPOC
- ❑ quantification of the impact of risk for any adjustment of MDRPOC calculation, such as load forecast
- ❑ determination of MDRPOC based on desired/acceptable risk level

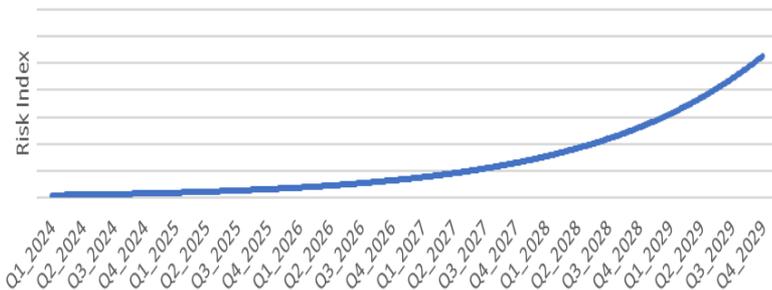


# Risk-based MDRPOC Example (concept only)

- The chart below is an example of using a probabilistic approach to estimate the risk level of the existing MDRPOC with the updated LTLF (without officer letter).



Risk Index (Probability to have reserve margin below xxx MW)



- Maintaining the existing MDRPOC for the updated LTLF could significantly increase the risk of EEA and or load shedding.
- The risk may be mitigated with new planned generation resources, less forced outages,...

## Next Steps

- ERCOT will continue develop and refine the risk-based probabilistic approach for MDRPOC calculation
- ERCOT plans to revise the MDRPOC methodology using a probabilistic based approach by Q2 2025
- Until the methodology is revised, ERCOT plans to maintain the existing MDRPOC value
- ERCOT can provide status updates to the stakeholders if needed