NARUC

National Association of Regulatory Utility Commissioners

Gas Committee Monthly Meeting

Dec. 9, 2024

AGENDA

1. Welcome
   Co-Vice Chair Kristie Fiegen, South Dakota
2. Presentations from NERC staff
   Jamie Calderon, Director of Standards Development
   Bob Tallman, Senior Engineer of Performance Analysis
3. Q&A/discussion
4. NARUC updates: future committee calls, NARUC winter policy summit
   Kiera Zitelman, NARUC staff
5. Other business

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Standard Development Energy Assurance

NARUC
December 9, 2024

Jamie Calderon, Director of Standards Development

Order 901 Summary

- Discussed at NARUC Summer Policy Summit
- New Reliability Standards to focus on the resilience of fuel supplies needed to assure electric reliability.
  - BAL-007-1
  - TOP-003-3

Study Type Terms

Energy Reliability Assurance Study (ERA): Assessment of the resources necessary to reliably supply the Electrical Energy required to serve Demand and to provide Operating Reserves for the Bulk Power System throughout the associated assessment period.

Near-Term Energy Reliability Assurance: An Energy Reliability Assessment with an assessment period that begins no later than two days after the operating day and has a minimum duration of five days and a maximum duration of six weeks.

Scenarios	Higher than forecasted or assumed Demand profiles
	The effects of an energy supply contingency
	The effects of a fuel supply contingency
	Other stressed conditions that have a historical precedent of occurring

Questions and Answers

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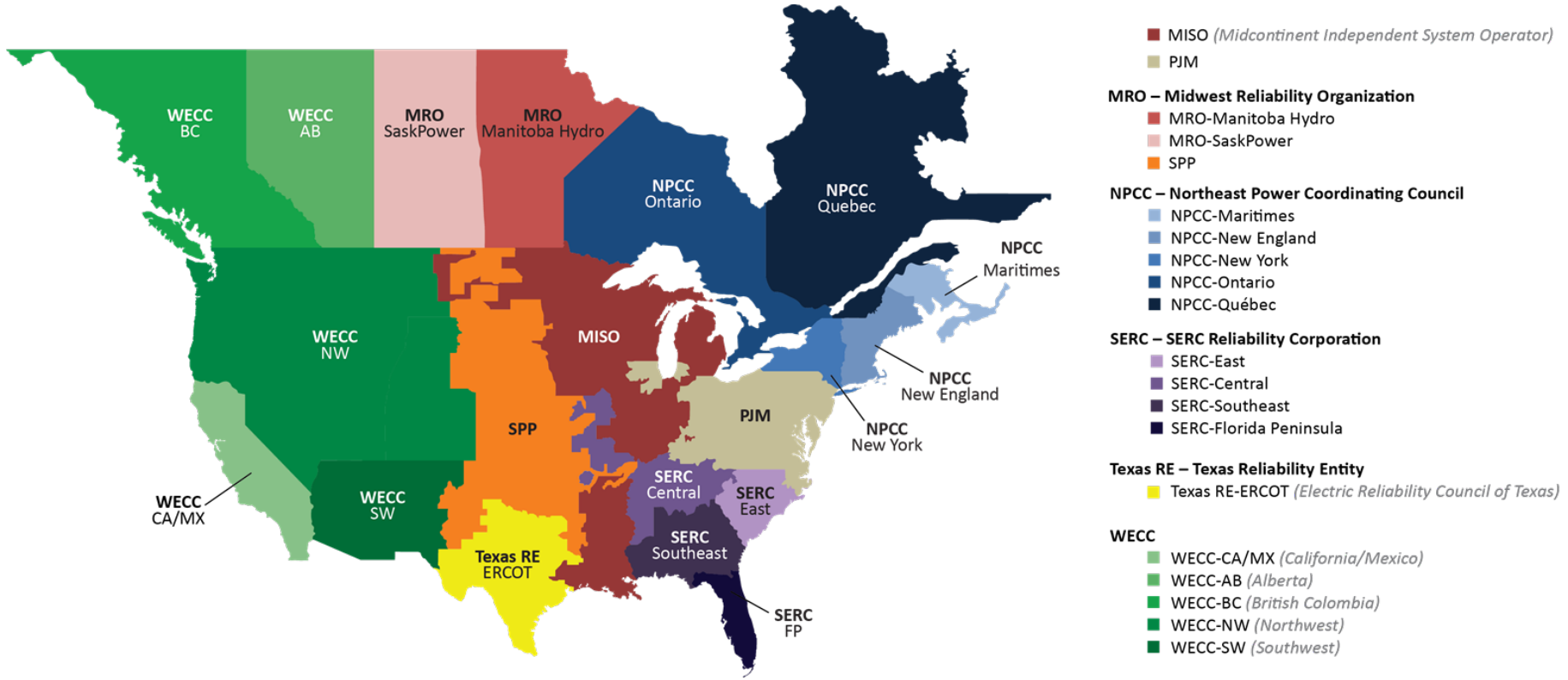
2024-2025 Winter Reliability Assessment

Bob Tallman, Senior Engineer, Reliability Assessment
NARUC Gas Committee Monthly Meeting
December 9, 2024

NERC Assessment Areas

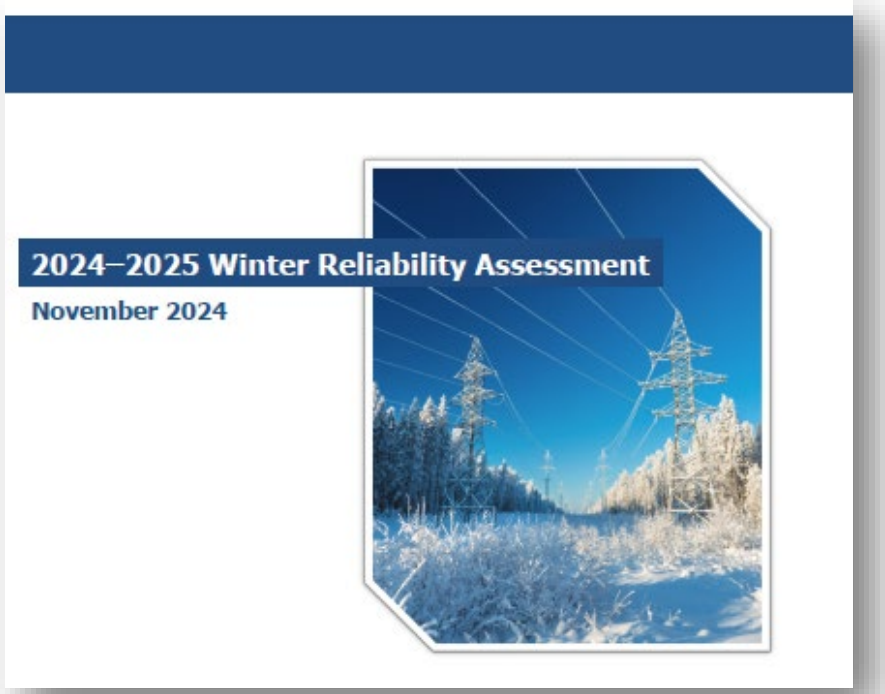


- Produced according to NERC Rules of Procedure and the ERO Reliability Assessment Process
- Demand and Resource Data Collected from BPS Planners in 20 Assessment Areas
- NERC, Regions and Area Subject Matter Experts Assess Reliability Concerns

Annual Winter Assessment Highlights

Key Takeaways

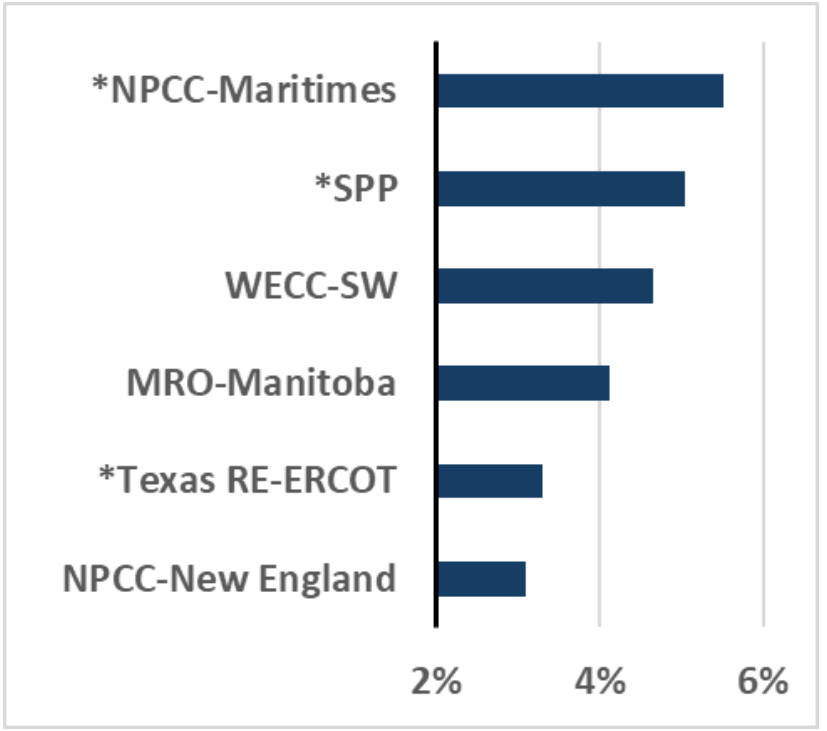
- Resources are adequate across North America for expected peak conditions
- Extreme winter conditions pose familiar challenges for bulk power system reliability
  - High electricity demand and forecasting challenges
  - Generator performance
  - Fuel supply issues
- Regulatory and industry initiatives are reducing winter reliability risks



The WRA examines resource adequacy, risk scenarios, and industry preparations for the winter season.

Rising Winter Demand

- Winter demand increases exceeding 2% are seen in most assessment areas
- Reserve margins in Maritimes and Manitoba have fallen to minimum levels for reliability after consecutive years of strong growth
- Resource planners must carefully consider the winter capabilities of the future resource mix for adequacy

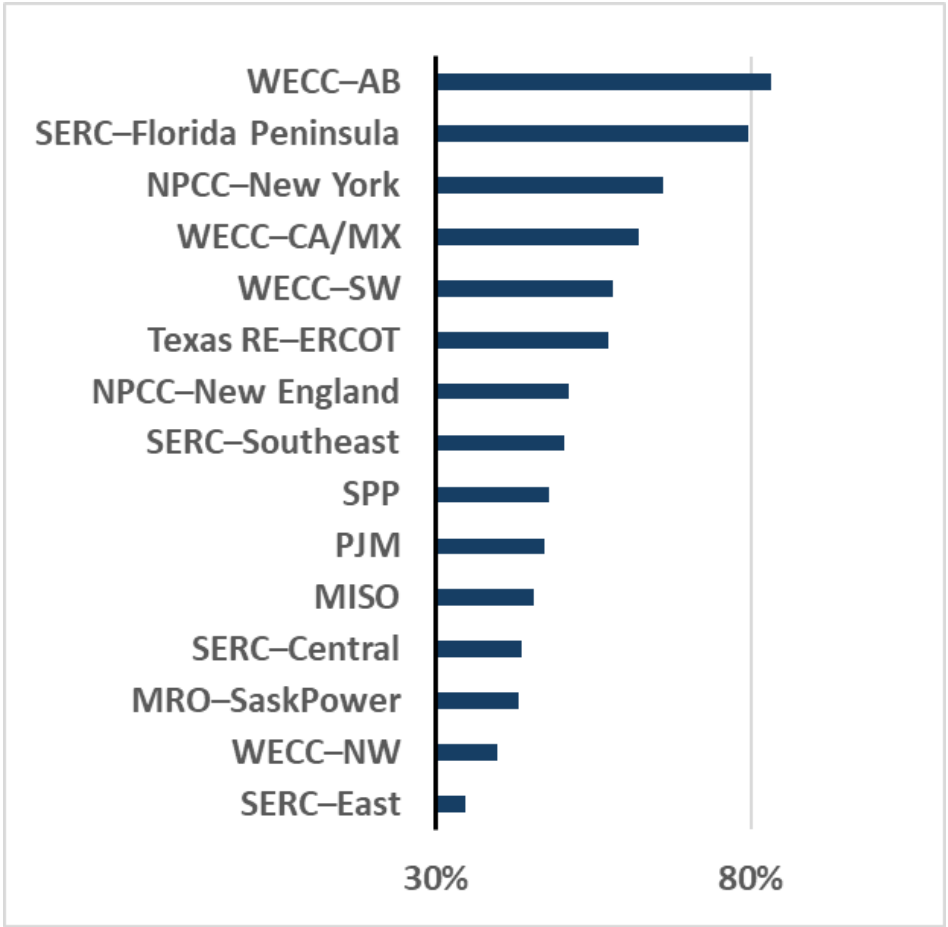


Annual Increase in Peak Winter Demand (3% or More)

**Among the higher growth areas for consecutive years*

Natural Gas Is Essential

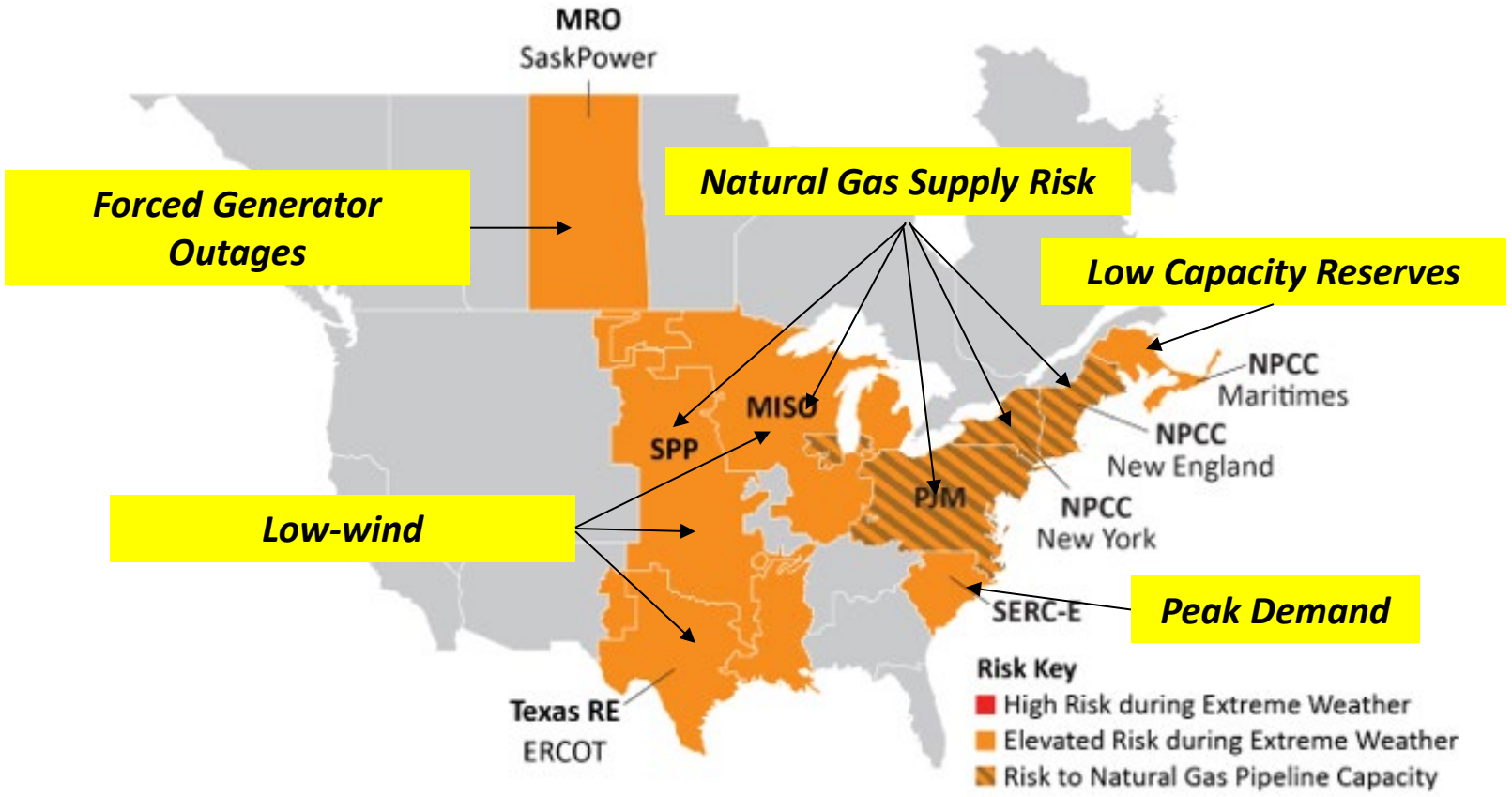
- Generators that use natural gas as primary fuel are the main winter resource across the U.S. and in Alberta
- In winter storm Elliott (2022) 26% of all generator outages were due to fuel issues
- Fuel supply issues during extreme cold are a concern in MISO, SPP, PJM, New England, and New York
- Regional pipeline capacity faces limitations in the Mid-Atlantic to New England



Natural Gas-fired Generation Capacity In Winter

2024-2025 Winter Risk Area Summary

Key Risk Elements During Extreme Winter Conditions
Results of WRA Probabilistic Analysis and Operational Risk Scenarios

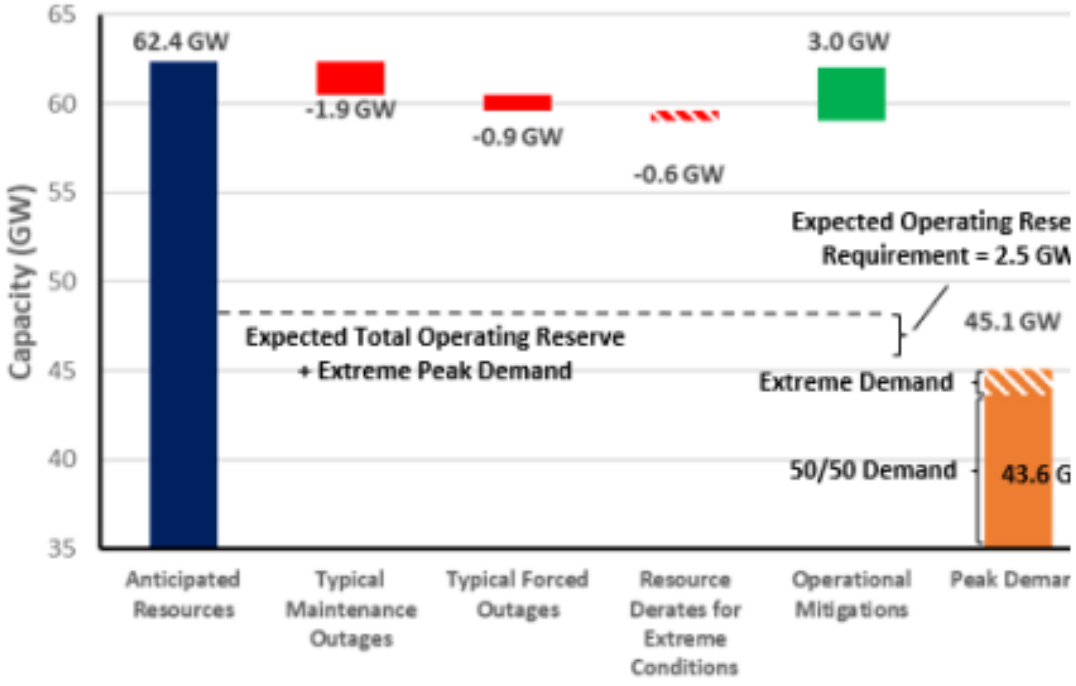


2024-2025 Winter Reliability Risk Map

2024-2025 WRA - Normal & Elevated Risk Profiles

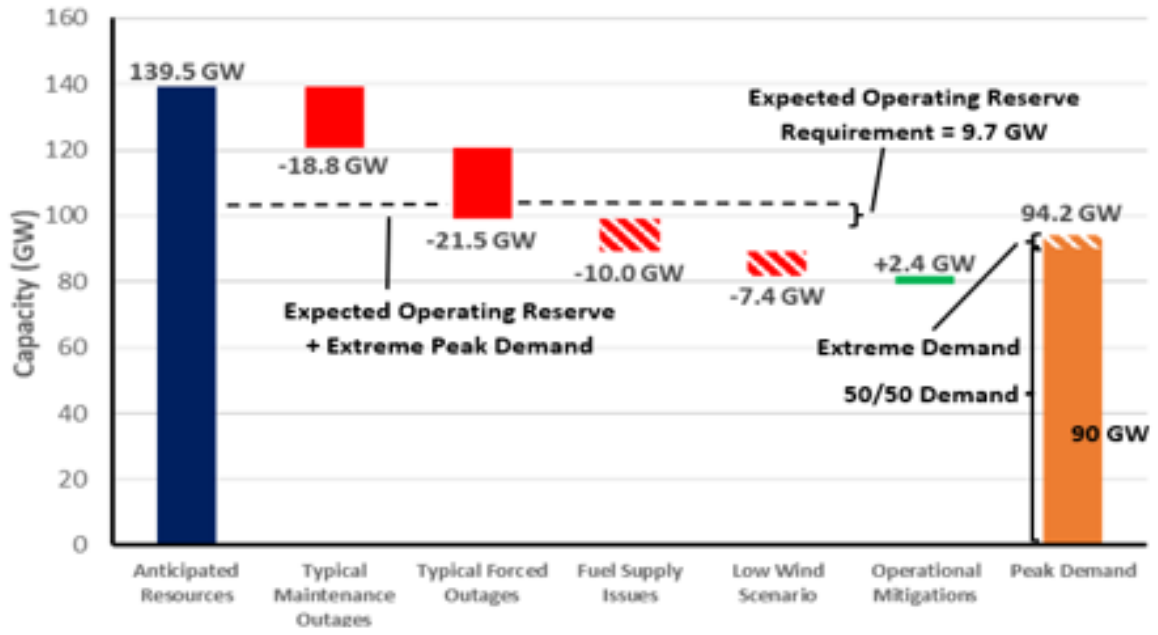
Normal Risk

2024-2025 Winter Risk Period Scenario
SERC-SE



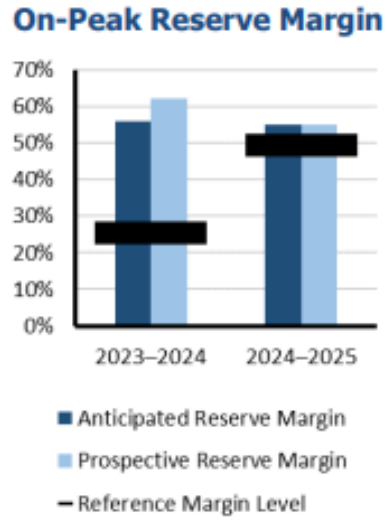
Elevated Risk

2024-2025 Winter Risk Period Scenario
MISO



Winter Reliability Assessment Risk Factors

- **Waterfall Charts**– Total capacity available adjusted to normal forced and maintenance outages for 50/50 peak demand hour, further reductions for extreme or 90/10 peak demand.
- **Probabilistic Assessment**- Analysis intended to reveal expected hours, if any, of unserved energy.
- **Anticipated Reserve Margin/Reserve Margin Level ratio**
  - Can reveal capacity shortages and YoY change.



MISO 2024-25

- **Qualitative Overlay**– After assessing quantitative measures, incorporate any assessment area or neighboring assessment area issues revealed in, e.g., narrative responses.

Reliability Initiatives Drive Improved Winter Performance

Regulatory Highlights

- Reliability standards implemented in 2023 require generator cold weather plans and operator coordination
- Rules in Texas respond to Winter Storm Uri (2021) generator and fuel supply issues
- FERC and NERC continue monitoring winter storm report recommendations

Industry Initiatives

- January 2024 Arctic Storms resulted in no load-loss events
- Improved generator performance attributed to weatherization, early warning and unit commitment

2024-2025 Winter Reliability Assessment Recommendations

- **Cold Weather Preparations** – Operators should review seasonal operating plans, communications protocols, and lessons-learned
- **Generator Readiness** - Generator Owners should complete winter readiness preparations, deploy weatherization packages in advance of winter storms, and frequently check cold-weather mitigations
- **Fuel** – Balancing Authorities (BA) should implement generator fuel surveys to monitor the adequacy of fuel supplies
- **Load Forecasting** – BA should anticipate load forecasts uncertainty and be prepared to take early action to manage potential reserve deficiencies
- **State regulators and policy makers** – support environmental and transportation waivers when requested to manage potential emergencies

Questions and Answers

UPCOMING MEETINGS

- Jan. 13, 1 pm ET: NERC long-term reliability assessment briefing
- Feb. 23 – 26: NARUC winter policy summit, Washington DC
- Invitations to 2025 Gas Committee calls coming soon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