



Updating MTEP Reliability Sensitivities for NERC TPL

Planning Subcommittee (PSC)

4/29/2026

Purpose & Key Takeaway



Purpose

Present MISO's analysis on updating one of the MTEP sensitivities to the Winter Peak scenario with low renewables

Key Takeaways

- Historical MTEP steady state results shows that the Winter scenario is a significant source of criteria violations compared to existing sensitivities
- MISO evaluated several wind dispatch assumptions in the Winter peak case to compare thermal and voltage violations to the existing Winter assumptions

Current MTEP Scenarios to Meet NERC Compliance

- Base cases use capacity credit or average renewable dispatch to simulate typical operating conditions
- Sensitivities are used to stress the transmission system

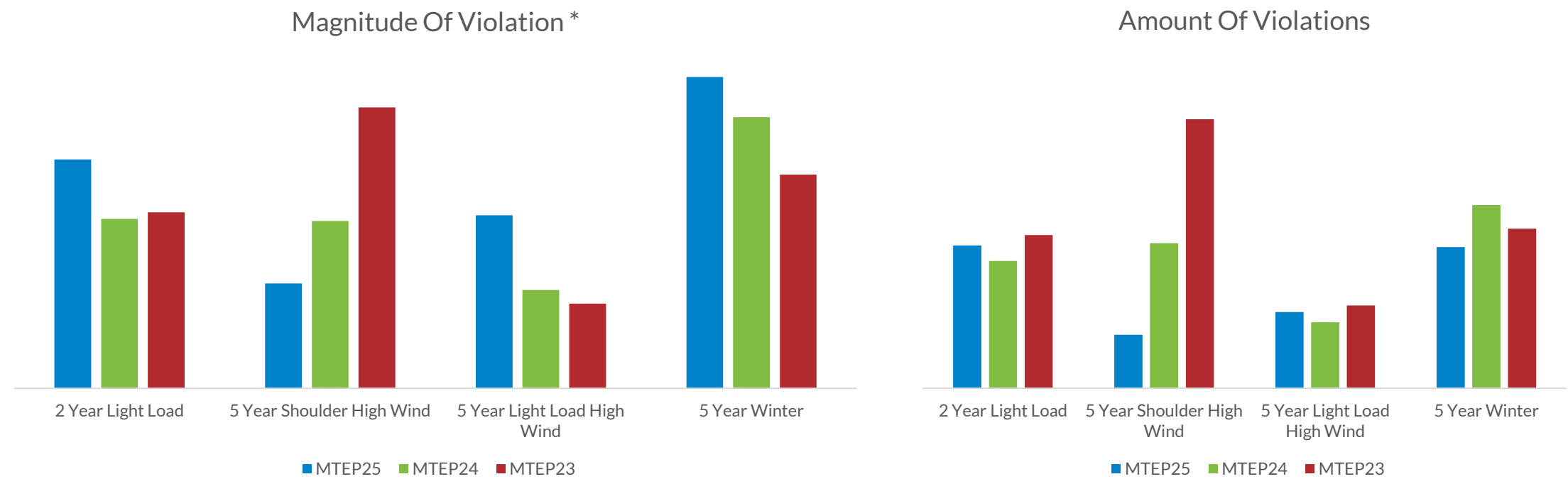
Model Year	Base case	Sensitivity
Year 2	20XX Summer Peak, Wind and Solar – Capacity Credit <i>TPL requirement R2.1.1</i>	20XX Light Load, Wind and Solar - 0% <i>TPL requirement R2.1.4</i>
Year 5	20XX Summer Peak, Wind and Solar – Capacity Credit <i>TPL requirement R2.1.1</i>	20XX Summer Shoulder (70-80% peak), Wind 76% - Solar 47% <i>TPL requirement R2.1.4</i>
	20XX Summer Shoulder (70-80% peak), Wind 27% - Solar 48% <i>TPL requirement R2.1.2</i>	20XX Light Load, Wind 84% - Solar 12% <i>TPL requirement R2.1.4</i>
	20XX Winter Peak, Wind 67% - Solar 0% <i>Informational Only</i>	
Year 10	20XX Summer Peak, Wind and Solar – Capacity Credit <i>TPL requirement R2.2.1</i>	

Maintaining an Effective Planning Process

- Efficient set of planning scenarios to meet compliance requirements and produce results that contribute to reliability
- Sensitivities for the base cases allow flexibility with various inputs
 - Load, Generation, Transfers, Outages
- MTEP analysis has focused on high wind sensitivities in the long term planning horizon and did not require
 - Low or below average wind
 - Low renewables at high system loads
- Historical review of the Winter Peak case in operations and MTEP highlights the significance of these assumptions

Winter Scenario Produces Impactful Results

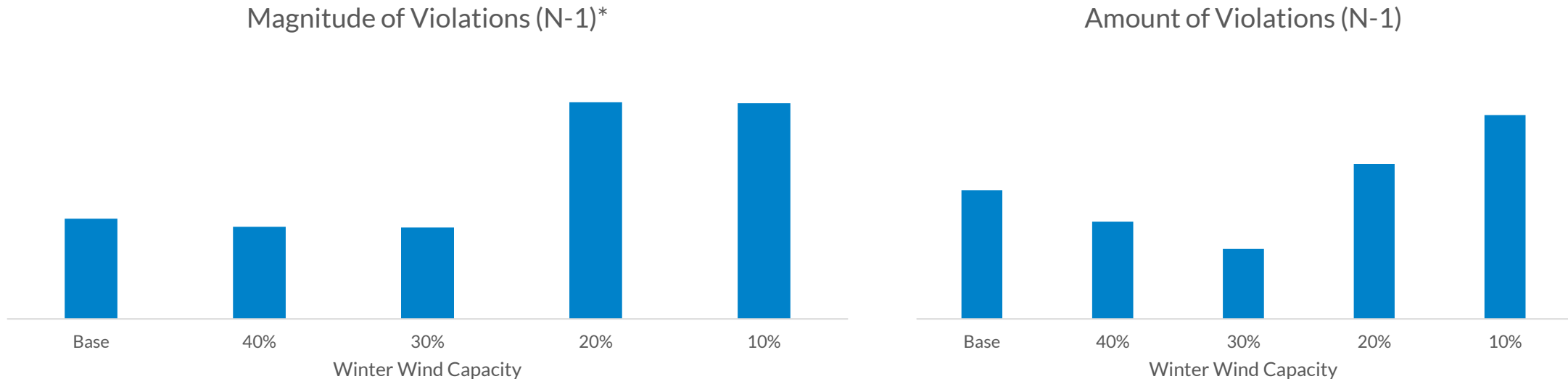
- Existing sensitivities do stress the MISO system but to varying levels
- Review of previous MTEP cycles shows the impact of the Winter scenario is greater than most of the other current sensitivities



*calculated as the % of the rating violation

Stressing Renewable Availability to Create Measurable Results

- Average solar to support the Winter Peak is near 0%
 - MISO is proposing to keep the existing solar assumption of 0% for this scenario
- Available wind varies which allows flexibility for dispatch assumptions
 - MISO focused on lower wind capacity factors to support a high load with low renewable dispatch scenario



*calculated as the % of the rating violation

Proposed MTEP Scenarios to Meet NERC Compliance

- 5 year Winter Peak would replace the 5 year Light Load, High Wind for TPL R2.1.4
- 5 year Winter Peak renewable dispatch of 0% solar and lower than average wind
- 5 year Light Load, High Wind would not be used for MTEP reliability studies

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	20XX Summer Shoulder (70-80% peak), Wind 27% - Solar 48% <i>TPL requirement R2.1.2</i>	20XX Winter Peak, Wind 20% - Solar 0% <i>TPL requirement R2.1.4</i>
Year 10	20XX Summer Peak, Wind and Solar – Capacity Credit <i>TPL requirement R2.2.1</i>	

Next Steps

- Updates to BPM-020 and other Planning documentation will be investigated to align with the modeling scenario updates
- Review model building timeline to incorporate proposed changes into MTEP27

Contact

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