



Dynamic Regulating Reserve Requirement Proposal **RSC-2024-1**

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Purpose and Key Takeaways

- Purpose: Seek adoption of “Dynamic Regulating Reserve Requirement” by RSC ✓
- Key Takeaways:
 - The rapid portfolio transition is driving a more volatile risk profile
 - Historically, Regulating Reserve has static requirement that may not be effective in managing the increasing and varying uncertainty in the 4sec-5min timeframe
 - This proposal is to develop a methodology to quantify the net uncertainty and recommend a process to operate dynamic Regulating Reserve requirement

Define and Summarize Issue

- Issue Statement: Existing static Regulating Reserve requirement is not adequate to manage the varying and increasing 4sec-5min uncertainty in the changing portfolio
- Why is it important?
 - Regulating Reserve is an instrumental market product for MISO to balance supply and demand and fulfill NERC BAL-001-2
 - Appropriately setting its requirement is critical for the product to work effectively
 - Dynamic reserve is one of the key recommendations from MISO Attributes initiative

Potential Benefits of Issue Resolution

- Reliability – Ensure MISO effectively balancing generation and load at all time
- Compliance – Allow the fulfillment of NERC requirement
- Market efficiency – Maintain a least-cost solution with efficient market signals and minimize out-of-market interventions
- Sustainability – Position MISO for the fast-transitioning portfolio such as increased solar penetration

Potential Roadblocks to Issue Resolution

- Initial assessment shows that this proposal does not require Tariff or software changes. However, given the multiple systems Regulating Reserve impacted, a thorough review will be needed as the solution is developed
 - Clearing: Day-Ahead and Real-Time energy and ancillary service markets
 - Deployment: Automated Generation Control
- The 4sec-5min short timeframe requires a highly automated solution. A phased approach will be needed to first establish seasonal, hourly, H/M/L requirements and then automate the switch of H/M/L requirements based on anticipated risks

Next Steps

- Recommendation for RSC to Adopt Issue✓
- Develop workplan with Stakeholders
- Target to kick off the work Q3, 2024



Appendix

MISO Market Products

Market product	Uncertainty covered	Resource eligible	Requirement source
Regulation	4sec-5min	5min rampable capacity from reg-qualified resource	NERC BAL-001-2
Contingency Reserve	Largest contingency	10min rampable capacity from online (spin) or eligible offline (supp*)	NERC BAL-002-2(i)
Ramp Capability Product	10min-30min	10min online rampable capacity	Good Utility Practice
Short-Term Reserve	30min-3hr	30min rampable capacity online or eligible offline	Good Utility Practice
(Next Day Reserve Margin**)	Next-Day	Online capacity plus 4hr offline short-lead	Good Utility Practice

Note: * supplemental reserve can be provided by both online and offline eligible resources whereas spinning reserve has to be online
 **Currently managed by ND Operating process. Not a market product yet but both Attributes and the IMM recommended such product