

Synchronized Reserve Event Performance Generator Outreach

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- PJM has observed poor performance of assigned resources during synchronized reserve events since the implementation of Reserve Price Formation (RPF) on October 1, 2022
 - As a result, PJM has temporarily increased its reliability requirement by 30% to 130% of the largest contingency to address the performance uncertainty
- PJM & IMM worked together on an outreach plan to generators to better understand the reasons for lack of performance
- The goal of this effort is to improve the performance of assigned resources during synchronized reserve events



Categorization of Issues

- Delayed Action or Lack of Action by MOC*: Incorrect action or lack of action taken by MOC operator
- Lack of Knowledge of Business Rules/Operational Procedures: MOC operator did not know what to do when spin event was called
- Followed Basepoint Instead of Loading Reserves: Followed basepoint when unit should've come off Automatic Generation Control (AGC) and fulfilled reserve assignment

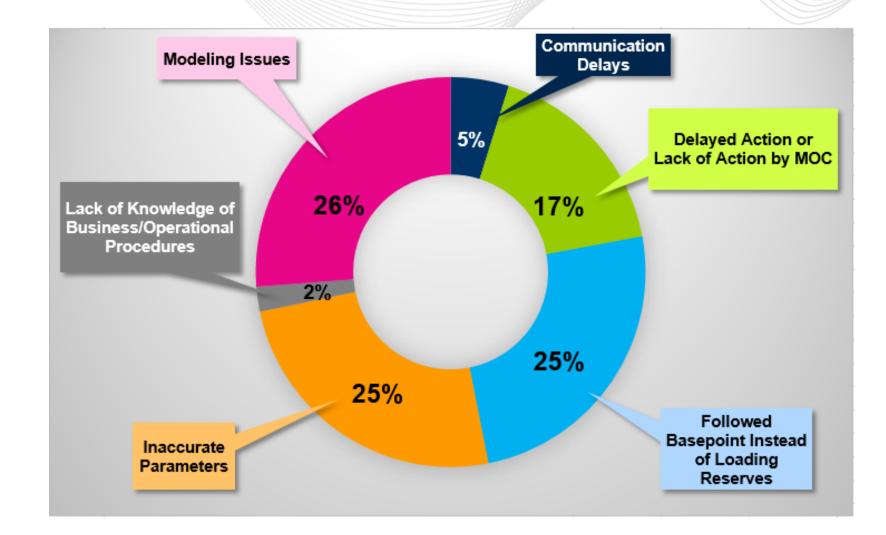
*MOC: Market Operations Center



Categorization of Issues

- Communication Delays: Delay in receiving All Call or notice from MOC to plant
- **Modeling Issues:** Transition time to put equipment in or out of service impacts ability to respond
- Inaccurate Parameters: Either 'Condense to Gen Time' or ramp rates incorrectly reported by the market participant in Markets Gateway

Breakdown of Issues



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Interim Solutions to Improve Performance

Issue	Remedy
Modeling Issues	 Request adjustment to Spin Max limit (see FAQ, Part 1 #8-11)
Inaccurate Parameters	 Review Synchronized Reserve Operation and Deployment FAQ Update parameters accordingly in Markets Gateway*
Followed Basepoint Instead of Loading Reserves	 Request ICCP points (see FAQs 1&6) Complete required LMS training Review Synchronized Reserve Operation and Deployment FAQ Review Guidance for Resources with Synchronized Reserve Assignments During Synchronized Reserve Events
Communication Delays	Request ICCP points (see FAQs 1&6)
Delayed Action or Lack of Action by MOC	 Request ICCP points (see FAQs 1&6) Review Synchronized Reserve Operation and Deployment FAQ
Lack of Knowledge of Business Rules/Operational Procedures	 Complete required LMS training Review Synchronized Reserve Operation and Deployment FAQ Review Guidance for Resources with Synchronized Reserve Assignments During Synchronized Reserve Events
	*Consult with P.IM/IMM prior to making updates



Helpful Links

- LMS Training: Reserve Market Overview
- <u>Guidance for Resources with Synchronized Reserve Assignments</u>
 <u>During Synchronized Reserve Events</u>
- <u>Synchronized Reserve Deployment and Reserve Price Formation</u>
 <u>FAQ</u>



Areas to Further Explore

- Impact of communication delays on reserve deployment
- Resource eligibility for reserve assignment
 - Past performance for events >= 10 minutes
- Basepoint signal
- Revenue and penalty structure
- Synchronized Reserve Offer Cap
- Timing of member operator training requirements
- Review calculation for sync and non-sync reserve capability in M11, Sect 4.2.5.2 & 4.2.5.3





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