



Synchronized Reserve Event Performance – Operations Perspective

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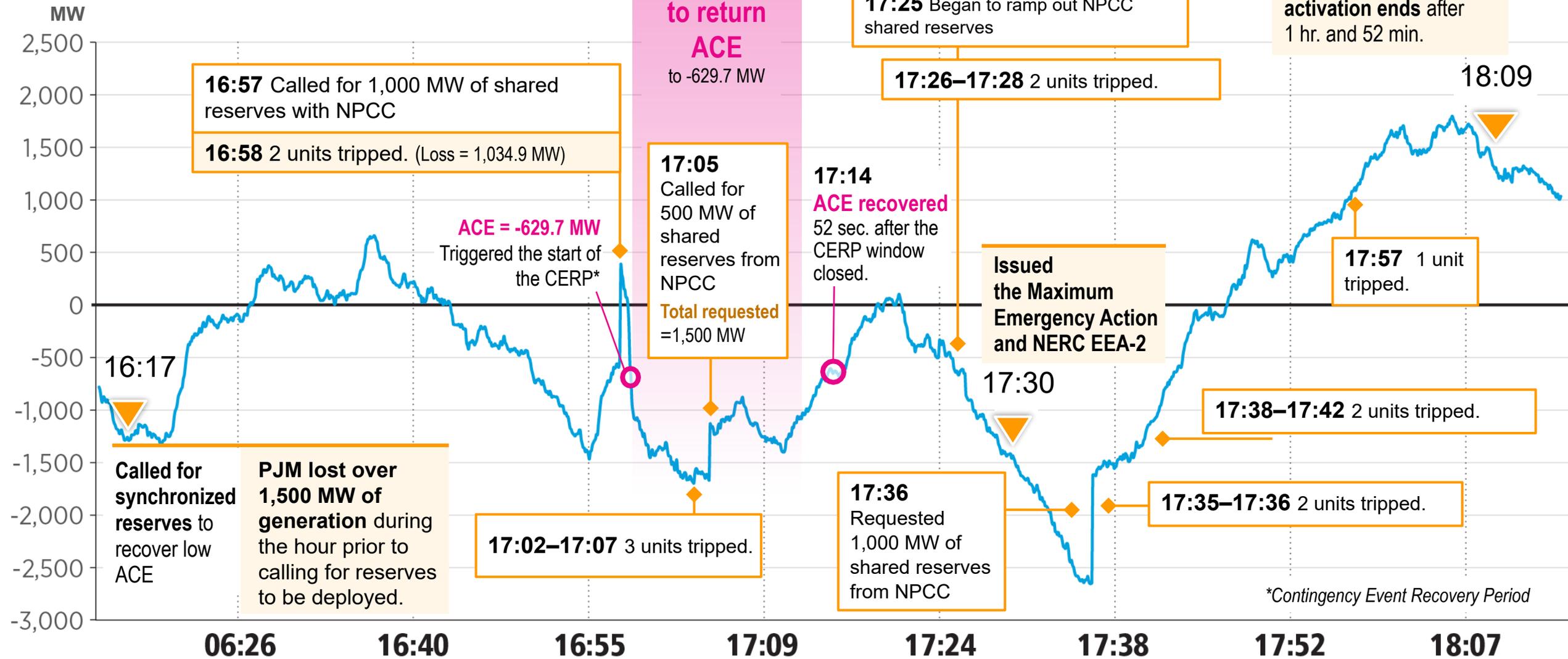
October 13, 2023

- Loss of a large unit
- Low ACE for an extended period of time
- Shared Reserves called by NPCC, and PJM cannot cover its portion by Regulation alone
- Transfer Interface Overload

- Evaluation of ACE, system frequency, system load, tie line schedules
 - Load increasing or decreasing
- Other units ramping on or off
- Regulation position
- Dispatchable units available
- Magnitude of unit loss (DCS)

- PJM reserve requirement table can be found in M-11, Section 4.3 and M-13, Section 2.2

	Reserve Service		
	Synchronized Reserve (SR)	Primary Reserve (PR)	30-Minute Reserve (30-Min)
Reliability Requirement	Largest Single Contingency	150% of Synchronized Reserve Reliability Requirement	Greater of (Primary Reserve Reliability Requirement, 3000 MW, or largest active gas contingency)
Reserve Requirement	SR Reliability Requirement + Extended Reserve Requirement	PR Reliability Requirement + Extended Reserve Requirement	30-Min Reliability Requirement + Extended Reserve Requirement



- Performance from committed Synchronized Reserve resources during Synchronous Reserve Events has been suboptimal since the implementation of Reserve Price Formation on October 1, 2022
 - Concerns over meeting NERC DCS requirement
- NERC Disturbance Control Standard requires Balancing Authorities to restore Area Control Error to pre-event value or above zero within 15-minutes (PJM goal 10 minutes)
- Timely response necessary to restore Eastern Interconnection frequency and tie line flows
- PJM M-13 Section 2.2 “Reserve Requirements” page 19:
 - “PJM schedules sufficient Contingency Reserves to satisfy the Reliability First (RF) Regional Criteria...”

- NERC BAL-002-3, Disturbance Control Standard
 - <https://www.nerc.com/pa/Stand/Reliability%20Standards/BAL-002-3.pdf>

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