Manual 15
Reserve Price Formation and Biennial Changes

Ilyana Dropkin

Sr. Engineer I, Performance Compliance

Market Implementation Committee

July 13, 2022

- The Reserve Price Formation filing was initially approved by FERC in 2020, and is awaiting approval, post the remand order received in December 2021

- Reserve Price Formation Education Sessions
  - https://www.pjm.com/committees-and-groups/committees/mic
    - 5.27.2022 MIC Special Session
    - 6.21.2022 MIC Special Session
  - https://www.pjm.com/committees-and-groups/forums/tech-change-forum
    - 5.13.2022 Tech Change Forum Special Session – New Reserve Market Changes

- Manual 15, Version 41:
  - Impacted Manual Sections: 4.7, 5.7, 6.7, 7.7, 8.1 and 11.7
  - Removed references to Tier 1 and Tier 2 due to the Tier 1/Tier 2 consolidation
  - The Variable Operations and Maintenance component was removed from Synchronized Reserve offers
  - The existing $7.50/MWh offer margin was reduced to the expected value of the penalty
  - Added the expected value of the penalty calculations
  - Removed Exhibit 10: Steam Unit Synchronized Reserve Example

The Expected Value of Penalty will be calculated and posted on PJM's Website
Markets and Operations>Ancillary Services>Synchronized Reserve

$$Expected\ Value\ of\ Penalty\ \left(\tfrac{\$}{MWh}\right) = Average\ Penalty * Average\ Rate\ of\ Nonperformance * Probability\ an\ event\ will\ occur$$

Where:

Average Penalty is expressed in $/MWh and calculated as

$$Average\ Penalty\ \left(\tfrac{\$}{MWh}\right) = \frac{Total\ Penalty\ (\$)}{Total\ Shortfall\ (MWh)}$$

Average Rate of Nonperformance during Synchronized Reserve events is calculated as

$$Average\ Rate\ of\ Nonperformance\ = 1 - Average\ Synchronized\ Reserve\ Response\ Rate$$

Probability an event will occur is the probability a Synchronized Reserve event that will qualify for nonperformance assessments will occur and calculated as

$$Probability\ an\ event\ will\ occur = \frac{Total\ Hours\ of\ Synchronized\ Reserve\ Events\ \geq 10\ Minutes}{Total\ Hours\ in\ the\ Period}$$

- Manual 15, Version 42:
  - Corrected the CDS mission statement to reflect MIC, not MRC, as the parent committee in Section 1.5
  - Corrected the Incremental Heat Rate equation in Section 2.1
  - Corrected section titles in Section 9.7 and Section 13.3 Exhibit 28
  - Added missing chart and removed outdated no-load calculation in Attachment B

- 7.6.2022 CDS
- 7.13.2022 MIC (First Read)
- 8.10.2022 MIC (Vote)
- 8.24.2022 MRC (First Read)
- 9.21.2022 MRC (Vote)
- 9.21.2022 MC (Vote)
- Requested Effective Date for Reserve Price Formation is October 1, 2022
- Requested Effective Date for Biennial Review is November 1, 2022

Presenter/SME for Reserve Price Formation Changes:
Ilyana Dropkin,
Ilyana.Dropkin@pjm.com

SME for Biennial Changes:
Jennifer Freeman,
Jennifer.Freeman@pjm.com

Member Hotline
(610) 666 – 8980

(866) 400 – 8980

custsvc@pjm.com