



Tier 1 Synchronized Reserves – Billing Adjustment

Adam Keech
Senior Director, Market Operations
MC Webinar
March 23, 2015

- Tier 1 reserves come from partially loaded, dispatchable generators that have available capability to respond to a reserve event.
- These reserves are estimated by PJM through a series of calculations that feed both the Energy Management System (EMS) and market clearing engines.
- In non-event hours, Tier 1 reserves are compensated:
 - Nothing when the Non-Synchronized Reserve Market Clearing Price (NSRMCP) = \$0
 - The Tier 2 Synchronized Reserve Market Clearing Price (SRMCP) when the NSRMCP > \$0

- There can be differences in the Tier 1 estimates from each PJM application for a number of reasons:
 - Time horizon of solution
 - Input data used
- Other factors can also impact the estimate differences including resource and technology deselections:
 - Resources that are constrained off
 - Wind, solar, nuclear, etc.
- Prior to September 2013, the deviations amongst estimates had typically been small and did not significantly impact market clearing results or settlement calculations.

- Following the poor spin event response on September 10, 2013, PJM increased its scrutiny on and review of Tier 1 Synchronized Reserve estimates which are the input to the associated compensation calculations in the Market Settlements system.
- As a result, PJM:
 - Updated which estimates are used in the Market Settlements system for Tier 1 Synchronized Reserve compensation effective July 1, 2014; and
 - Believes it is appropriate to process billing adjustments for the period October 1, 2013 – July 1, 2014 for resources that were compensated for Tier 1 Synchronized Reserves on a less accurate basis during that period than the basis utilized from July 1, 2014 prospectively.

- Total value of the potential adjustments could be \$60 - \$75 million, based on current estimates.
- PJM is researching and discussing with Monitoring Analytics if there is data supporting some resources having received appropriately all or a portion of these potential adjustments during that period that should not remain in the final billing adjustments.
- Adjustment period is October 1, 2013 through July 1, 2014.
- Adjustment processing will be no sooner than in the April 2015 month-end invoices but could be later depending on the time needed to research the potential offsets noted above.