

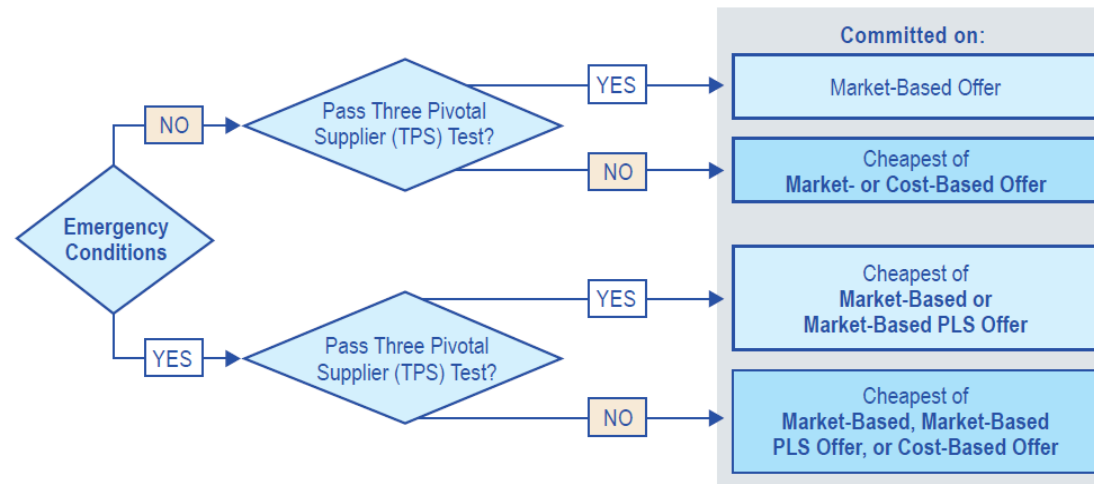


Performance Impact of the Multi-schedule Model on the Market Clearing Engine

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MIC

- Issue Charge was approved at the March 2023 MIC
- Special Sessions held
 - March 30
 - April 20
 - July 17
- August MIC first read
- September MIC endorsement

- Currently, the day-ahead market is designed to commit resources based on the **appropriate schedule offers that results in the lowest total system production cost**.
 - The below diagram determines the appropriate schedule
- The schedule selection is optimized by the market clearing engine (MCE) where **each schedule is modeled as a logical resource**, increasing the problem's size.



- With the addition of the Enhanced Combined Cycle (ECC) model and Energy Storage Resource (ESR)/Hybrid model as part of the Next Generation Markets project (nGEM) – the **optimization problem increases significantly**.
 - This will increase the solution time past what is manageable in the 2.5 hour DA clearing window.
- This Problem Statement and Issue Charge seeks to improve the schedule selection process and consequent performance impact.

- **Key Work Activities**

- Education
- Publish a paper with technically feasible solutions.
- Review, discuss, and refine solutions

- **Deliverables:**

- Determine a process to perform the schedule selection outside of the MCE such that only one schedule will be passed to the MCE for commitment and dispatch purposes.
- Changes to manual and governing document revisions for approved solution, as necessary.

- PJM Package A
 - Status quo for most elements
 - Use similar formulaic approach as RT for offer selection in DA.
- PJM/GT Power
 - Limits eligible offers under different conditions
 - Use similar formulaic approach as RT for offer selection in DA.
- IMM
 - Offer capping and parameter limits are applied to all units failing the TPS test.
 - Parameter limits are applied to all capacity resources during emergency and alert conditions.
 - Removes schedule selection between cost and price from the MCE.

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Performance Impact Update



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