



America's Premier Competitive Power Company  
... Creating Power for a Sustainable Future



# Calpine Stage 3 Proposal FRR Reforms

by Scarp  
July 10, 2023

# Critical Issue Fast Path (CIFP) - FRR Board Directive

---

From PJM Board letter implementing Critical Issue Fast Path (CIFP) accelerated stakeholder process:

*“4. Synchronization between the RPM and Fixed Resource Requirement (FRR) rules. The Board would like any changes in RPM rules to also be mapped to FRR rules to ensure that supply resources and consumers are held to comparable standards.”*

- Comparable standards is key in the board directive
  - PJM has recently addressed the FRR issue in its proposal but has limited comparability in the FRR rules to ensuring CP Penalty rates are comparable
    - PJM proposal is mostly *“Remove the physical option for FRR Entities and subject all committed Capacity Resources to financial assessments during PAIs.”*
  - There are other areas of comparability that must be aligned
- Historic aspects might have led to some of the inconsistency between FRR and RPM

# Reserve Margin (RPM vs. FRR)

- The biggest inequity of FRR is that those participating only have to meet the target FRR/IRM for the whole pool.
  - FRR region is leaning on rest of system's extended reserves procured under RPM
  - There is no sloping demand curve (VRR) for FRR
  - Did FRR capacity resources perform better than RPM capacity resources? Inferred "No," based on PJM info released to inform the stakeholder process. <https://www.pjm.com/-/media/committees-groups/committees/oc/2023/20230309/20230309-item-04a---winter-storm-elliott-outage-data-review.ashx>

- RPM

- Point B is set at 101.5% of the Reliability Requirement
  - Point B is middle inflection point of the VRR Curve

- FRR

- FRR target reliability procurement is IRM Requirement and not designed to clear long
- Comparison of FRR Procured Requirement Margin to RPM procured Reliability Margin
  - VRR targets 1.5 pp above the IRM and the sloped curve typically clears extra reliability
  - FRR hard requirement at IRM.
  - ~ 1.5 percentage points below RPM at Point B on VRR curve

DY	IRM Reliability Requirement	Reserve Margin ~ Procured		Lean Perc. Pts
		FRR	RPM	
2024/25	14.7%	14.7%	21.7%	<b>7.0</b>
2023/24	14.8%	14.8%	21.6%	<b>6.8</b>
2022/23	14.5%	14.5%	21.1%	<b>6.6</b>
2021/22	15.8%	15.8%	22.0%	<b>6.2</b>
2020/21	16.6%	16.6%	23.3%	<b>6.7</b>

- Average FRR "Lean" on RPM part of System:

- Approximately **6.7 Percentage Points**
- Approximately 9,408 MW (140.415.8 MW [RPM] \* 6.7%)

# Correct Reserve Margin Procurement & Leaning

## Proposal Component 1

---

- FRR participants have a free ride on a reliability premium from the rest of the pool
  - In the abstract this could reverse, but the system is likely to bias toward being long
    - There are reliability imperatives that skew the system to stay long
    - Now things like the federal Inflation Reduction Act (IRA) and state subsidies make any shortage in the pool (at least via BRA auction) unlikely.
- Proposed ideas for change would be to try and get the FRR entity to the same or approximately the same IRM as the pool as a whole
  - Accomplished by directly higher reserve requirements for FRR entities reflective of pool reserve procurement levels
- Options for Mechanism of setting FRR Reserve Procurement Level
  - **Option 1 (Calpine Proposed Option):** Set an amount reflecting the average percentage points that RPM has cleared/procured above the IRM for the last 5 years
    - ex. IRM + 6.7 percentage points
    - Rolls forward each year with update to the 5-year average
      - The difference is set by comparison of the IRM to the BRA reserve level (regardless of IA adjustments)
  - Option 2:
    - The FRR entity must procure sufficient resources to match the reserve level set in the BRA for the rest of the RTO
    - They could do this by:
      - First designating pre-BRA resources up to the reserve margin procured in the prior BRA.
      - Then true up after BRA is run. Either: a) self-supply or release additional resources after BRA; or b) buy or sell bilaterally additional resources to match the reserve level in the BRA

# Replacement Capacity (RPM vs FRR):

## *Proposal Component 2*

---

- Background: PJM is moving to bar any substitution ex-post via replacement capacity in RPM in their CIFP proposal
- The above provision should apply to FRR too
  - Not sure if this is an addition to PJM proposal, but do want to clarify
  - Note that the current PJM CIFP proposal language on substitution rests outside the FRR design component, but states:
    - “*Remove the ability to adjust commitments on units after-the-fact through retroactive replacements for PAs.*”

# Rest of Design Components

---

- Support PJM other changes to FRR design components
- See matrix with PJM proposal for non FRR design components
  - PJM proposal still seems in flux, so waiting to see what is finalized
  - We hope to incorporate our recommendation of FRR directly into it
- Also, interested in prompt period forward construct within Constellation proposal and hope to incorporate our recommendation of FRR directly into it



Questions?

Contact: [scarp@calpine.com](mailto:scarp@calpine.com)