

# Resource Adequacy Conceptual Design CIFP Stage II

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April 19, 2023



# Caveat

- The following slides and positions may be modified based on a combination of events including:
  - Feedback from stakeholders
  - Future education
  - Lessons Learned from Winter Storm Elliott reports when provided by PJM

# Objectives

- Simpler, less administrative market construct for resource adequacy.
- Resource adequacy clearing mechanisms that reflecting the unique needs of each geographic area of PJM while accounting for extreme weather risk, regardless of the month in the year.
- Eliminate Capacity Performance expectation and modify mechanism to include required resource testing and assessment of energy market offer obligations.
  - Potential reforms may be needed to the Emergency Procedures steps, triggers and price formation to improve energy & reserve market price signals, recognize reliability attributes, and align with fuel markets to ensure fuel security.
- Maintain incentives (bonuses/penalties) that are reasonably tethered to capacity revenue (*i.e.*, BRA LDA Clearing price).
- Focus on lowest possible cost – inclusive of all inputs including potential RPS non-compliance penalties that would be passed on to consumers

# AMP's Resource Adequacy Conceptual Design

## Key Elements

- Base Auction Timing
  - Less than 3 years forward annual auction clearing with a sub-annual component
    - Members have experience with BRAs held <36months before start of DY
- Enhance LSE self-supply optionality
  - Aids with state specific RPS compliance
- Eliminate CP and create a new incentive structure (e.g., “Pay as you go”)
  - Includes elimination of CPQR
- Modified Testing, Performance Assessment, and Accreditation for all supply resources
- Recognition of Reliability Attributes (e.g., Storage, Fuel Secured, Load Following, Fast Start).
  - Future performance expectations aligned with operational reality.
  - MWs procured today in RPM are incorrectly assumed to be fungible
- Maintain Must Offer Obligations for all existing *and* planned resources
- Consider Strengthening Reliability Backstop

# Resource Auction Design

## Design Components

RPM Auction Timing	<ul style="list-style-type: none"> <li>Less than 3-year forward design.</li> </ul>
Reliability Requirements for RTO and LDAs	<ul style="list-style-type: none"> <li>Annual requirement to pre-determined amount (see Clearing Optimization, below)</li> <li>Sub-annual requirements. (see Clearing Optimization, below)</li> </ul>
RTO Procurement Metric and Target Level	<ul style="list-style-type: none"> <li>Variable seasonal risk that totals max of 1 day in 10 LOLE or equivalent.</li> </ul>
LDA Procurement Metric and Target Level	<ul style="list-style-type: none"> <li>Sum of LOLE across all months <math>\leq</math> 0.10 Annual LOLE or equivalent.</li> </ul>
Capacity Product Offer Quantity	<ul style="list-style-type: none"> <li>Resource can offer: Annual Capacity (would clear first)</li> <li>Any uncleared capacity that has a must offer requirement must participate in the sub-annual auctions.</li> <li>Annual capacity sets ceiling price for sub-annual auctions</li> </ul>
Clearing Optimization	<ul style="list-style-type: none"> <li>Option 1: Annual Capacity clears relative to a vertical line based on the VRR curve pegged at IRM + X% (e.g., Point B on VRR curve). Sub-annual cleared between Point B and Point C on VRR curve.</li> <li>Option 2: Annual Capacity quantity is based on the minimum of the sub-annual peaks. Quantity of sub-annual capacity procured based on remaining requirement between the “baseload” quantity cleared in the BRA and the sub-annual period’s peak plus reserves.</li> </ul>

# New Incentive Structure : Eliminate CP Modify Resource Testing and Performance Assessment

## Design Components

Overview	<ul style="list-style-type: none"> <li>Eliminate Capacity Performance. Replace with new mechanism that requires regular resource testing (e.g., monthly or quarterly basis) for all cleared capacity resources.</li> </ul>
Expected Performance Testing	<ul style="list-style-type: none"> <li>Annual or sub-annual testing to meet cleared capacity MW value. PJM will endeavor to perform resource testing when the unit is committed and dispatched to minimize uplift.</li> </ul>
Non-Performance Charge Rate	<ul style="list-style-type: none"> <li>MW shortfall between cleared MWs and testing result times the annual or sub-annual capacity clearing price</li> </ul>
Allocation of Non-Performance Charges and other funding details	<ul style="list-style-type: none"> <li>Penalties from non-performance tests are allocated to generators that met their capacity obligation by passing performance testing. Allocation value determined based on the number of generators that pass their test</li> </ul>

# Resource Risk and Market Mitigation

## Design Components

Capacity Market Must Offer Obligations	<ul style="list-style-type: none"> <li>• Consistent with status quo, existing and planned capacity units have a capacity market must offer obligation. In addition, any uncleared capacity that has a must offer requirement must participate in the sub-annual auctions</li> <li>• Planned resources to notify PJM of intent to offer prior to the posting of planning parameters.</li> </ul>
Default MSOC methodology	<ul style="list-style-type: none"> <li>• MSOC defined by a unit specific algorithmic, verifiable method. No default value.</li> </ul>

# Market Design Areas

**Not in AMP's conceptual design, but considering alternative solutions, including PJM's and IMM's**

- Enhanced Risk Modelling
  - Looking for additional rules to improve capacity procurement on a sub-annual basis
    - Interested to learn how transitioning to an EUE metric can be done on a sub-annual basis.
  - Looking for additional rules to improve locational modeling needs (CETO/CETL)
- Resource Accreditation
  - Generally supportive of improving accreditation for all supply-side resources that will determine value individually according to their contribution to system reliability.
    - Believes that a focused stakeholder effort may be needed to determine if the method should move from average to marginal accreditation.
  - Looking for additional rules in accreditation to address locational differences
- Performance Assessments
  - Interested to learn more about a "Pay-as-you-go" approach where resources are only compensated for capacity upon delivery
- Market Mitigation
  - Not supportive of reintroduction of previous failed MSOC proposals



## Previously presented conceptual designs:

Source: [RASTF Template for High-Level Design Concepts – AMP \(October 31, 2022\)](#)

Source: [RASTF - Seasonal Capacity Perspectives – AMP \(June 20, 2022\)](#)

Source: [CCPPSTF – Proposed Modifications to RPM – AMP \(October 16, 2017\)](#)



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