

**DRAFT**

## Capacity Market Reform

### Issue Source

The PJM Board of Managers issued a [letter](#) (Board Letter) on April 6, 2021 urging stakeholders to address a series of topics related to the capacity market.

### Issue Content

Stakeholders undertook resolution of issues related to the Minimum Offer Price Rule (MOPR) using the Critical Issue Fast Path (CIFP) process, which culminated in a vote by the Members Committee endorsing a proposal which went into effect by operation of law effective September 29, 2021. This issue charge is intended to address the remaining topics identified in the Board Letter, as well as issues identified as a result of the Capacity Market Workshops<sup>1</sup>.

### Scope and Key Work Activities

The scope of work will focus on the list of the topics identified in the Board letter, as well as the issues identified by stakeholders at the Capacity Market Workshops.

- Performance Assessments
- Capacity Resource Qualification and Accreditation
- Procurement Levels
- Capacity Resource Obligations<sup>2</sup>
- Supply-Side Market Power Mitigation Rules
- Fixed Resource Requirement Rules
- Procurement of Clean Resource Attributes

While the review at the RASTF will be holistic, the solution for any of the above topics may be advanced to a vote alone or in conjunction with other topics at the members' discretion<sup>3</sup>. Below are listed the estimated relevant dates by which a filing may be required to implement by a specified auction. These dates assume a filing is desired before the start of the pre-auction activities and that the FERC will act on the filing within 60 days. These dates also assume that the technical changes required to implement the solution can be implemented in time for the specified auction, which may not be true in all cases.

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<sup>1</sup> A series of nine Capacity Market Workshops were held between February and October, 2021.

<sup>2</sup> This topic includes Phase 2 work from the Capacity Capability Senior Task Force focused on energy market must offer requirements for limited duration resources (<https://www.pjm.com/-/media/committees-groups/task-forces/ccstf/2021/20210922/20210922-item-02a-issue-charge.ashx>), as well as the review of operational requirements for such resources that was agreed to by the Members Committee (<https://www.pjm.com/-/media/committees-groups/committees/mc/2020/20200917/20200917-item-01-alternate-motion-amendment-to-joint-stakeholder-package.ashx>).

<sup>3</sup> Such a vote of the RASTF will move solutions forward to the Markets & Reliability Committee (MRC) on the topic at hand based on content of the matrix.

Delivery Year	Auction Run Date	Filing Required By
25/26	January 2023	May 2022
26/27	July 2023	October 2022
27/28	May 2024	September 2023
28/29	May 2025	September 2024

KWAs #1 and #2 comprise Group I and will start in November 2021 and be completed by the end of Q1 2022 or sooner. **Deliverables from this set of KWAs include:**

1. Education and benchmarking materials regarding risk allocation.
  2. A decision on whether to proceed with a seasonal or annual market design.
  3. A decision on whether to pursue a solution for clean resource attribute procurement in the energy market, capacity market, both, or other, and the appropriate stakeholder venue to develop that solution.
- KWA#1: Determine whether to proceed with an annual or seasonal resource adequacy design
    - Provide education on the risks included in PJM’s resource adequacy planning models.
    - Discuss additional risks that should be considered or existing ones that should be considered differently.
    - Review analysis regarding the impact of seasonal differences on various reliability metrics.
    - Solicit stakeholders for additional education needs and provide further education.
    - PJM will provide its perspective on which scope areas are impacted by the selection of a seasonal or annual market design and why.
    - Discuss the benefits and drawbacks of a seasonal versus annual capacity market design.
    - Decide whether to proceed with a seasonal or annual capacity market design by the end of Q1 2022.
  - KWA#2: Determine whether a forward procurement of clean resource attributes should be pursued and a general product definition
    - Discuss the benefits and drawbacks of a forward procurement of clean resource attributes.
    - PJM and stakeholders present different high-level solution options for consideration.
    - Decide whether the desired product is aligned with the capacity market, energy market, both or other, and determine the appropriate stakeholder venue to develop a detailed design given the high-level product determination, by the end of Q1 2022<sup>4</sup>.

The remaining KWAs comprise Group II and will begin upon completion of Group I (certain education components could also be done concurrently with Group I). Further education and detailed design discussion on these topics will be done considering the results of KWAs #1 and #2. Where applicable, education will include benchmarking with other ISO/RTOs.

<sup>4</sup> A separate issue charge for the appropriate stakeholder venue will be developed for consideration by the MRC if the determination results in additional scope.

- **KWA#3:** Determine the types of reliability risks and risk drivers to be considered by the capacity market and how they should be accounted for.
  - Provide a brief refresh of the education on current risks considered in PJM's resource adequacy planning and where they are accounted for.
  - Discuss additional risks that should be considered and how, or, existing ones that should be considered differently.
  - Determine the set of risks to be considered in the capacity market and where they should be accounted for (i.e., capacity target level or accreditation level)
  - Develop proposal package(s) for vote as appropriate based on the above analysis.
  
- **KWA#4:** Determine the performance expected from a capacity resource.
  - Provide education on the current performance requirements of a capacity resource.
  - Examine the key elements of performance assessments under the Capacity Performance (CP) framework including triggers of Performance Assessment Intervals (PAIs), excusals for non-performance, penalty / bonus rates, and stop-loss provisions for effectiveness in incenting the investment and performance needed for reliability.
  - Explore opportunities to provide more transparency and predictability in performance expectations.
  - Discuss what, if any, alternative frameworks for performance should be considered and the potential benefits and drawbacks of such framework against the current design.
  - Develop proposal package(s) for vote as appropriate based on the above analysis.
  
- **KWA#5:** Determine the qualification and accreditation of capacity resources.
  - Provide education on the current qualification requirements and accreditation calculations for capacity resources.
  - Based on the risks determined in KWA#3 and the performance expectations determined in KWA#4:
    - Discuss the appropriate metric to accredit capacity resources and how it should be calculated if applicable. Relevant metrics include but are not limited to:
      - Equivalent Demand Forced Outage Rate (EFORd)
      - Effective Load Carrying Capability (ELCC)
      - Equivalent Availability Factor (EAF)
    - Discuss the desired qualification requirements for capacity resources including but not limited to winterization, dual fuel, maximum start time limitations, etc.
  - Determine the desired qualification requirements and accreditation methodology.
  - Develop proposal package(s) for vote as appropriate based on the above analysis.
  
- **KWA#6:** Determine the desired procurement metric and level to maintain the desired level of reliability.
  - Provide education on the current reliability metric and desired level.
  - Discuss the pros and cons of this level and metric including discussion of alternative levels and metrics including but not limited to:
    - Loss of Load Expectation (LOLE)

- Hourly Loss of Load Expectation (LOLH)
  - Expected Unserved Energy (EUE)
  - Determine the metric and level that meets the desired reliability level.
  - Develop proposal package(s) for vote as appropriate based on the above analysis.
- KWA#7: Determine the desired obligations of capacity resources<sup>5</sup>.
  - Provide education on the current obligations of a capacity resource including the energy and ancillary service must offer requirements.
  - Where necessary, clarify the existing obligations of a capacity resource.
  - Determine any additional obligations to be placed on capacity resources.
  - Develop proposal package(s) for vote as appropriate based on the above analysis.
- KWA#8: Determine if supply-side market power mitigation rules in the capacity market need to be enhanced.
  - Provide education on the current market power mitigation rules including but not limited to:
    - Capacity market must offer
    - Market Seller Offer Cap
  - Based on the risks and opportunity costs determined in KWA#4, the qualifications and accreditation determined in KWA#5 and the obligations determined in KWA#6, determine enhancements necessary to the MSOC for capacity resources.
  - Determine whether a capacity must offer requirement is appropriate for all qualifying capacity resources.
  - Develop proposal package(s) for vote as appropriate based on the above analysis.
- KWA#9: Determine if the Fixed Resource Requirement (FRR) rules need to be enhanced.
  - Provide education on the current FRR rules.
  - Based on potential changes to the RPM, identify opportunities to align RPM and FRR rules.
  - Determine any additional changes to FRR rules that may be appropriate.
  - Develop proposal package(s) for vote as appropriate based on the above analysis.

### *Items not covered in this Issue Charge scope at this time:*

The topics below have been raised but require a clear problem statement prior to being considered as in scope.

1. CTR Allocation
2. DR handled as a supply resource
3. Incremental Auction design
4. Demand curve structure
5. Replacement Transactions

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<sup>5</sup> Includes CCSTF Phase 2 scope.

### *Out of Scope:*

1. Topics related to the Minimum Offer Price Rule (MOPR) in Phase 1 beyond those needed for consistency with the work in this Issue Charge.
2. Elimination of the Fixed Resource Requirement option

### *Related Topics Being Discussed Elsewhere:*

1. CIRs quantities for ELCC resources (PC)
2. Reactive Power Compensation (unless consolidated from the MIC)
3. Rules for capacity participation by Distributed Energy Resources. Discussion on this is occurring at the Distributed and Inverter-Based Resources Subcommittee and is the subject of a PJM compliance filing that is due on February 1, 2022.
4. Reliability Products and Services initial assessment (OC)
5. Quadrennial Review (MIC)
6. Load Forecast (LAS)
7. Potential CETO/CETL reform (potential to be addressed at the PC)

### **Expected Deliverables**

1. Education and analysis as needed concerning items identified in the scope of work.
2. Proposed revisions to PJM's Tariff and the Operating Agreement, resulting in a FERC filing.
3. Proposed revisions to PJM Business Practice Manuals.

### **Decision-Making Method**

Tier 1 consensus. It is expected that topic areas will have individual matrices and proposals developed.

### **Stakeholder Group Assignment**

The Resource Adequacy Senior Task Force (RASTF).

### **Expected Duration of Work Timeline**

Initial discussion, education and assessment will begin immediately. It is expected that issues will be worked on varying timelines. It is expected that all RASTF work will be completed by Q4 2023 in time for implementation in the 2027/2028 Base Residual Auction to be held in May 2024. However, any solution to a germane topic area or group of areas may be advanced earlier than that at the members' discretion<sup>6</sup>. Monthly meetings are anticipated (more or less frequently as needed).

The work is sequenced to allow for high-level decisions to be made by Q1 2022 on the product definition for the clean resource attribute procurement and on whether the capacity market should be developed to persist as an annual market or transition to a seasonal one.

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<sup>6</sup> Such a vote of the RASTF will move solutions forward to the MRC on the topic at hand based on content of the matrix.

Start Date	Priority Level	Timing	Meeting Frequency
10/22/2021	<input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input checked="" type="checkbox"/> Immediate <input type="checkbox"/> Near Term <input type="checkbox"/> Far Term	<input type="checkbox"/> Weekly <input checked="" type="checkbox"/> Monthly <input type="checkbox"/> Quarterly

### Charter

*(check one box)*

<input type="checkbox"/>	This document will serve as the Charter for a new group created by its approval.
<input checked="" type="checkbox"/>	This work will be handled in an existing group with its own Charter (and applicable amendments).

*More detail available in M34; Section 6*