

## Reserve Certainty ~~and Resource Flexibility Incentives~~

### Issue Source

PJM

### Issue Content

The work of this group is intended to investigate enhancements in the following areas:

#### ~~Immediate System Need:~~

- Synchronized Reserve Resource Performance and Penalty Structure
- ~~Reserve Offer structure appropriately aligned for resource fuel procurement~~
- Effective Reserve reserve deployment  
~~Reserve quantities procurement reflects system needs~~

#### ~~Longer term System Need:~~

- ~~(Continued) Reserve quantities procurement reflects system needs~~
- ~~Reserve product participation requirements~~
- ~~Incenting Resource flexibility that the system needs~~

~~The phasing, based on system need timelines, is to allow for a vote on immediate system need issues, with the potential for a FERC filing to effectuate any associated changes, before we start and/or complete the longer term system need issues. Additionally, eEach Key Work Activity identified, in the immediate and longer term system need areas, can be voted independently. All items in an area do not need to be complete before moving to vote on a specific KWA proposal.~~

### Key Work Activities and Scope

~~While the review of the task force will be comprehensive, the solutions for any of the above topics may be advanced to a vote alone or in conjunction with other topics at the members' discretion. Members are advised to use the timeline priorities identified above for guidance on the work plan.~~

~~Given the immediate implementation needs of identified work items, those KWAs will start once the Sr. Task Force commences and worked in an expedited fashion, moving to a vote once proposal packages(s) are developed.~~

#### KWA #1: Education ~~and level setting~~

- Education on current rules, requirements, and responsibilities for each reserve product with emphasis on synchronized reserves.
- Define a set of design criteria intended to ensure that the synchronized reserve markets and synchronized reserve deployment in PJM are functioning in a manner that maximizes performance meets the reliability requirements in the NERC BAL-002 standard and by provides providing the necessary compensation and/or penalties commensurate with the reliability benefit of the product to incent the requirement performance through a competitive market.

#### ~~Immediate:~~ KWA #2: Reserve Resource Performance and Penalty Structure

- Provide education on reserve event penalty rules and calculation, including portfolio netting.
- Provide education on performance measurement, current rules about performance, and reserve capability calculations, including comparison of synchronous condensers, hydro, combined cycle operating modes, and

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demand response.

- Provide education on other RTO/ISOs performance measurement, capability, testing, and penalties.
- Provide education on historic spin event resource performance and reasons for underperformance.

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- Discuss expected reserve performance requirements, event definitions, and non-performance penalty structure and any reforms that should be considered.
- ~~— Discuss resource reserve requirements and any impact that could have on reserve compensation, including reserve opportunity cost eligibility~~
- Develop proposal package(s) for vote, as appropriate, based on the above analysis and findings

### Immediate: KWA#3: Reserve Offer structure appropriately reflects resource capabilities and aligns with resource fuel procurement

~~Review Winter Storm Elliott reserve and natural gas procurement observations~~

~~Review any applicable work of the Electric Gas Coordination Sr. Task Force (EGCSTF)~~

~~Provide education on the current offer structure for Reserves, implemented in October 2022 with Reserve Price Formation~~

~~Provide education on other ISO/RTO activities around recognizing fuel procurement (ISO-NE and ERCOT)~~

~~Explore reforms to compensation for fuel procurement that provide efficient incentives for market sellers committed to provide reserves to be able to perform in real time~~

~~Explore potential reforms or additional market products, if needed, to support the analysis and findings of the Winter Storm Elliott observations and the work of the EGCSTF~~

~~Examine PJM market tools to determine if modification to those tools and/or systems can better help reflect resources' reserve capability~~

~~Develop proposal package(s) for vote, as appropriate, based on the above analysis and findings~~

### Immediate: KWA#4: Reserve Deployment

- Provide education on status-quo process for synchronized and nonsynchronized reserve deployment, including technology, timing, and generators' use of communication tools.
- Review previous Synchronous Reserve Deployment Task Force (SRDTF) work and PJM's IRD FERC filing, and FERC's order on the IRD filing.
- Explore reforms to reserve deployment to support operational and reliability needs, including but not limited to procedures for initiating and ending a reserve event, resource requirements for responding and deployment method ology and technology.
- Develop proposal package(s) for vote, as appropriate, based on the above analysis and findings.

### Immediate and Longer Term: KWA#5 Reserve procurement quantities

~~Review material and education on the analysis performed in the Energy Price Formation Sr. Task Force (EPFSTF) in support of Reserve Price Formation with respect to defining PJM's Reserve Requirements~~

~~Provide education on other ISO/RTO's reserve procurement methodologies~~

~~Evaluate the current Reserve Market design to ensure the procurement quantities align with operational needs~~

~~Evaluate the current resource parameters and dispatch flexibility allows for accurate estimated reserve capabilities on resources, at all times~~

~~Explore reforms to PJM reserve requirement definitions and reserve procurement quantities~~

~~Explore reflecting system uncertainty into LMP, based on reserve needs and any resulting impacts to PJM's existing reserve demand curves and shortage pricing.~~

~~Develop proposal package(s) for vote, as appropriate, based on the above analysis and findings~~

### Longer Term: KWA#6 Reserve product participation requirements

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- Provide education on current product participation requirements (example: synchronized reserves must respond within 10 minutes)
- Provide education on other ISO/RTO reserve product participation requirements

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- Explore reforms or modifications to reserve product participation requirements (example: develop a duration requirement for reserve products) or any potential new market products to meet determined participation requirements
- Develop proposal package(s) for vote, as appropriate, based on the above analysis and findings

### Longer Term: KWA#7: Incenting Resource flexibility that the system needs

- Review PJM's response in FERC Docket No. AD 21-10, Modernizing Electricity Market Design
- Review the results of the PJM/PSU Operational Flexibility Study
- Review PJM's flexibility metrics and discuss flexibility needs indicators
- Provide education on other ISO/RTOs flexibility needs and solutions
- Explore market reforms, including but not limited to multi interval dispatch, ramping products, and Stochastic Unit Commitment. Discuss cost allocation of reserves and any potential new market products under discussion
- Develop proposal package(s) for vote, as appropriate, based on the above analysis and findings

### **Out of Scope**

- Changes that minimize PJM Operation's ability to maintain reliability and compliance with NERC Standards.

### **Expected Deliverables**

1. Education and analysis as needed concerning items identified in the scope of work
2. Proposed solution(s) to address enhancements to the areas identified under the Issue Content section above.

*Corresponding revisions to PJM's Tariff and the Operating Agreement consistent with the solutions proposed will be brought to the MRC and MC for review and endorsement, resulting in a FERC filing. Proposed revisions to PJM Business Practice Manuals conforming to the FERC approved solution will be brought to the appropriate Standing Committees for review and endorsement.*

- *Each KWA can be brought forward for vote separately, and all items in a defined system need timeline area do not need to be voted and advanced together.*

### **Decision-Making Method**

Tier 1, consensus (unanimity) on a single proposal (preferred default option)

### **Stakeholder Group Assignment**

New Senior Task Force reporting to the MRC.

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

Start this group in Q4 2023. ~~Work on the immediate system needs topics is expected to start immediately and be completed and voted out of the Senior Task Force in 6-9 months, with the exception of the Reserve procurement quantities topic (KWA #4) which will span both the immediate and longer term timelines, and have a 9-18 month design timeline. Work on the longer term system needs will have a delayed start of approximately 6-9 months and continue for an additional 12-18 months with a vote to occur at the completion of such work.~~ Expected duration, 12 months.

Topic	Design Timeline	System Need Timeline
<del>Reserve Resource Performance and Penalty Structure</del>	<del>Start: Immediately Timeline: 6-9 months</del>	<del>Immediate</del>

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<del>Reserve Offer structure appropriately aligned for resource fuel procurement</del>	<del>Start: Immediately Timeline: 6-9 months</del>	<del>Immediate</del>
<del>Reserve deployment</del>	<del>Start: Immediately Timeline: 6-9 months</del>	<del>Immediate</del>
<del>Reserve quantities procurement reflects system needs</del>	<del>Start: Immediately Timeline: 9-18 months</del>	<del>Immediate &amp; Longer term</del>
<del>Reserve product participation requirements</del>	<del>Start: Delayed 6-9 months Timeline: 12-18 months</del>	<del>Longer term</del>
<del>Incenting Resource flexibility that the system needs</del>	<del>Start: Delayed 6-9 months Timeline: 12-18 months</del>	<del>Longer term</del>

Start Date	Priority Level	Timing	Meeting Frequency
Click here to enter a date.	<input checked="" type="checkbox"/> High <input type="checkbox"/> Medium <input type="checkbox"/> Low	<input type="checkbox"/> Immediate <input checked="" 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 checked="" type="checkbox"/>	This document will serve as the Charter for a new group created by its approval.
<input 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