

## Frequently Asked Questions about Reserve Price Formation

Last updated: Oct 7, 2022

### Q1 What is Reserve Price Formation (RPF)?

A RPF is comprised of the following changes: (1) The consolidation of Tier 1 and Tier 2 synchronized reserves, (2) the alignment of Reserves between the Real-Time and Day-Ahead markets by including in both a 10-minute reserve and 30-minute reserve product and (3) the additional use of flexible subzones instead of a single subzone.

### Q2 What is the current status of the RPF FERC Order?

A PJM received final approval on 9/1/2022 for implementation on 10/1/2022. Please reference FERC Docket No. EL19-58-000 & ER19-1486-000 & EL19-58-012, EL19-58-014, EL19-58-015 for additional details.

### Q3 What PJM applications are impacted by RPF?

A Markets Gateway User and XML interfaces, Day Ahead Synchronized/Non-Synchronized/Secondary Reserve assignments, Data Miner feeds, EMS Secondary Reserve assignments and Market Settlements.

### Q4 Where can I find additional information on the RPF design and business rules?

A RPF information is located in M11 section 4. In addition, The Energy Price Formation Task Force (EPSTF) has posted a variety of reference meeting materials on RPF.

<https://www.pjm.com/~media/documents/manuals/m11.ashx>

<https://www.pjm.com/~media/committees-groups/committees/mrc/2022/20220921/item-01a---4-manual-11-reserve-price-formation-revisions---redline---friendly-amendment.ashx>

<https://www.pjm.com/committees-and-groups/task-forces/epstf> (refer to 2019 meeting notes and materials)

<https://www.pjm.com/~media/committees-groups/task-forces/srdtf/2021/20210430/20210430-item-04-reserve-market-price-formation-enhancements.ashx>

### Q5 Where can I find the detailed changes to Market Gateway?

A The detailed list of changes are found in the document named “**Markets Gateway Reserves Changes**” at the following referenced Markets Gateway Tools website under the heading “**Reserves Documentation**”.

<https://www.pjm.com/markets-and-operations/etools/markets-gateway.aspx>

**Q6** If Synchronous Reserve Tier 1 and Synchronous Reserve Tier 2 are consolidated into a single Synchronized Reserves product, then how will units that previously offered Tier 2 offer it when RPF is live given that the new Synchronized Reserves construct continues to require offers for Energy Storage Resources (ESR) and Hydro?

**A** Under Reserve Price Formation, PJM will utilize **energy** offers for Synchronous Reserves (SR) clearing to determine the appropriate clearing. It is important to note that Hydro (run of river and pump storage) and ESR are **still** required to submit SR offers separately. Those resources that have submitted energy offers **and** are eligible to provide reserves will be considered as offered into the reserve market. Furthermore, Hydro units offered as non-dispatchable (fixed gen or having EcoMin = EcoMax) cannot be assigned to provide reserves despite being able to submit reserve-specific offer parameters (Availability, Offer MW, Offer Price) in Markets Gateway.

**Q7** Will the RPF Market Gateway Train environment still be operational once RPF goes live?

**A** Once Reserves goes live into Production, the new Train environment (marketsgatewayreservetrain) will be retired by Nov 1<sup>st</sup>, 2022. The existing marketsgatewaytrain will contain the Reserves changes therefore the environment will match Production.

**Q8** We do not plan to participate in any of the Reserves markets; does this still affect by company?

**A** You may still be impacted by the Reserves release due to the fact there are several field changes and field/screen retirements as well as field additions to some existing screens. Please carefully review the "**Markets Gateway Reserve Changes**" document previously referenced in Q5. One of the most noticeable changes is the location of the **date** selection is now moved to the upper right hand side of the screens.

**Q9** Why is the page for Real Time Non-Synchronized Reserve Awards no longer available?

**A** Markets Gateway displays only RT reserve awards that are committed at least 30 minutes ahead in the hour-ahead ASO engine, which include inflexible Synchronized and inflexible Secondary Reserves. Non-Synchronized Reserves, flexible Synchronized Reserves, and flexible Secondary Reserves are committed in the RTSCED engine and those MW commitments are communicated via telemetry/ICCP and the Dispatch Lambda page in Markets Gateway generally every five minutes.

**Q10** What are the changes to the new ICCP points for members?

**A** There will be a new ICCP point provided for flexible Secondary Reserve assignments and changes to existing ICCP points.

***Changes to Existing Points:***

- **ATIER1SR**: an existing data point that communicates Tier1 synchronized reserve MW will send out zero MW only starting Oct 1, 2022 . This data point will eventually be removed.
- **DGPSR**: an existing data point that "looks back" over the prior few intervals to determine how closely a unit is following dispatch, and then incorporates that information into the ultimate determination of where the

appropriate dispatch basepoint for the resource should be in the upcoming intervals. In RPF, DGPSR will no longer be used and therefore value will be set to one (1) or 100% for all resources starting October 1, 2022.

- GENRUNR - to accommodate the new Secondary Reserve product introduced in RPF, a new GENRUNR with a value of 37 will be added for Condense Secondary. This is for condense capable resources that must be able to flip from condensing mode into generation within ten (10) to thirty (30) minutes following the request from PJM dispatcher.
- *There will be no changes to the following data points ASPIN (tier 2 synchronous reserve) and NSRSPIN (non synch reserve). ASPIN will continue to communicate all synchronous tier 2 assignments.*

**New Data Points**

- ASECRES is a new data point that will communicate secondary reserve MW assignment to a resource that has reserve capability that can be fully converted into energy within ten (10) to thirty (30) minutes following the request of the PJM dispatcher. The resource may be online or offline.
  - To subscribe for the ASECRES data point, please email a request to [PJMTelemetrySupport@pjm.com](mailto:PJMTelemetrySupport@pjm.com) for implementation. PJM will process requests in the order received. Pending implementation of ASECRES data point, the same data can be accessed in the Markets Gateway Dispatch Lambda page as “SecR Assignment”.
- SECRESST is a new data point that the resource owner will use to communicate to PJM in a situation at the plant where a resource becomes unavailable to provide reserves. This is a status point where a value of **2 or closed** indicates the resource is available to provide reserves and a value of **1 or open** indicates the resource is unavailable to provide reserves. This is a real-time communication enhancement similar to making a phone call to PJM dispatcher to report reserve unavailability situation pending making such update in the Markets Gateway portal.

To qualify to subscribe for the SECRESST data point, a resource owner will first need submit a request by emailing [reserves@pjm.com](mailto:reserves@pjm.com) and provide the unit name, unit id, and technical information about the operational modes, limits, or conditions to support the request. A copy of this email will be made available to the Market Monitoring Unit. PJM will determine, with the advice and input of the Marketing Monitoring Unit, whether the request is approved or denied and provide a written notification to the generation resource owner no later than 60 business days from the date of data submittal supporting the request. If the request is denied, PJM will include in the notice a written explanation for the denial. Additional information on how to submit a request is described in section 4.4.3.1 of Manual 11 that includes RPF language. If the request is approved, the request will be forwarded to [PJMTelemetrySupport@pjm.com](mailto:PJMTelemetrySupport@pjm.com) for implementation

**Q11** How does my unit become eligible to submit a Synch Max value that differs from the Eco Max for Reserves?

**A** Resource owners must submit a request for this modification to [Reserves@pjm.com](mailto:Reserves@pjm.com) with documentation supporting the request as specified in Section 4.2.2.1 of Manual 11 (<https://pjm.com/-/media/committees-groups/committees/mic/2022/20220907/item-08a8---manual-11-reserve-price-formation-revisions---redline.ashx>)

**Q12** Where will additional subzone information be posted?

**A** New screens will be created in the public section of Markets Gateway that display the active subzone in real-time. Additionally, a new Data Miner feed will display prnodes associated with the respective subzones.

The ability to use Flexible Reserve Subzones is one of the primary changes in Reserve Price Formation. Flexible Reserve Subzones allows PJM to predefine multiple reserve subzones based on criteria defined in Manual 11. Only one reserve subzone can be active at any given time. A new subzone will not be created and implemented on the same day. However, the subzone can switch between those on the predefined list on a day-ahead basis and if necessary, intra-day, for rare reliability reasons.

All subzone switching and resource mapping will be communicated via Markets Gateway.

The Mid-Atlantic/Dominion (MAD) subzone will be the default subzone, and the only subzone that will be used at the go-live on October 1, 2022, and for the next few months.

From a spin activation perspective, future telemetry changes will reflect the RTO and subzone subject to the spin event. The subzone will be dictated by the active subzone at the time of a spin event. Until the change to the telemetry point is made, the voice all-call will inform the resource owner of the reserve subzone to load in response to a spin event.

**Q13** What is the new name for “Tier 2 SR” and will the “Tier 2 SR” timeline for the clearing process change?

**A** Real-Time Synchronous Reserves will replace what is now called “Tier 2 SR”. The award timeline will not change from the current clearing process for “Tier 2 SR.” See Q9 for the current clearing process.

**Q14** Will DA Secondary Reserve, Synchronous Reserve and Non-Synchronous Reserve have a clearing price in the Day-Ahead Market? If so, where will these prices be published?

**A** DA Synchronized, Non-Synchronized, and Secondary Reserve clearing prices will be posted in a new Data Miner 2 feed, Day-Ahead Ancillary Service LMPs and in Markets Gateway. Please refer to Q5 for additional details.

**Q15** When will I be able to submit offers for the Oct 1<sup>st</sup> go live date?

**A** You will be able to submit offers up to 7 days in advance of the 10/1 go-live date for the new Reserve Market. Therefore, you can submit 10/1 offers starting at midnight of 09/24. Furthermore, in Markets Gateway (on or after 9/24) if you were to select the 10/1 Market Date then you would see the new changes and screens pertaining to the new reserve market. Any selected Markets Gateway date that is less than 10/1 will still show the current/legacy screens.

**Q16** When does the VACAR Reserve Sharing agreement end?

**A** Coinciding with RPF go live, effective October 1, 2022, Dominion-Virginia Power will exit the VACAR Reserve Sharing Group. The related data communication between Dominion-Virginia Power and PJM will have values go to zero (0), and eventually removed.

**Q17** Was Intelligent Reserve Deployment (IRD) approved prior to RPF go live?

**A** As of September 2022, the IRD changes will not be in effect until further notice as FERC did not approve the proposed changes.

**Q18** What is the correct nomenclature for the ancillary products in Dataminer?

**A**

Dataminer	Abbreviation	Description
Primary Reserve	NSRMCP	Non-Synchronized Reserve Market Clearing Price
Synchronized Reserve	SRMCP	Synchronized Reserve Market Clearing Price
Thirty Minutes Reserve	SecRMCP	Secondary Reserve Market Clearing Price

**Q19** When a Reserve event is called by PJM, the message we receive today states “100% Synchronized Reserve Event has been initiated by PJM RTO region.” Does this notice indicate both 10-minute products (synch and non-synch) should respond or is there be another message sent for Non-Synch products if they were needed? If PJM would need a Secondary Reserve product (>10 and < 30 minutes) to be deployed would a supplement message be sent?

**A** When PJM issues a reserve event, the voice all-call will be specific regarding the **reserve product required to be deployed** for all available resources. Historically, the synchronized reserve product is requested in addition to the specific reserve zone or subzone.